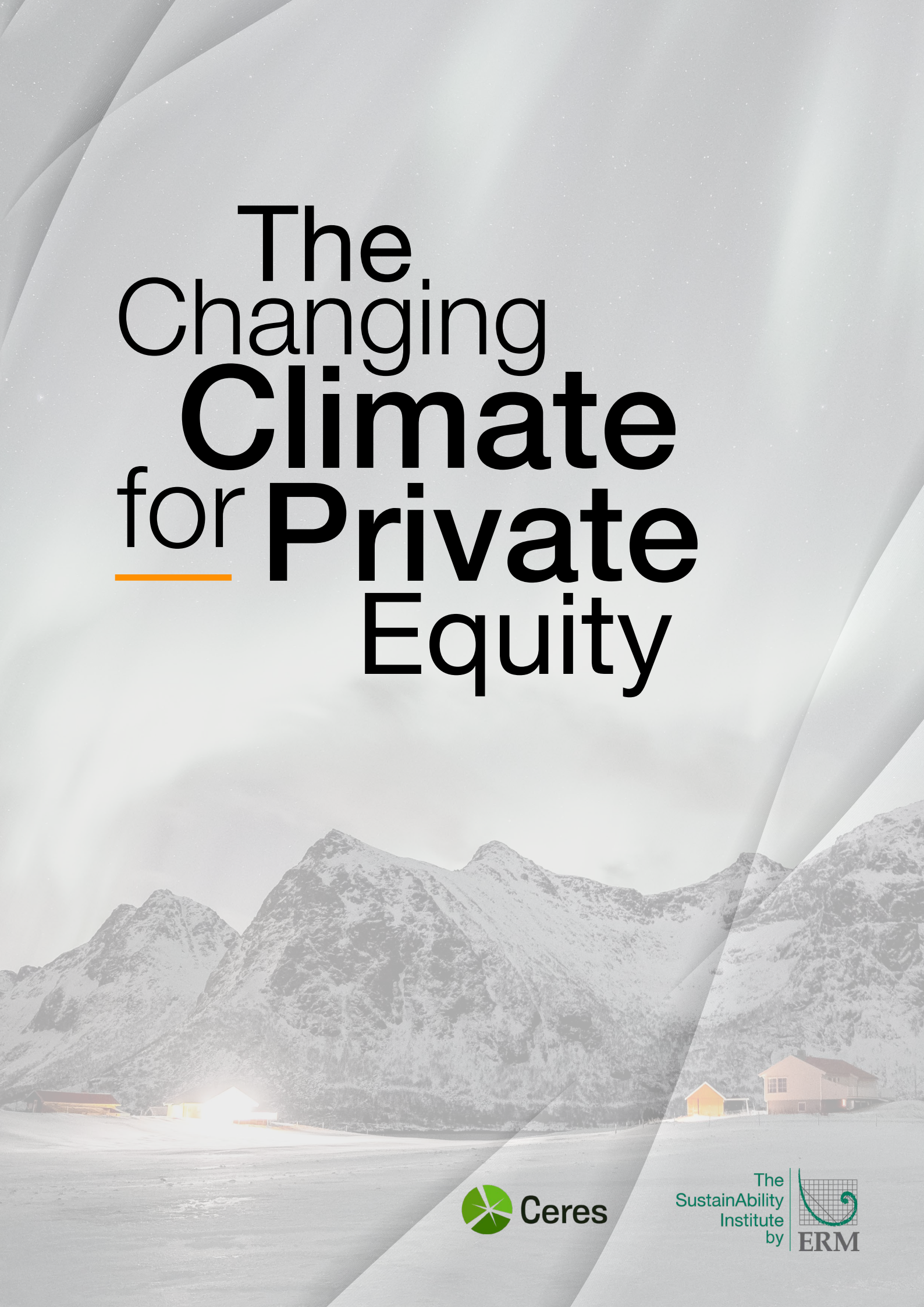
The Changing Climate for Private Equity



Ceres

The SustainAbility Institute by ERM

Foreword

The Changing Climate for Private Equity by Ceres and the SustainAbility Institute by ERM (the SustainAbility Institute or ERM) aims to accelerate action on the climate crisis by unlocking the potential for private equity to help attain the goals of the Paris Agreement.

That the climate emergency demands urgent action is now widely understood, in part we trust due to our organizations' efforts to influence action by business, investors, policymakers, and other stakeholders.

Ceres and ERM believe that the private sector has a critical role to play in mitigating and reversing climate-related impacts on natural and human systems, including the economy. While many businesses and financial system actors have committed to reach net zero by 2050 or sooner, private equity has been slower to act. We believe that action is essential and overdue.

Over the last two decades, private equity has outperformed other asset classes while growing tremendously, adding $US trillions in assets under management. Based on its recent returns and scale, private equity is more attractive and more influential than ever before.

Given private equity firms' sway, *The Changing Climate for Private Equity* examines how they view climate risk and opportunity and what they expect of companies in their portfolios in terms of net zero goals and climate risk management and disclosure.

Ceres has been at the forefront of climate leadership in the finance sector for three decades, helping co-found and coordinate U.S. and global multi-trillion dollar efforts like the Net Zero Asset Managers initiative that are reshaping markets. Ceres' role in Climate Action 100+ showcases its ability to collaborate with other investor networks and investors to convince the world's largest corporate greenhouse gas emitters to take action on climate change.

Recently, Ceres has expanded its efforts to work with private equity investors, as evidenced by the launch of the Ceres Investor Network Private Equity Working Group.

ERM's climate impact comes mostly through client relationships. It helps companies understand climate-related risk and opportunity and transform business models to support the low carbon economy transition and improve long-term business resilience. This is complemented by SustainAbility Institute research like *From Promise to Action: Delivering Your Company's Net Zero Ambition.* ERM has deep experience with private equity, serving as a trusted guide on ESG and climate in the sector. This work is reflected in ERM's 2020 survey on private equity and ESG integration *Eyes on the prize: Unlocking the ESG premium in private markets.*

The Changing Climate for Private Equity combines our organizations' strengths to study private equity's grasp of climate-related trends and the unique climate risks and opportunities faced by the sector. We believe that our world will only develop a net zero financial system and economy if private equity is part of the solution. This report demonstrates that there is both planetary need and business opportunity to be found in helping transition markets to the low carbon future so urgently required. We hope the results inspire change and help quicken climate progress, and we commit to ongoing work with private equity and other partners to ensure this happens.

Sincerely,
Keryn & Mindy

Keryn James
Group Chief Executive
ERM

Mindy Lubber
CEO & President
Ceres

Contents

Glossary of Terms and Abbreviations 4

Executive Summary 6

Introduction 8

Chapter 1:
Accelerating Action to Address the Climate Crisis: Key Drivers & Progress to Date 12

Chapter 2:
Challenges Facing Private Equity on the Path to Stronger Climate-related Performance 20

Chapter 3:
Climate Integration in Private Equity: Current Landscape & Emerging Solutions 25
3.1 – Governance & Internal Engagement
3.2 – Risk Assessment & Investment Management
3.3 – Disclosure & Goal Setting

Chapter 4:
Recommendations & Conclusion 42
4.1 – Recommendations for LPs and GPs
4.2 – Conclusion

Participating Firms 50

Glossary of Terms and Abbreviations

Terms

Carbon footprint - The total amount of greenhouse gases (particularly carbon dioxide) that are emitted into the atmosphere each year by a person, family, building, organization, or company.[1]

General Partner (GP) - A General Partner is one of two or more investors who jointly own a business and assume a day-to-day role in managing it.[2] For the purposes of this report, private equity firms are considered the General Partners.

Greenhouse gas (GHG) - Any gas that absorbs infrared radiation in the atmosphere. Greenhouse gases include carbon dioxide, methane, nitrous oxide, ozone, chlorofluorocarbons, hydrochlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.[3]

Institutional investors - An institutional investor is a company or organization that invests money on behalf of other people.[4] Examples include pension funds, mutual funds, and sovereign wealth funds.

Limited Partner (LP) - A Limited Partner is a part-owner of a company whose liability for the firm's debts cannot exceed the amount that an individual invested in the company.[5] For the purposes of this report, pension funds, endowment funds, etc. are considered the Limited Partners (or asset owners).

Paris Agreement - The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP21 in Paris, on 12 December 2015 and entered into force on 4 November 2016.[6]

Physical risk - Physical risks resulting from climate change can be event driven (acute) or longer-term shifts (chronic) in climate patterns. Acute physical risks refer to those that are event-driven, including increased severity of extreme weather events, such as cyclones, hurricanes, or floods. Chronic physical risks refer to longer-term shifts in climate patterns (e.g., sustained higher temperatures) that may cause sea level rise or chronic heat waves.

Portfolio company - Those companies that private equity firms hold an interest in.

Private equity - Private equity is an alternative investment class and consists of capital that is not listed on a public exchange. Private equity is composed of funds and investors that directly invest in private companies, or that engage in buyouts of public companies, resulting in the delisting of public equity.[7]

Science Based Target - Targets are considered 'science-based' if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement – limiting global warming to well-below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit warming to 1.5 degrees Celsius.[8]

Transition risk - Transitional climate risks are incurred from policy changes, reputational impacts, and shifts in market preferences, norms and technology. Transition opportunities include those driven by resource efficiency and the development of new technologies, products, and services, which could capture new markets and sources of funding.

Abbreviations

AUM	Assets under management
ESG	Environment, Social, and Governance
GP	General Partner
GRI	Global Reporting Initiative
LP	Limited Partner
PRI	The Principles for Responsible Investment
SASB	Sustainability Accounting Standards Board
SBTi	Science Based Targets initiative
TCFD	Task Force on Climate-related Financial Disclosures
VC	Venture capital
$	USD

Executive Summary

The Changing Climate for Private Equity outlines the direction of the private equity sector with respect to climate. The report is driven by learning derived from in-depth interviews with representatives of 27 top private equity actors and complementary research. It finds the industry facing increasing pressure to align investment activity with carbon reduction targets and other climate-related goals as well as in need of better guidance and tools to support the development and implementation of climate-aligned investment strategies.

Drivers supporting private equity action on climate include:

- Increasing awareness of **investment returns and opportunities** related to climate change, which has helped direct more private investment toward climate solutions.
- Growing **pressure from Limited Partners** for private equity firms to further integrate climate-related risk into their investment processes to align with climate goals and initiatives.
- Increased understanding of the **systemic nature of climate impacts**, increasing the possibility that investment performance will be significantly affected by climate-related factors.
- **Political momentum** leading more government entities to align with climate-friendly activity and growth.
- **Regulatory changes** increasing requirements on public and private market actors to disclose climate and wider Environmental, Social, and Governance (ESG)-related activity.
- Changing **expectations from a wide range of stakeholders**, including customers, portfolio companies, media, and potential employee talent calling for climate alignment.

Obstacles hindering faster integration of climate considerations into private equity investment practices also surfaced as follows:

- **Limited access to high quality data**, which restricts private equity firms' ability to assess and demonstrate how investments align with the goals of the Paris Agreement.
- The **lack of universally adopted and mandated frameworks and standards** to guide climate-related disclosures and help improve performance, resulting in perceived inconsistency in expectations from GPs and LPs.
- **Inconsistent regulatory requirements**, slowing climate integration in investment activity.
- The **lack of a universal standard for setting net zero goals** when developing and implementing investment strategy.
- **Limited understanding of climate issues and support for climate action** among some private equity senior leadership.
- **Insufficient use of Limited Partners' considerable influence** over General Partners as leverage to increase integration of climate-related risks and opportunities.

Solutions emerging that will help overcome obstacles and catalyze action by helping private equity understand the degree to which their investments support climate solutions include:

> Better **governance and internal engagement** including greater senior leadership and board-level awareness and participation, stronger climate and ESG policies and practices, and better internal resourcing of firm-wide integration of climate-related risk and opportunity thinking.

> **Risk and opportunity assessment and investment management** methods and tools that incorporate evaluation of both transition and physical risks, better carbon footprinting to establish baselines for future performance assessment, engagement of carbon intensive portfolio companies in decarbonization strategies, and increasing investments in climate solutions and innovation.

> More and better **disclosure and goal setting**, which sees leading firms apply best practice disclosure frameworks and guidance to their own reporting and when they request data from portfolio companies, and when they are setting ambitious climate goals including net zero commitments.

To address the systemic risk that climate change poses to the global economy and realize the investment opportunity presented by the transition to a net zero economy, the report concludes that private equity should prioritize the following actions:

> Embed **consideration of climate-related risks and opportunities** into the policies and practices that guide private equity firms' own governance, due diligence, risk management, and engagement of portfolio companies.

> Enhance and accelerate the **climate-related disclosure and transparency efforts** of private equity firms and the companies in which they invest.

> Establish the business case required to make a public commitment to achieve **portfolio-wide net zero emissions by 2040 or no later than 2050**; ensure this includes setting science-based targets.

> Identify and capture value from **investment opportunities relating to financing the transition to a low carbon economy**, including increasing investment in companies that offer low carbon solutions and technologies, and seizing opportunities to invest in presently high-emitting companies that can transform through defined decarbonization strategies that the firm can support.

> Promote **greater industry alignment with and uptake of existing and emerging ESG, climate-related, and Paris-aligned frameworks** as well as related guidance, net zero commitments, science-based targets, standardized data, metrics, and tools.

Private equity is positioned to significantly contribute towards mitigating the effects of the climate crisis by developing and helping finance solutions that will support a just and equitable transition of the economy into the low carbon future. This report guides private equity action supporting this outcome.

Introduction

The climate crisis unfolding is unique in its potential to impact every nation, business, and person. The biggest question is if and when society will take sufficient action to keep global warming under 1.5 degrees Celsius compared to pre-industrial levels, as recommended by the IPCC, in order to avoid the worst impacts of the changing climate.[9]

Climate Change & the Role of Finance

As a universal problem, climate change requires universal solutions. These must involve and apply the knowledge and resources of every institution. Governments must play a central role by seeing through the commitments made in the Paris Agreement with the help of international cooperation, adopting national and local regulation, and by sheer exertion of political will. In addition, the private sector has a huge contribution to make. Within business, financial institutions are uniquely positioned to support the changes needed. This stems from the influence and direct impact finance has on every other sector and from the role financial institutions play as providers of capital.

Understanding and awareness of climate-related risks and opportunities has intensified in every corner of the business world in recent years. In finance, the application of Environmental, Social, and Governance (ESG) factors as a lens through which to assess the viability of potential investments has accelerated tremendously. As a result, businesses of all types globally report that investor interests in their ESG performance overall, and in their ability to define and manage climate-related risks and opportunities specifically, are key drivers behind the steps companies are taking to understand and address the climate crisis.

Private Equity Response

The Changing Climate for Private Equity, a joint research project between the SustainAbility Institute by ERM (the SustainAbility Institute) and Ceres, seeks to understand how deeply climate-related expertise is embedded within private equity firms and to explore what climate performance expectations they impose on the companies in which they invest.

The importance and influence of private equity is growing rapidly. Assets under management (AUM) in the sector nearly tripled in the decade 2010-2020, and they are expected to almost double between 2020-2025, dramatically extending private equity's reach.[10] The tremendous returns are attracting even more attention. Private equity has outperformed nearly all other asset classes in recent years, drawing more investor interest and growing the sector's influence. Companies are also waiting longer before they go public, with many completing more, and larger, private financing rounds prior to their Initial Public Offerings.

Performance is a driver for growth, and private equity is on track for another huge year. More than $180 billion was raised by 277 funds in the first quarter of 2021. This represents the biggest first-quarter fundraising haul for private equity since the global financial crisis, and a 10 percent jump from the first quarter of 2020.[11]

There is broad agreement that the role of private equity will only continue to grow. This underscores how important it is that the sector supports efforts to ensure a just and equitable transition to a low carbon economy.

In some ways, this transition is so essential that it may be inevitable. As BlackRock CEO Larry Fink says in his 2021 letter to CEOs, we are at "...the beginning of a long but rapidly accelerating transition – one that will unfold over many years and reshape asset prices of every type. We know that climate risk is investment risk. But we also believe the climate transition presents a historic investment opportunity."[12]

The transition Fink refers to will play out in private equity as well as public markets. All firms, regardless of type, will face climate-related risks. But they will also be well positioned to reap the enormous commercial opportunities presented by the transition. JPMorgan Chase recently announced that it aims to finance or facilitate investments "to the tune of "$2.5 trillion over 10 years to advance climate action and sustainable development,"one of the largest commitments of this kind to be made by a bank.[13] Private equity firms are also increasingly recognizing and acting on the opportunities presented by the net zero transition. In one of many examples in the industry, Canadian private equity firm Brookfield Asset Management announced its plans to raise at least $7.5 billion for a new climate-focused fund.[14]

Assets under management (AUM) in the sector nearly **tripled** in the decade

2010-2020,

and they are expected to almost **double** between

2020-2025,

dramatically extending private equity's reach.[10]

Fast Follower or Outright Leader?

While to date, institutional investors have been at the forefront of climate action by the investor community, the level of awareness among private equity is rapidly growing. An increasing number of firms are taking steps to embed climate considerations in their activities, joining networks and alliances, and announcing climate-focused goals and commitments.

To understand the emerging market landscape and explore potential catalysts, the SustainAbility Institute and Ceres designed *The Changing Climate for Private Equity* to explore the following research questions:

> How do private equity investment professionals perceive the understanding and management of climate-related risks and opportunities in their own firms and across their sector?

> What leading practices exist or are emerging to improve climate-related performance and address the climate crisis?

> What obstacles prevent Limited Partners (LPs) and General Partners (GPs) from more deeply embedding climate considerations in investment strategies, as well as in firm, fund-level, and portfolio company processes?

> Which recommendations and forward-looking priority actions will help LPs and GPs, and the companies in their investment portfolios, better understand and address the full spectrum of climate-related risks and opportunities?

> What is private equity doing to develop climate-aligned investment and management approaches that will form the foundation for net zero commitments and the development of a future net zero emissions economy?

Research Approach & Report Structure

The SustainAbility Institute and Ceres sought to answer these questions by conducting primary and secondary research during the first half of 2021. This research included interviews with representatives of 27 leading private equity actors (two-thirds GPs and one-third LPs) headquartered in North America and Europe (two-thirds North America and one-third Europe).

These organizations were selected based on size of assets under management (AUM), existing ESG and climate activity, and considering which GPs the largest LPs typically choose to manage their investments. We also held a workshop with representatives of 18 of the interviewed firms to test and refine our developing findings. Interviewed firms are listed in the acknowledgments section of this report, and some are quoted throughout the report.

Collectively, the 18 GPs participating in the research have $1.9 trillion total AUM and represent 14 of the top 100 private equity firms globally. As compared to the nearly 9,000 private equity firms worldwide, they are more advanced on climate matters than the norm. The nine LPs interviewed represent five of the largest 100 global asset owners, with a collective $1.3 trillion total AUM.

Recognizing their influence and size, their insights illuminate the ways and the degree to which climate thinking is taking root in the industry, as well as how much work remains to be done for the sector to seize its potential – and needed – leadership role in solving the climate crisis. Where the participating organizations are ahead of the majority of the private equity sector in addressing climate change, the report draws out lessons from which others can learn as they work to embed climate thinking more deeply in their own firms.

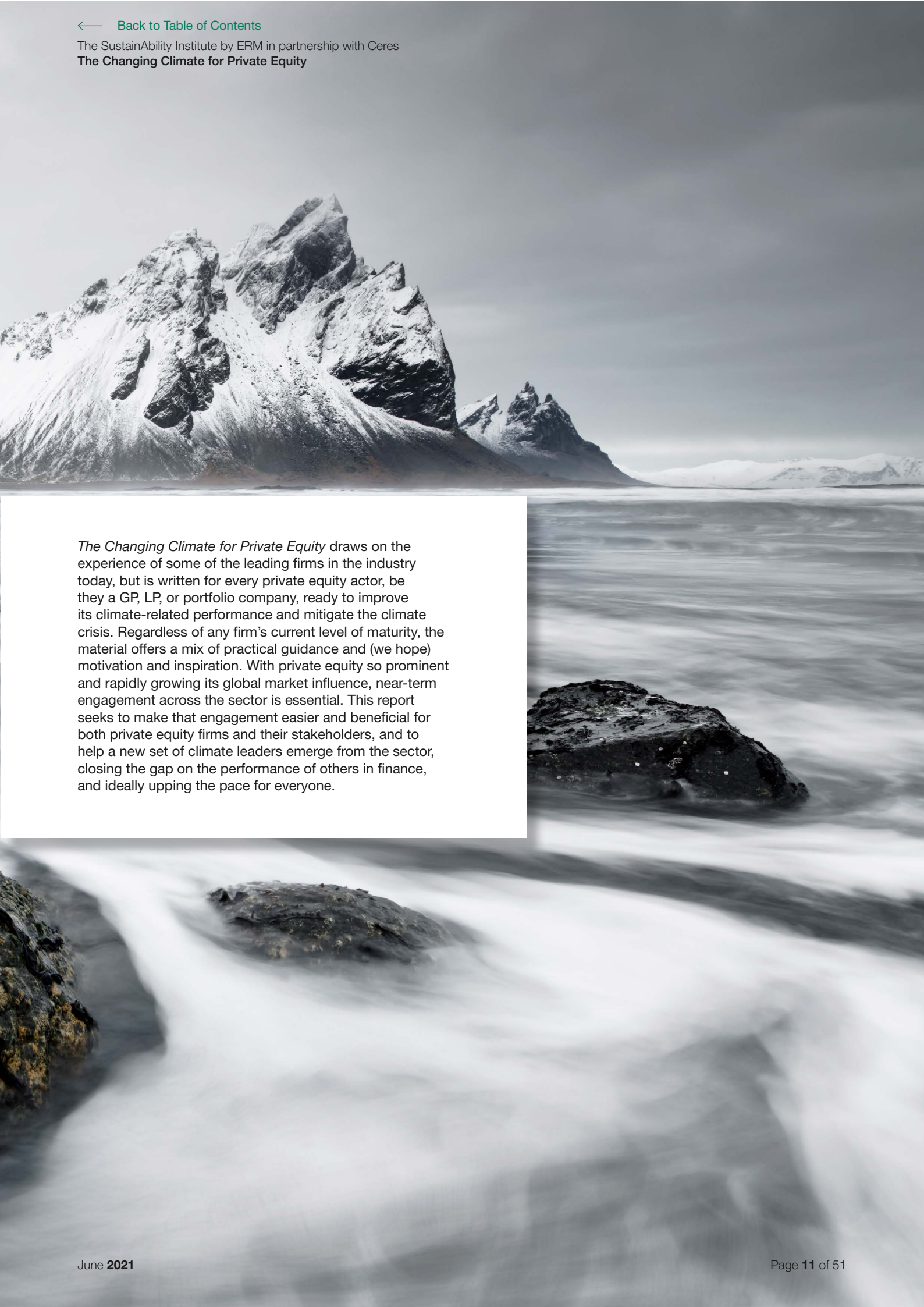
The Changing Climate for Private Equity captures what was learned during the research program and augments the findings with the experience and insight of climate change and corporate sustainability experts from both Ceres and ERM (the global sustainability consultancy housing the SustainAbility Institute). The results are presented as follows:

1. **Chapter 1** looks at the factors accelerating action to address the climate crisis generally, the role private equity has played to date, and the factors conspiring to push the sector to better understand and address climate-related risks and opportunities at both firm and portfolio level.

2. **Chapter 2** maps the most prominent obstacles that must be surmounted for private equity performance on climate change to improve.

3. **Chapter 3** outlines the current state of climate integration as well as practices and emerging solutions identified in the research and interviews. The chapter groups findings under three major headings: Governance & Internal Engagement; Risk Assessment & Investment Management; and Disclosure & Goal Setting.

4. **Chapter 4** provides recommendations intended to help the private equity sector better understand and more quickly integrate current and emerging climate risk within its operations and investment frameworks. It also includes recommendations on practical steps for LPs and GPs.



The Changing Climate for Private Equity draws on the experience of some of the leading firms in the industry today, but is written for every private equity actor, be they a GP, LP, or portfolio company, ready to improve its climate-related performance and mitigate the climate crisis. Regardless of any firm's current level of maturity, the material offers a mix of practical guidance and (we hope) motivation and inspiration. With private equity so prominent and rapidly growing its global market influence, near-term engagement across the sector is essential. This report seeks to make that engagement easier and beneficial for both private equity firms and their stakeholders, and to help a new set of climate leaders emerge from the sector, closing the gap on the performance of others in finance, and ideally upping the pace for everyone.

1

Accelerating Action to Address the Climate Crisis:

Key Drivers & Progress to Date

Climate change has come to be recognized as one of the most widespread, important, and urgent global challenges. A growing number of governments, companies, investors, consumers, citizens, and others are responding by setting new targets, joining alliances, advocating for new policies, and engaging in a broad range of other activities to help address the climate crisis.

With COP26 approaching in November 2021, and the increasing focus on the low carbon economy transition by the European Commission, the United States (U.S.) Administration, and many other governments, global momentum on climate is accelerating. U.S. President Biden's proposed $2.3 trillion infrastructure plan includes significant funding to electrify transportation, eliminate carbon emissions from the power sector, and increase U.S. capacity to manufacture clean energy technology.[15] Similarly, the European Union (EU) has pledged to spend more than 30 percent of its $1.23 trillion stimulus package to fight climate change.[16] And pressure to tackle the climate crisis is building from consumers, NGOs, citizens, and other actors who are demanding even greater – and faster – progress.

Responding to political, regulatory, societal, and market trends, a growing number of state and non-state actors have announced net zero commitments.

Investors, too, are stepping up action to address the climate crisis by increasing the integration of climate considerations in their investment decisions and announcing ambitious commitments of their own.

More than
124 countries

73 states and regions
in the largest emitting countries

155 cities with populations
over 500,000

and 417 of the world's 2,000
largest companies had announced
net zero commitments as of
March 2021[17]

Institutional Investors Setting the Pace for Climate Commitments

Institutional investors including pension funds, endowment funds, and sovereign wealth funds have led on integration of climate-related considerations in the financial sector. In addition to the growing sense of urgency around climate change, investor action has been spurred by the COVID-19 pandemic, which heightened the private sector's understanding of the ways ESG performance contributes to business stability and resilience during times of crisis.

As a result, investors directed more than four times the amount of capital into ESG funds in 2020 than in 2019.[18] This trend is likely to continue in 2021 and beyond, encouraged by strong performance data. In 2020, 81 percent of a globally-representative selection of sustainable indexes outperformed parent benchmarks.[19] In a recent example indicative of growing institutional investor appetite for financial products that integrate climate considerations, in April 2021 BlackRock launched two sustainable exchange-traded funds (ETF) that focus on large- and mid-cap companies, which BlackRock believes will outperform in the transition to a low carbon economy. One of these two products, the U.S. Carbon Transition Readiness ETF, saw more than $1.2 billion in day-one investments, making it the largest ETF launch in history.[20]

Increasing interest in ESG and climate issues has translated into ambitious commitments from institutional investors seeking to align their activities with the goals of the Paris Agreement and fostered multiple networks and initiatives designed to boost collaboration and momentum around climate action and net zero (see Text Box). One of these, the Net Zero Asset Managers initiative (founded by AIGCC, CDP, Ceres, IGCC, IIGCC, and PRI), has attracted 87 signatories (including BlackRock, UBS, Vanguard, etc.) representing $37 trillion in AUM and committed to reach net zero emissions across their portfolios by 2050 or sooner.[21]

"

It is important for the private equity world to understand that we have both a responsibility and unique ability to drive change at scale and support the transition to the low carbon economy. Our responsibility lies in not only financing solutions, but financing the transition as well.

Sophie Flak
Managing Partner: CSR & Digital Director
Eurazeo

Climate Focused Initiatives and Networks for Asset Managers and Asset Owners

Increasing interest in and urgency around climate issues in the investor community has translated into ambitious commitments and fostered multiple networks designed to boost momentum around climate action and net zero. Below is the list of the largest networks and initiatives for asset managers and asset owners:

> **Ceres Investor Network Private Equity Working Group** supports over 25 leading GPs and LPs with a collective AUM of $1.9 trillion to transition investment portfolios towards a sustainable net zero economy by using the latest climate-centric and sustainable investment practices, policies, frameworks, and tools.[22]

> **Climate Action 100+** is the largest climate-focused investor network, with more than 570 global investors who collectively manage more than $54 trillion in assets focused on improving governance, curbing emissions, and strengthening climate-related financial disclosures.[23]

> **The Global Impact Investing Network** (GIIN) seeks to enable development of the industry through facilitating knowledge exchange, highlighting innovative investment approaches, and promoting focused leadership and collective action.[24]

> **The Initiative Climat International** (iCI), supported by the Principles for Responsible Investment (PRI), is "a collective commitment to understand and reduce carbon emissions of private equity-backed companies and secure sustainable investment performance."[25]

> **The Institutional Limited Partners Association** (ILPA) is a group of over 500 LPs dedicated to advancing the interests of LPs and their beneficiaries. It provides wide-reaching guidance including climate-specific resources for Limited Partners.[26]

> **The Net Zero Asset Managers** initiative is an international group of 87 signatories with $37 trillion in AUM committed to net zero emissions and associated investment activity by 2050 or sooner.[27]

> The United Nations-Convened **Net Zero Asset Owner Alliance** consists of 37 signatories representing $5.7 trillion in AUM utilizing collaborative methodologies to reach net zero portfolios by 2050, with intermediate targets every five years.[28]

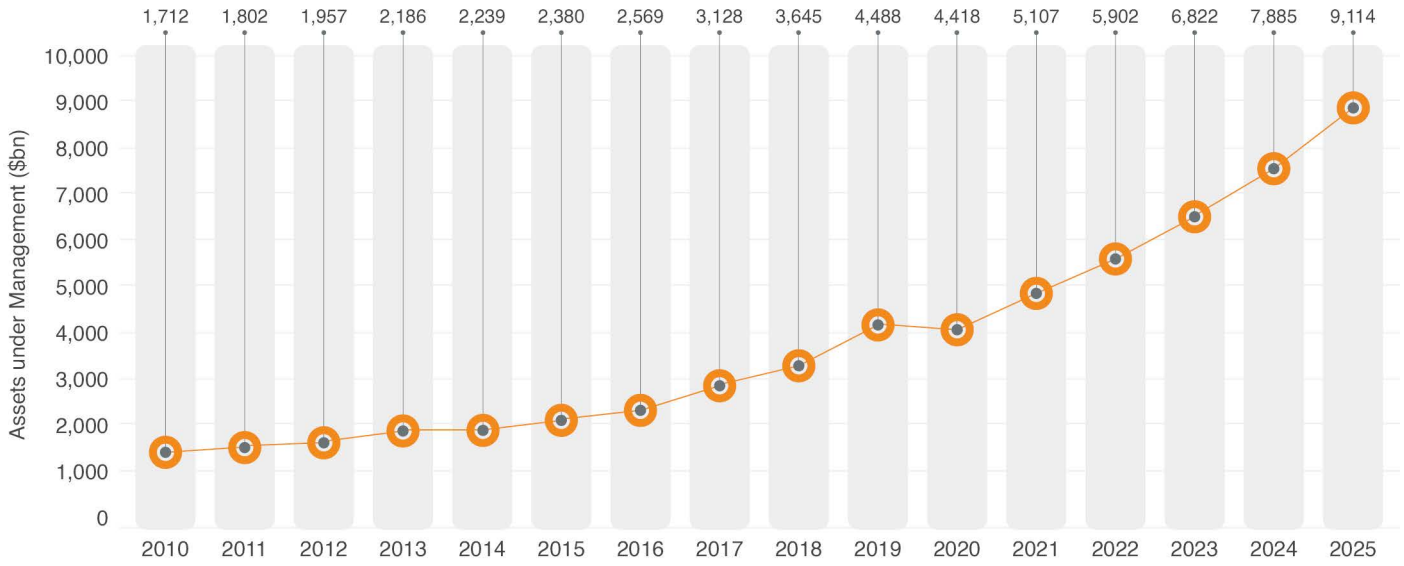
> **The Paris Aligned Investment Initiative** is an investor-led initiative of 110 members representing $33 trillion in AUM that aims to set out how asset owners and asset managers can align their portfolios to the goals of the Paris Agreement.[29]

Private Equity Poised to Play a Critical Role in Transition to Net Zero

The urgency of the climate crisis and leadership by institutional investors has resulted in growing pressure on private equity to play a greater role in the transition to a low carbon economy. Private equity has the potential to offer investable, scalable, and impactful climate solutions across multiple carbon intensive sectors and to create a pipeline of climate-focused companies ready to go public. It is poised to play a critical role in enabling decarbonization of the global economy for several reasons:[30]

- **Growing influence of private equity:** The private equity sector has experienced unparalleled growth and returns in recent years and will continue to expand rapidly in a lower for longer interest rate environment, increasing its role in the global economy. Private equity returns have topped public market returns since 2009, and assets are expected to continue to increase by 16 percent annually, almost doubling in size between 2020 and 2025 (see Figure 1).[31] [32]
- **Direct influence on portfolio companies:** Private equity is known for its control model of ownership and generating alpha through value creation. Through the considerable influence they can leverage over companies in their portfolios, private equity firms are well-positioned to encourage and support them to set emissions reduction goals, adopt decarbonization strategies, and increase focus on climate solutions that help differentiate companies' operating models and build enterprise value.
- **Generating a pipeline of climate-focused businesses:** Investors are pouring capital into climate-focused funds in public markets, even though few listed companies offer climate-solutions at scale. Private equity is in a unique position to help put high emitters on a path to decarbonization and get them ready for public markets. They also have the potential to scale businesses that are solely focused on offering low or no-carbon solutions and get them ready to go public. As Henry Paulson, former U.S. Treasury Secretary, and currently Executive Chairman of TPG Rise Climate Fund, noted: "We need more high-quality investment opportunities from private equity investments that have the potential to become scalable public companies."[33]
- **Filling the climate finance gap:** Private equity is an important source of risk capital, especially in developing countries with shallow capital markets and underserved small and medium enterprises. Given its long-term investment horizon, focus on building enterprise value, and ability to influence portfolio companies, private equity can be very effective at promoting low-carbon transition and sustainable development.

Figure 1: Private Equity Assets under Management and Forecast, 2010 – 2025



Source: Joyce, C. 2020. Future of Alternatives 2025: Private Equity AUM Will Top $9 trillion in 2025. Preqin [34]

Key Drivers Accelerating Climate Integration in Private Equity

There are signs that private markets are increasingly recognizing the importance of supporting the transition to a low carbon economy. According to the estimates by financial information analytical provider Preqin, more than $3.06 trillion in combined assets has been raised by private capital funds that integrate ESG principles since 2011, a trajectory that is likely to continue (see Figure 2).[35] According to a 2020 survey of 150 GPs conducted by Intertrust, 88 percent of them expect to increase ESG focus over the next one to two years.[36] While these examples speak to ESG investment growth broadly, our interviews and research affirm the central status of climate in the decisions behind this.

While strides are being made, the urgency and scale of action required to limit global warming to 1.5 degrees Celsius means that the private equity sector will need to accelerate and bolster its ambition and contribution. Of the estimated 8,800 private equity firms operating globally, just over 700 are signatories of PRI, and the firms that have joined climate-focused initiatives represent only a fraction of the whole in number and as measured in monetary terms.[39] For instance, the 90 private equity firms in Initiative Climate International represent $700 billion in AUM, which comprises less than a fifth of total estimated private equity AUM.[40]

In addition to supercharging ambition, private equity must close the gap between perception and action on the ground. According to a 2021 PwC study involving 198 GPs and 41 LPs (81 percent of which were European firms), 90 percent of respondents consider climate risk a concern for their organization, but only 50 percent are taking action to address it. On net zero specifically, 72 percent of respondents believe that net zero will play a role as a significant ESG-related issue, but only 21 percent are taking any action related to the net zero transition.[41] Only 36 percent of surveyed private equity firms consider climate risk at the due diligence stage to understand or mitigate the exposure of portfolios, and 47 percent have not undertaken any work to understand climate exposure of their portfolios. The vast majority of the participants in this study were Europe-based, and as such may not accurately reflect the state of the North American market, which historically has been slower to integrate ESG considerations.

Figure 2: Aggregate Capital Raised by ESG-Committed[37] vs. Non-ESG-Committed GPs, 2011-2020

Source: Preqin Impact Report: The Rise of ESG in Alternative Assets, November 2020 (updated May 2021)[38]

Maturity across the industry varies, often depending on multiple factors including the size of the firm, geography, and asset class. According to Preqin, larger firms are more likely to be better established in relation to climate and other ESG factors due to the availability of resources and ability to dedicate time and focus to ESG or climate-specific matters.[42]

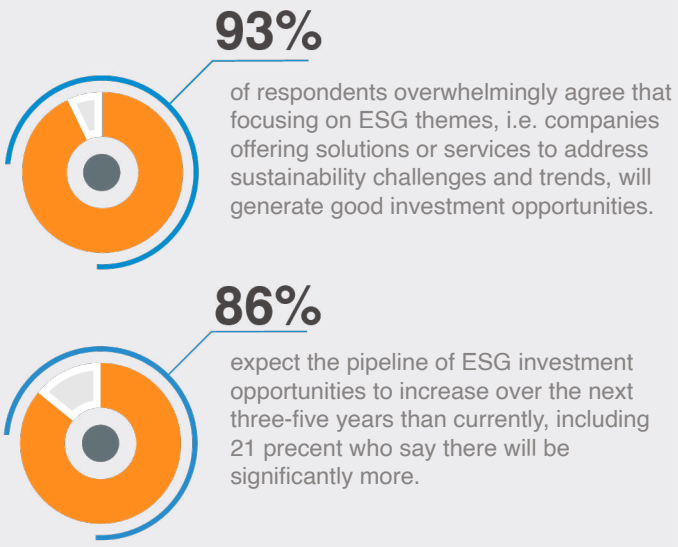
Industry participants including the GPs and LPs interviewed for this report agree that the next few years will see rapidly accelerating integration of climate thinking by private equity. This is expected to be driven by a host of market, political, social, and economic developments and considerations, six of which are described below:

> **Investment returns and opportunities:** Climate is now recognized not only as presenting risks, but also as an opportunity to boost returns and gain competitive advantage. For example, climate expertise can be a differentiator when positioning a private equity firm with asset owners, portfolio company management teams, and other actors influencing the ability to complete deals. A recent ERM survey of over 50 private equity firms found 93 percent of participating organizations believe that focusing on solutions and services to address sustainability challenges and trends will "generate good investment opportunities." (See Figure 3).[43] The same survey showed that most private equity investors responding believe that improving ESG and climate performance is likely to result in a higher valuation at exit. As Bertrand Millot, VP Risk Management, Fixed Income, and Head of Climate Risk and Issues at CDPQ, mentioned in his interview: "We strongly believe that anything related to climate and ESG is closely linked to performance."

  Our research revealed various economic benefits that the low carbon transition and investment in decarbonization are expected to bring. For instance, the New Climate Economy estimates that the transition to a low carbon economy will result in a global economic gain of $26 trillion by 2030.[44] Additionally, the Global Commission on Adaptation found that $1.8 trillion of investment in just five areas (early-warning systems, climate-resilient infrastructure, improved dryland agriculture crop production, global mangrove protection, and water security) between 2020 and 2030 could provide $7.1 trillion in total net benefits.[45] While expected returns are better understood in some areas like renewable energy and electric vehicles than may be the case for others, there is increasing consensus in the investor community that integrating climate in investment decisions and investing in low carbon solutions adds value.

Figure 3: ESG and Climate as an Investment Opportunity

In 2020, ERM conducted a survey of over 50 private equity firms focused on ESG issues in private markets, concluding that the following three to five years are likely to generate significant value creation and investment opportunities. This survey and subsequent analysis synthesized specific strategy and actions private equity firms can take to ensure they maximize the upside potential of ESG.



Source: ERM. 2020. Eyes on the prize: Unlocking the ESG premium in private markets.[46]

> **Pressure from Limited Partners:** Increasing expectations from LPs looking to allocate capital to ESG- and climate-committed funds has been another driver of the growing attention paid to climate issues by private equity firms. Reflecting on recent developments, Robert Esposito, Senior Counsel, ESG at Apollo commented that five years ago, only a small minority of LPs asked climate-related questions, usually focusing on broader ESG programs and approaches. However, Apollo reports that the last two to three years have seen a significant uptick in the percentage of LPs sending climate-specific questionnaires to asset managers. The LPs are asking much more granular climate-related questions, such

"A CEO recently told me that, a year or two ago, ESG was the last question that would come up in (an investor) meeting, if there was time. Now those meetings start with that question.

Charles Emond
CEO
CDPQ[47]

as targeting specific funds and methodologies – even asking about the carbon footprint of portfolio companies. Similarly, reflecting on the increasing interest seen from LPs, the increasing sophistication of their queries, and the growing number of requests for metrics capturing emissions and total footprint, Mia Diawara, Manager of Sustainability & ESG Performance at TPG, noted: "In years prior, LPs often asked if we assessed climate risk. Now they assume this foundation is in place and inquire about which warming scenarios we consider."

- **Systemic nature of climate impacts and risks:** While the GPs and LPs interviewed for this report suggested that the private equity sector's ability to assess and manage climate change as a systemic risk is still developing and has not reached the level of sophistication applied by other asset classes and regulators, private equity's climate-related expertise and awareness are growing rapidly. This is being driven by both information and experience. In the last decade, climate change has come to be recognized as one of, if not the most prominent and urgent of global challenges. Climate change now consistently appears as a top risk in the annual World Economic Forum Global Risks Report,[48] and it has been cited as the most urgent sustainable development issue in a global survey of sustainability experts conducted annually by GlobeScan and the SustainAbility Institute by ERM for 10 years in a row.[49]

- **Political momentum:** While building for some time, 2020 and early 2021 brought remarkable growth in political will backing the need to transition to a low carbon economy. Such governmental pressure affects the entire private sector, including the investment community. This has come about in part because COVID-19 has illuminated the urgency of tackling climate change and other systemic crises. The pandemic has spurred numerous countries and regions to commit to "build back better" by making green recovery a priority as they rebuild after the coronavirus. Led early by the EU, this momentum now includes the U.S. The Biden Administration's plan includes goals to reduce greenhouse gas (GHG) pollution in the U.S. by 50-52 percent from 2005 levels by 2030, which is likely to spur massive decarbonization efforts economy-wide.[50] Triton's Head of ESG Graeme Ardus believes recent political momentum will continue and accelerate, saying: "If we thought change has been fast to date, 2021-2022 will be even faster."

- **Changes in the regulatory landscape:** Regulatory developments are also helping to spur action on climate change. In April 2021 the EU approved the Taxonomy Climate Delegated Act, which "aims to support sustainable investment by making it clearer which economic activities most contribute to meeting the EU's environmental objectives." A "green list" classification system will be developed to help align investors in a common understanding of what activity will "have a substantial positive impact on the climate and the environment." When it takes effect in January 2022, this Act, in conjunction with other components of the EU's Sustainable Finance Package like the Sustainable Finance Disclosure Regulation and the Corporate Sustainability Reporting Directive, will impose mandatory ESG disclosure requirements for large asset managers and other financial market players in order to help channel investment towards sustainable economic activities.[51] In the UK, mandatory climate-related financial disclosure requirements aligned with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations will be required by 2025, with some companies facing requirements starting in 2021. While the U.S. has not yet enacted climate-related regulatory requirements, this is changing under the Biden Administration. The Securities and Exchange Commission is currently revisiting its climate change disclosure requirements to determine whether they "adequately inform investors about known material risks, uncertainties, impacts, and opportunities."[52] Furthermore, an Executive Order on Climate-Related Financial Risk was issued in May 2021, which sets in motion the first steps toward development of a government-wide strategy on climate-related financial risk and asks key federal agencies and financial regulators to embed climate considerations into all aspects of government spending and oversight.[53]

- **Stakeholder expectations:** The changing preferences of other stakeholders including customers, NGOs, employees, media, and others, is another major factor influencing the importance private equity firms attach to climate-related issues. Sustainability commitment is a particularly important consideration among millennials and Generation Z, which makes it a major factor influencing talent attraction and retention by private equity organizations. This sentiment was echoed by Therése Lennehag, Head of Sustainability at EQT AB: "Employee talent has been a significant factor for EQT AB, as the younger generation of employees want to work in an environment that is responsible and considers ESG factors at large." Additionally, these employee views are reinforced by growing interest from portfolio companies (as well as actors in their value chains like suppliers and consumers) who are increasingly seeking to engage with GPs on climate-related risks and opportunities.

The transition to a low carbon economy will be heavily influenced by large investors, with institutional investors setting the performance bar to date. Private equity firms are increasing their efforts to incorporate climate-related risks and opportunities into their investment activity. They have come together to form several initiatives and working groups to help them achieve this goal. Whether their motivations relate to seizing the increasing opportunities the low carbon economy will provide, stakeholder pressure, political and regulatory momentum, or other forces altogether, the private equity market is now expected to play a pivotal role in financing a future aligned with the goals of the Paris Agreement. The journey, however, will not be without difficulties. The next chapter outlines some of the challenges anticipated.

2

Challenges Facing Private Equity on the Path to Stronger Climate-related Performance

While there have been improvements in private markets' ability to manage climate-related issues and align investment activities with net zero principles, more and faster progress is needed. This chapter outlines some of the key obstacles in the way of improving private equity performance relating to climate-related risks and opportunities.

While many if not all the challenges listed below apply to financial markets and the private sector broadly, those listed are the ones most often mentioned by interviewees and corroborated in project research as applicable to private equity. It is also important to note that considerable work is already being done to overcome these obstacles, generating momentum that is expected to continue to build and which will help private equity take more leadership in efforts to address the climate crisis.

> **Limited access to consistent, high quality data:** Access to comprehensive, reliable climate-related data coupled with the absence of universally adopted climate performance metrics are perceived to be among the greatest challenges limiting private equity climate performance and progress. These issues were frequently mentioned as top concerns by the GPs and LPs. Lack of alignment on what data should be collected and which metrics should be used impedes effective disclosure by portfolio companies, which makes it difficult to analyze the total climate risk exposure of portfolios and track their performance. Even when GPs can gather the necessary data, they often find themselves lacking the tools needed to analyze it and effectively integrate it into investment decisions. Some GPs mentioned that carbon footprint analysis is too frequently completed manually, which is neither effective nor sustainable long-term. Similarly, the Sustainability Accounting Standards Board (SASB) concludes that the lack of quality climate data is the most significant challenge in the way of successful implementation of sustainable investment strategies.[54] According to Morgan Stanley, "Asset owners are eager to measure and report portfolio impacts, but nearly a third (31 percent) lack adequate tools to assess how investments align with their ESG goals."[55]

> **Absence of universally adopted and mandated frameworks and standards:** One of the main barriers limiting access to clear and consistent climate data is the absence of universal standards and frameworks to guide corporate and investor disclosure on climate topics specifically and ESG more broadly. While a growing number of initiatives and organizations (CDP, GRI, The Investor Agenda, SASB, TCFD, etc.) do provide guidance and recommendations, none of them rise to the level of a universally accepted or mandated climate-related disclosure standard for private equity. An increasing number of investors use TCFD to report on climate risk and climate strategy while also using SASB materiality metrics to guide the collection of data from their portfolio companies. In addition, the Investor Climate Action Plans (ICAPs) Expectations Ladder and Guidance produced by the Investor Agenda was launched in May of 2021.[56] The firms interviewed during this research expressed the need for improvement and greater clarity within existing disclosure frameworks, and said they hope to see standards consolidation and common reporting language emerge.

> "Reliability of climate-related disclosures is the threshold issue. Investors fundamentally need accessible and credible information to be able to properly assess the risks and opportunities. We also need consistency of reporting frameworks across sectors, as well as comparability across jurisdictions. Different reporting frameworks reduce the effectiveness of data, making it challenging or impossible for investors to make informed decisions.
>
> **Janet Yellen**
> United States Secretary of the Treasury[57]

> It is important we don't defer to regulators to do all of this. There is a particular role for asset owners and pension funds to share this responsibility. We are not in competition with each other and are keen to ensure an effective disclosure framework.
>
> **Adam Matthews**
> Chief Responsible Investment Officer
> Church of England Pensions Board

- **Inconsistent regulatory requirements:** Despite the increasing urgency with which regulators are approaching climate change, regulatory inconsistency across geographies, topics, and industries creates obstacles to progress. Constant, well-targeted regulations play a major role in catalyzing change in markets, while variable policies or their absence can cause confusion and slow or even stall momentum. EU regulators are further ahead on climate than their global counterparts. This is evident in recent regulation such as the Sustainable Finance Disclosure Regulation and the Taxonomy Climate Delegated Act. With a new administration in place, there is an expectation that the U.S. will implement at least some mandatory climate disclosure requirements soon as well.[58] More consistent direction from regulators regionally and globally will help accelerate investor action, but financial organizations can't pretend that the onus of tackling climate change lies solely with governments. Adam Matthews, Chief Responsible Investment Officer at the Church of England Pensions Board, noted: "It is important we don't defer to regulators to do all of this. There is a particular role for asset owners and pension funds to share this responsibility. We are not in competition with each other and are keen to ensure an effective disclosure framework." Top players in the private equity sector, particularly LPs, have critical roles to play in encouraging the development of better and more harmonized regulations. Once implemented, the regulations will influence and improve the data available to LPs, GPs, and other stakeholders as they conduct and observe private equity transactions.

- **Lack of universal net zero standards and frameworks:** The lack of a common approach to setting net zero goals and implementation roadmaps is another impediment facing the investor community and the private sector as a whole. Recent months have seen a marked increase in net zero commitments from companies and investors alike, but these commitments vary based on the breadth of emissions addressed (that is, which of Scope 1, 2, and 3 emissions are in play), the means by which organizations plan to achieve their goals, target dates, and other key components. Some experts are anxious about not having a universally accepted standard for net zero. Rachel Kyte, Dean of the Fletcher School at Tufts University and a climate adviser to the UN Secretary-General notes: "Without clarification — and real enforcement — net zero will become an empty slogan that governments, corporations, and investors can use to greenwash emissions as usual."[59] In addition to the absence of a universal standard, many LPs and even more GPs note the lack of industry guidance on practical steps to take to translate net zero commitments into investment practices and align their activities with net zero ambitions. While more guidelines are emerging for LPs, they are noticeably lacking for GPs.

> **Challenges securing internal buy-in:** Despite increasing awareness of climate-related risk and growing evidence that the low carbon transition creates significant commercial opportunity, many interviewees noted that building a business case internally remains a challenge. According to some GP and LP interviewees, it is not uncommon for their firms' leadership to have not yet fully recognized the commercial importance of climate and ESG issues. While expectations for sustainable investments and assets are high, an "either/or" sentiment of choosing between sustainability and returns persists. Beyond senior leadership, integrating climate considerations depends on support at other functions and levels of organizations and making sustainability part of the company's culture and values. Securing buy-in at every level requires translating perceptions, data, and metrics into a concrete and specific business case. As Jeffrey Warshauer, Corporate Governance Officer with the New Jersey Division of Investment noted: "It will be hard for your organization's leaders and teams to say 'no' to something that the broader market considers to be financially material." While there is growing evidence showing that climate integration has a positive impact on returns, building acceptance of this remains a major challenge for many private equity firms.

> **Insufficient pressure from Limited Partners:** Both LPs and GPs listed investor pressure as a top driver of climate-related activity. Greater LP pressure is serving as a helpful driver in terms of accelerating climate integration in private equity, and it is true that these stakeholders have particular weight in investment decisions. But interviewees also noted that historic lack of pressure from LPs has too often allowed GPs to stick with the status quo in terms of investment approach. Even when LPs do engage, there is often little follow-up communication after an initial survey or questionnaire. According to Carlyle's Global Head of Impact Megan Starr, "LPs are one of the primary stakeholders driving change within GP organizations. They hold significant power and can help signal to the market how important it is to integrate climate-related risks and opportunities." The GP/LP relationship is complex. One LP representative mentioned that, when working with GPs, they utilize most of their leverage to get the best deal, without making clear enough that the best deal now needs to factor climate-related activity. While GPs say pressure from LPs remains limited, this is likely to change. Soon, and increasingly in the long run, climate credentials will become a significant competitive advantage for GPs competing for deals with LPs and seeking to differentiate themselves in the market.

> It will be hard for your organization's leaders and teams to say "no" to something that the broader market considers to be financially material.

Jeffrey Warshauer
Corporate Governance Officer
New Jersey Division of Investment

The dynamic nature of private equity investment and its limited integration of climate-related thinking to date has handicapped investment professionals and organizations seeking to champion climate solutions, and private equity investors face significant hurdles on the road to Paris Agreement alignment.

While inconsistent data, the lack of a single disclosure framework or net zero standard, regulatory variation, the challenges of building internal buy-in, and limited pressure from LPs are real obstacles to increasing private equity leadership in solving the climate crisis, the pressure for GPs and LPs to address climate impacts will become increasingly important. The next chapter of *The Changing Climate for Private Equity* outlines how and where climate-related risks and opportunities are integrated in private equity thinking today, and examines leading practices, and some of the approaches most likely to lead to breakthrough solutions in the future.

3

Climate Integration in Private Equity:

Current Landscape & Emerging Solutions

This chapter reflects on the insights gained during our research, focusing especially on information obtained from the 27 interviews conducted with GPs and LPs, discussing the current landscape and highlighting leading practices.

Though there is still progress to be made in aligning private equity practices with the goals of the Paris Agreement and net zero principles, many firms – and especially the sector's largest players – are starting to take steps in that direction. Compared to their peers, many GPs and LPs interviewed for this project have demonstrated increasingly mature investment approaches in terms of ESG and climate integration. Their experience can provide valuable lessons for the rest of the industry.

Still, even these firms, and certainly the rest of the sector, have farther to go to demonstrate true climate leadership. The level of climate understanding – even the acceptance of this topic – still varies widely based on factors including firm size, location, asset class participation, and so on, but our research suggests uptake is accelerating.

This chapter provides an overview of the current landscape and trends relating to climate change and private equity. The table below provides a summary of leading practices brought up by interviewed GPs and LPs, which are also discussed in greater detail in the rest of this chapter. While none of the GPs interviewed have a comprehensive climate action plan, many have elements of such plans in place, or are working on developing their policies, practices, disclosures, and advocacy to address climate across their business and portfolio management.

Summary of Leading Practices Mentioned by Interviewed GPs and LPs

Governance & Internal Engagement

- Frequent and detailed board and executive-level engagement within the private equity firm itself including through dedicated board committees, a dedicated board lead, board updates (at least annually), and board review of largest deals through a climate lens
- Development and regular review of a specific climate section within a wider ESG/responsible investment framework or a standalone climate policy
- Integration of climate-related risk and opportunity assessments into all deals as well as core functions within the organization such as investment, legal, and risk
- Dedicated in-house climate and ESG resources such as teams or leads

Risk Assessment & Portfolio Management

- Climate-related risk and opportunity assessment as an integral step in every transaction
- Assessment of both transition and physical risks on an investment/asset level where deemed material including when conducting scenario analysis
- Baseline carbon footprinting for portfolio companies to enable tracking of performance over time plus recurring assessments thereafter to assess progress
- Utilization of TCFD, SASB, and other emerging frameworks, standards and guidance in assessment of climate-related risks and opportunities
- Increasing investments in climate solutions and technologies
- Engagement of high emitting companies to support their transition

Disclosure & Goal Setting

- Utilization of TCFD, SASB, and other leading frameworks and standards to guide own reporting and disclosure efforts as well as engagement with portfolio companies
- Publication of TCFD-aligned climate report (separate from a more general ESG report) and/or integration of TCFD reporting as a part of financial filings
- Development of near- and long-term climate goals with corresponding climate action plans for portfolio and overall firm strategy
- Integration of science-based targets into strategic decision-making and goal setting
- Commitment to achieve net zero emissions from portfolio by 2050 or sooner

Governance & Internal Engagement

Establishing robust internal governance structures and processes, securing buy-in from the board and senior executive leaders, and developing necessary expertise on climate and ESG topics (in-house and/or through external providers) are critical to successful integration of climate considerations in investment practices.

> We strongly believe that anything related to climate and ESG is closely linked to performance.

Bertrand Millot
VP Risk Management, Fixed Income, and Head of Climate Risk and Issues
CDPQ

Board Engagement

Guernsey Green Finance notes in its Guide to Green Private Equity Principles that internal engagement and clear board responsibility are "a requirement for successful climate action in private equity."[60]

Regular board engagement is a cornerstone of good governance generally and a key attribute of climate-aligned organizations. Such engagement helps to drive climate understanding and accountability at the highest levels. Interviewees reported that the depth and frequency of such engagement varies from brief annual or quarterly presentations to the establishment of board committees focused on ESG and climate that meet specifically on climate matters several times per year.

Interviewees told us that ensuring regular updates, establishing climate-focused committees, and appointing ESG subject matter experts at the board level are effective ways to build board understanding and engagement. In its TCFD report, Carlyle notes that its board receives bi-annual updates on its ESG strategy, including information on Carlyle's approach to climate-related risks and opportunities. Furthermore, one of the members of Carlyle's board has been appointed as the ESG and Impact lead, making them directly responsible for oversight of the firm's work in this area.[61] Other interviewed firms mentioned that they involve board members in reviewing ESG and climate risks for larger transactions.

As an added component, many LPs have boards representing members like beneficiaries. As climate considerations become a larger issue, these boards could serve as an effective channel for relaying the climate concerns and expectations of the constituencies they represent, which may further accelerate the shift towards climate integration.

Climate & ESG Policy

One of the key responsibilities of boards with regard to ESG integration is approving and overseeing the implementation of ESG policy. A dedicated ESG and/or responsible investment policy was reported as being part of the internal governance systems of every GP and LP interviewed for this report. A typical policy describes how ESG considerations – among which climate issues are usually central – are to be integrated in a company's governance mechanisms, structure, investment activities, and values. Additionally, many ESG policies are designed to follow the investment cycle, providing guidance on how ESG factors should be applied from initial investment evaluation through to diligence practices and ultimate exit or divestiture.

Climate issues are most often integrated within umbrella ESG guidance documents, but some firms have policies exclusively focused on climate. This can have distinct advantages, such as increasing the profile of climate topics internally and providing more detailed guidance on how to integrate climate considerations – both to identify risks and seeking investment opportunities.

Either a broad ESG / Responsible Investment policy or a standalone climate policy can articulate clear direction for the firm as long as the policy communicates the importance of climate change issues and provides effective guidance on integrating climate considerations into the investment process.

Given the rapidly evolving landscape and rising expectations for private equity related to climate, many interviewed GPs and LPs expressed interest in evolving and improving their ESG and climate policies to give climate even more emphasis in the near future.

Case Study: CalPERS

Location: California, USA
Type: Public Pension Fund
AUM: $455 billion
Affiliations: Ceres Investor Network, Climate Action 100+, Net Zero Asset Owner Alliance, PRI

California Public Employees' Retirement System (CalPERS) is one the largest public pension funds in the world. A global leader on climate, it is a founding member and signatory of many climate-related working groups and partnerships and has committed to reaching net zero emissions by 2050. They were the first U.S. asset owner to join the Net Zero Asset Owner Alliance. With respect to private markets, their TCFD report assessed that approximately 20 percent of private assets (AUM $15 billion) are now deployed as climate solutions, highlighting the opportunity presented by climate-related factors. Their climate strategy is CEO-led, and other leaders at both board and executive levels are directly involved in shaping and implementing their efforts to align to the goals of the Paris agreement.

CalPERS utilizes several different tools and methodologies, including MSCI/Carbon Delta's Climate Value at Risk (CVaR) tool to assess how the CalPERS portfolio might perform in a future low carbon economy.[62]

Key findings from the risk analysis CalPERS has conducted with respect to their net zero goal include the following:

- Today's reductions in carbon intensity will minimize future physical impacts that the portfolio might face. Most of the physical risk exposure anticipated in the next 15 years is expected to be a consequence of past decisions. By acting today, future physical risk can be mitigated.
- Risk and opportunity are not mutually exclusive, and both are often present within a single investment opportunity. Industries or assets that have a higher risk in one area can offer significant opportunity in others.
- Physical risk may be more material than transition risks in future portfolios. However, certain complexities relating to physical and transition risk have not been built into the analysis tools employed today. As the tools mature, risk findings may evolve also.

Based on this analysis, CalPERS has identified the highest carbon emitting regions, sectors, and industries in their portfolio. They found that 92 percent of their Scope 1 and 2 emissions are attributable to just six industries, while seven industries are responsible for 92 percent of Scope 3 emissions. This helps CalPERS focus on the highest emitting industries and companies in their portfolio and capitalize on investment opportunity through utilization of decarbonization pathways.

Internal Integration & Resourcing

Most of the GPs and LPs said their firms have internal leads or teams dedicated to ESG. Although the size and reach of in-house resources vary, climate analysis is most often integrated under a broader ESG umbrella. In some larger firms, teams comprise multiple professionals dedicated to ESG, among whom there may be a person or persons with climate as their primary focus. In other cases, often at smaller firms, organizations rely on limited in-house expertise and/or third-party experts. Whether internal or external, people in less-resourced organizations may only dedicate part of their time to ESG matters, while also performing other roles.

Cross-functional integration of ESG and climate considerations within organizations builds strong foundations for informed decision-making across all activities. As noted by SASB, "Successful integration is marked by teams of investment, legal, risk, and investor relations professionals integrating ESG into their current responsibilities."[63] The research and interviews behind this project suggest that, while outsourcing climate expertise and assessment might be a good intermediate solution, private equity firms should expect that they will need to build this expertise internally eventually, probably sooner than anticipated.

While most organizations interviewed for this report have dedicated internal ESG personnel, in-house expertise is far from adequate across the sector, and this gap is perceived to be larger in North America than Europe. Underscoring how interviewees vary from the norm, a recent study by EY found that only 41 percent of the largest private equity firms have dedicated an internal task force overseeing their ESG activity, and that just 34 percent utilize a Head of ESG or equivalent to conduct these efforts.[64] It is much smaller in medium and small-sized firms.

Senior leadership buy-in is critical to securing necessary resources in-house. Unfortunately, this can still be a challenge, even in leading organizations. Both GP and LP interviewees noted the significance of translating the importance of climate integration into financial metrics and making a strong business case that climate considerations are material. As Sophie Flak, Managing Partner: CSR & Digital Director at Eurazeo noted: "Carbon means nothing to the management and investment teams. If you translate it into Euros, then their motivation is changed."

> Employee talent has been a significant factor for EQT AB, as the younger generation of employees want to work in an environment that is responsible and considers ESG factors at large.
>
> **Therése Lennehag**
> Head of Sustainability
> EQT AB

Risk Assessment & Investment Management

As climate-related impacts become better understood, more investment organizations are incorporating these factors into their risk assessment processes. Both transition and physical risks will have dramatic future impacts on the way firms operate and invest.

In addition to evaluating risk, a growing number of firms are integrating assessment of climate-related opportunity into investment decision-making. While increasingly common practice, the study of climate-related risks and opportunities is still far from widely adopted. Many interviewees mentioned difficulties gathering required climate-related information, pointing to the lack of advanced analytical tools, leading many to believe that risk and opportunity assessments are of limited use and too reliant on assumptions.

While rising demand for high quality, quantitative tools, and data is driving improvements in these processes, there remains much to be done to ensure that climate-related assessments are effective and accurate and lead to improved investment practices.

Evaluating Transition & Physical Risks

While climate change is increasingly recognized as a material transition and physical risk by financial regulators and institutional investors, private equity often prioritizes transition risk over physical risk in its considerations. This is partly explained by the shorter investment lifecycle of a typical private equity portfolio, where physical risk may not be perceived to play as significant a role in the near term. Many firms interviewed mentioned that, given typical hold periods of five to seven years, transition risks are given more attention than physical risks, as they are seen to provide more lucrative investment opportunities and to generate potentially higher exit multiples.

Increasing adoption of TCFD-aligned reporting by private equity firms, other investors, and companies is promising given its potential to support more structured and comprehensive risk analysis. In their TCFD report, CalPERS underlines that improved disclosure will automatically result in a more comprehensive assessment of both transition and physical risks, saying: "Ultimately, as corporate reporting improves, so will the ability of investors to assess both the risks and opportunities of climate change and act accordingly."[65]

> In years prior, LPs often asked if we assessed climate risk. Now they assume this foundation is in place and inquire about which warming scenarios we consider.
>
> **Mia Diawara**
> Manager of Sustainability & ESG Performance
> TPG

Although mostly used by select leaders today, scenario analysis can be a very useful transition and physical risks analysis tool. Several interviewed firms reported finding scenario analysis to be helpful in various contexts. For example, one of the interviewed GPs used scenario analysis to determine where in the value chain it would be most beneficial to invest, while another employed scenario analysis to understand the potential impacts of specific transition risks on its portfolio.

Establishing a Baseline Carbon Footprint

A key part of assessing climate impacts at portfolio level is establishing a baseline. While this can be complex and sometimes may have to rely on estimates depending on data availability and quality, the exercise can drive engagement and action. As noted by Katharine Preston, VP Sustainable Investing at OMERS, "A footprinting exercise can help push discussion on climate integration and motivate leadership to back implementation of carbon reduction goals." Similarly, Jérôme Duthu-Bengtzon, a Partner on Pantheon's Global Infrastructure and Real Assets Investment Team, believes that GHG emissions data comprises an integral part of climate data collection, and it is where they would advise private equity firms to start.

Most firms we interviewed have completed or are in the process of completing a footprinting exercise for at least part of their portfolio. Most of these organizations have only conducted a single assessment, so this is not yet an established industry practice. Also, while all the assessments referenced incorporated Scope 1 and 2 emissions, fewer yet assess Scope 3.

The Carlyle Group's TCFD Report describes the carbon footprinting exercise it undertook.[66] Carlyle included direct emissions from majority-owned sources plus the indirect emissions associated with its own purchased energy in 2019 using an intensity-based metric for all these calculations.

One of the major challenges when attempting a comprehensive carbon footprint assessment is quality data access. As PRI notes, "Measuring the combined carbon footprint of all of a GP's portfolio companies is nearly impossible. Private equity is a sector in which data is not published, and the transparency effort is not developed enough for now."[67]

Interviewees told us that direct engagement is often the most effective way to gather data from portfolio companies, although it can be very time consuming. In addition to enabling GPs to request data that meets their specific needs, direct engagement can improve accuracy and reduce reliance on data collected from other sources. Many of the interviewed GPs and LPs said they gather climate-related data via questionnaires and other bi-lateral exercises. Triton goes a step further in engaging with its portfolio companies to conduct a TCFD-style analysis, which Triton believes improves understanding and helps drive decision-making processes.

Another barrier encountered by GPs is lack of adequate analytical tools. Service providers are recognizing this need and offering new products to meet it. The most frequently mentioned providers from our interviews were TruCost, Persefoni, and Greenstone, but there are myriad other (often specialized) providers in the market. The tools offered do have some limits. The issues most frequently mentioned by interviewees are limited scope, high-level technical expertise required to make effective use of the tools, and inadequate context to meaningfully interpret the data.

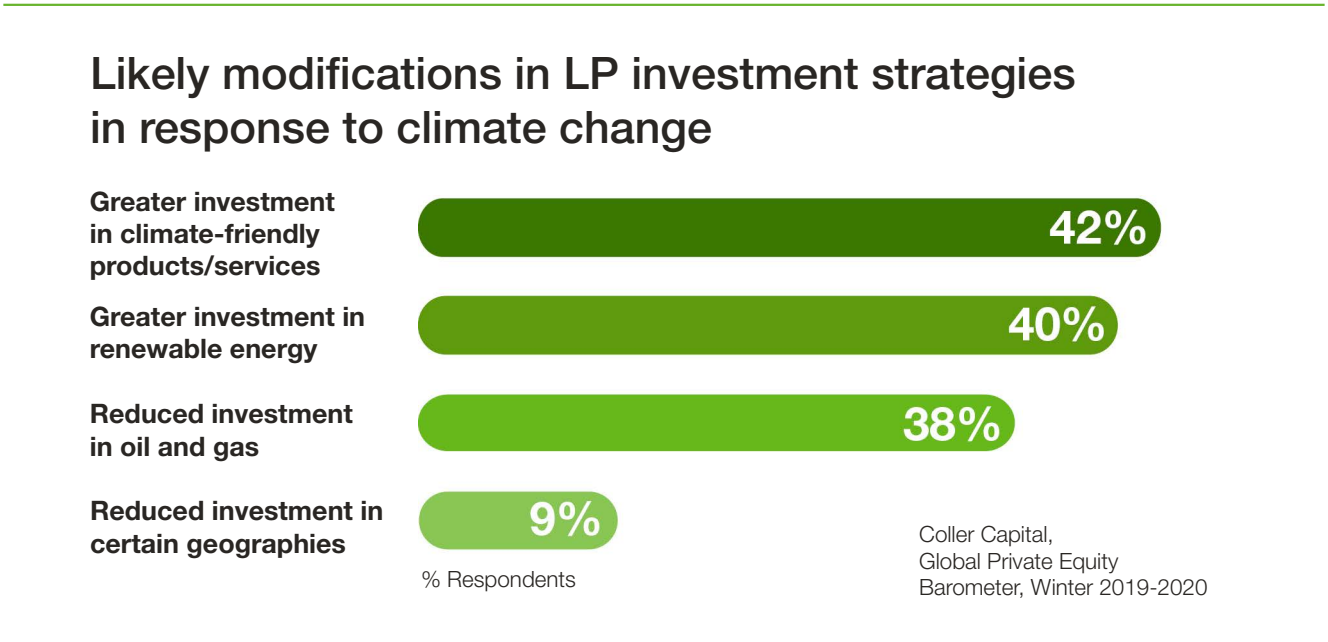
To address the situation, some larger firms are developing proprietary platforms to gather and analyze climate-related data. These take different forms, ranging from simple data collection methods to custom dashboards and tools. For instance, Partners Group's Private Equity ESG KPI Dashboard includes data on environmental maturity, GHG intensity, energy intensity, and waste diverted for 27 portfolio companies.[68]

These bespoke approaches offer multiple benefits, as the tools can be customized to the unique structure, portfolios, and processes of each firm. They also create challenges – SASB notes that many GPs are concerned that the use of their own scoring methodologies may leave them open to accusations of greenwashing.[69] Finally, justifying the resources needed to create proprietary data tools and scoring methodologies and managing them can be an obstacle in its own right.

Increasing Investments in Climate Solutions and Supporting Heavy Emitters on Their Path to Decarbonization

As part of their efforts to reach targeted returns and control exposure to risk, private equity firms are trying to strike the right balance between investing in assets that will require a longer time to reach decarbonization goals (and therefore pose higher risk) with investments in climate solutions and companies already operating according to low carbon principles (for example those focused on renewable energy, electric vehicles, hydrogen, etc.). According to a recent global survey of 113 LPs conducted by Coller Capital, in response to climate change 42 percent said they plan to increase investment in climate-friendly products and services, while 40 percent said that they were planning more investment in renewable energy. About 38 percent planned to reduce investment in oil and gas (see Figure 4).

Figure 4: LP Investment Strategy Modifications in Response to Climate Change



Source: Coller Capital. 2020. Coller Capital Global Private Equity Barometer, Winter 2019-20.[70]

Private equity has been an important source of capital for investments in climate solutions, and its role in funding climate innovation and expansion of climate-friendly companies is set to grow in the coming years. Venture capital (VC) firms will likely continue to be important players in funding and scaling innovations. According to PwC estimates, VC and corporate investment into climate tech has been growing five times faster than overall VC investment reaching $60 billion of early-stage capital in 2019. The biggest growth areas in climate tech are likely to be in mobility and transport, heavy industry, GHG capture and storage, followed by food, agriculture, land use, built environment, energy, and climate and Earth data generation.[71] In one recent example, BlackRock signed a deal with Singaporean investment fund Temasek to launch a series of late-stage venture capital and early growth private equity funds to invest in "decarbonization solutions". The venture has a fundraising target of $1 billion for its first fund.[72]

Market economics have been one of the main drivers of growing interest in climate solutions by private equity firms. While attractiveness of such investments continues to grow, private equity energy fund returns have been lagging broader private equity returns. According to some estimates, during the last 10 years private equity-backed energy funds have performed poorly compared to private equity funds overall, and the majority have lost money.[73]

Moreover, as ESG policies and government regulations advance, certain investments are increasingly perceived as higher risk. Assets such as those associated with coal-related activity may face divestment or little to no future investment (especially by institutional investors) as investors and lenders seek to avoid stranded assets. For instance, New York City's Pension Funds have committed to divesting over $4 billion from fossil fuel stocks over a multiyear period.[74]

While few private equity firms have divested or made commitments to divest from fossil fuel companies so far, some are adopting exclusion policies (formal or informal) that mean they will not actively pursue these types of assets as part of their future portfolios. Avoiding new investments in fossil fuels is a welcome step but it may also present some risks. Industry observers warn that if carbon-intensive assets are retired or divested at a significantly depreciated value, the potential to extend their life may be realized as an investment opportunity by investors who do not prioritize reducing climate impacts.

Cyrus Taraporevala, the Chief Executive of Global State Street Advisors warned in his recent op-ed to the Financial Times: "Indeed, while many in the media have seized on "greenwashing" — companies embracing sustainable practices for public relations purposes — a far greater danger is "brown-spinning": selling off the highest-emitting components of businesses to private equity and hedge fund actors at a discount. This can reduce disclosure, shield polluters, and marginalize the voice of the investor."[75] A number of private equity firms have acted on these opportunities and thus have risen in the ranks of carbon emissions rankings of power plant owners in recent years.[76]

Due to the risk of leaving key industries out of the transition through divestment and exclusion, engagement of portfolio companies in decarbonization efforts is the most effective way of putting high emitting companies on a path to transition to low carbon business models. Some examples of this in practice mentioned in project interviews included: investing in a traditional powertrain manufacturer to transition it to production of electric powertrains; investing in the electrification of heavy-duty fleet vehicles; and investing in a coal power plant and then transitioning it towards biofuels.

Supporting portfolio companies with decarbonization has the potential to create a fundamental shift in terms of reducing market carbon intensity. It also presents significant return opportunities for private equity and the transitioning companies themselves. In an interview with Forbes, Jay Koh, Lightsmith Group Co-founder & Managing Director discussed how investments in high emitting companies and helping them with transition has the potential to create two outcomes, "...extranormal growth for those companies and returns for investors, as well as measurable impact on the climate change problem itself. These outcomes are complementary – the faster these technologies and solutions grow, the more capacity we will have to deal with climate change."[77]

> Investing in climate resilience companies can generate two outcomes – extranormal growth for those companies and returns for investors, as well as measurable impact on the climate change problem itself. These outcomes are complementary – the faster these technologies and solutions grow, the more capacity we will have to deal with climate change.
>
> **Jay Koh**
> Co-founder & Managing Director
> The Lightsmith Group[78]

Case Study: KKR

Location: New York, USA
Type: Private Equity Firm
AUM: $250 billion
Affiliations: Ceres Investor Network, GIIN, Operating Principles for Impact Management, PRI

> While we have been working with our portfolio companies on decarbonization for many years, we recognize that climate action requires a more holistic approach. Today, we continue to support our companies' decarbonization efforts, and we help them understand and manage climate risk. Additionally, we believe that investing in climate-related solutions is critical, which is why we have developed expertise and a track record on this theme.

Elizabeth Seeger
Managing Director,
Sustainable Investing
KKR

KKR is a leading U.S. private equity firm with a comprehensive and in-depth ESG and climate management process. It allows the firm to "enhance value and reduce risk by addressing relevant issues across the investment life cycle." KKR's ESG management process consists of the following elements:[79]

Pre-Investment:

Pre-screen investment opportunities:
- Review "Gating Issues" to determine whether there are any critical ESG or reputational concerns with regards to target companies, operators, issuers, and where relevant, sponsors
- Deal teams are encouraged to connect with the KKR Global Public Affairs team where relevant to a deal

Conduct diligence on company-specific relevant issues:
- Evaluate material ESG risks and opportunities applicable for the industry or asset type(s) with regards to the issuer or target company, including climate change risks and other portfolio-wide considerations and opportunities
- Consult the SASB industry topics
- Consider opportunities to partner with the target company to drive value

Present to the Investment Committee:
- Include key risks and value-creation opportunities in Investment Committee discussions and memorandums as they relate to the target company or issuer
- Track relevant findings, even when no additional actions are needed

Post-Investment:

Document and track:
- Document findings in internal reporting systems for ongoing tracking and investor reporting

Engage the Portfolio Management Committee:
- Include key ESG risks and opportunities in Portfolio Management Committee discussions and memorandums

Monitor and manage:
- Document progress on relevant ESG and reputational issues — as well as cross-portfolio issues — for ongoing tracking and investor reporting
- Engage with select companies on value creation efforts

Disclosure & Goal Setting

The private equity market is highly dynamic and is faced with constantly evolving stakeholder expectations regarding climate-related performance and disclosure. While standards and benchmarks are sometimes slow to evolve, the direction of movement towards a low carbon economy is clear. Establishing emissions goals, including net zero commitments, and aligning disclosure with the TCFD recommendations are emerging as leading practices and are gradually being adopted across the sector.

> If we thought change has been fast to date, 2021-2022 will be even faster.

Graeme Ardus
Head of ESG
Triton

Disclosure Frameworks and Standards

Almost every interviewed GP and LP expressed the need for more uniform disclosure frameworks, standards, and guidance that would apply and be adopted universally by the financial industry and the private sector. Due to their absence, even as frameworks such as TCFD are integrated into the practices of several GPs and LPs, the sector's overall climate-related disclosure remains limited. The corporate disclosure record of private portfolio companies has also been lagging and has been a significant obstacle in improving the private equity industry's record on transparency.

Among the interviewed GP and LP organizations, at the time of this report's publication only two (The Carlyle Group and CalPERS) have published standalone TCFD reports, although many more expressed their intent to develop such reports in the next one to two years. While climate is often granted its own section in broader ESG reports, there is a need for more specific, data-driven climate disclosure.

Private equity firms, private companies, and privately-held organizations more generally have historically disclosed less than public organizations in part due to different regulatory requirements. Given forthcoming regulations in Europe like the Sustainable Finance Disclosure Regulation and Corporate Sustainability Reporting Directive, and what is likely emerging in the U.S. now as well, this is likely to change. Private companies are also coming under increasing pressure from stakeholders other than governments – institutional investors, suppliers, customers, and more. In one such example, in his 2021 annual letter to CEOs, BlackRock's Larry Fink noted that climate disclosures "should be embraced by large private companies."[80]

While private equity firms are increasingly incorporating TCFD, SASB, CDP, CDSB, GRI, IIRC, and other standards, frameworks, and guidance to improve their own disclosure and guide disclosure requests from portfolio companies, the pace and scale of these efforts remain too slow. Some of our interview participants urged firms to approach disclosure gradually based on their maturity level and not to wait for the perfect moment when they finally have all the information.

Goal Setting

Future-focused climate and carbon-related goals are now common among companies, and they are being adopted by financial institutions including investors too. Net zero is emerging as the next wave in climate action, but there are ways GPs and LPs can better align their portfolios to desired climate-related outcomes even before making a net zero commitment.

Some GPs and LPs have adopted goals that limit the new carbon-intensive investment. Portfolio carbon budget and intensity targets can also be effective means for setting and achieving climate-related goals. For instance, CDPQ has established a carbon budget goal for each of their portfolios and set an overall goal to reduce carbon footprint by 25 percent per dollar invested by 2025 (see Case Study: CDPQ). CDPQ also uses carbon budgets in incentive structures for their team and as a way to help determine the overall success of a portfolio outside of strictly financial returns.

While setting net zero targets is an important and rapidly accelerating trend in the private sector, few private equity organizations have adopted such goals. At the time of this report's publication, one of the interviewed GPs (Eurazeo) and five of the interviewed LPs (CalPERS, CDPQ, Church of England Pensions Board, Harvard Management Company, and SFERS) had public net zero goals.

Most interviewed firms said that they are considering announcing net zero goals in the future but that they have been hampered in doing so by the lack of established frameworks and limited guidance on how to translate net zero commitments to investment practices. One of the interviewed GPs commented on the challenges faced by private equity firms: "We don't know what's going to be in the portfolio in 10 years' time. When you're trying to set a target against a moving baseline, that can be very difficult. Until we have clear guidance, it is difficult for firms to commit to a net zero goal."

While there is currently no universally accepted standard and guidance for setting net zero targets, there are several promising initiatives underway. The Science Based Targets Initiative (SBTi) is developing a science-based standard for setting corporate net zero targets, which is to be announced in late 2021. Recognizing the "pressing need for a tailored, yet standardized approach for financial institutions" SBTi has developed pilot guidance specifically for financial institutions on how to align their lending and investment portfolios with the ambitions of the Paris Agreement. The pilot guide provides recommendations on setting goals for Scopes 1, 2, and 3, tracking progress against these goals, and applying sectoral decarbonization approaches within portfolios.[81]

There are also several ongoing efforts attempting to produce frameworks and guidelines meant to help private equity firms and other investors set climate and net zero goals; their application is likely to accelerate the rate of commitments (see Text Box). For instance, the Investor Climate Action Plans (ICAPs) Expectations Ladder and Guidance, developed by The Investor Agenda, establishes the dimensions of a comprehensive climate action plan for all investors no matter where they are in their journey to integrate climate change into their activities. The Paris Aligned Investment Initiative's Net Zero Investment Framework provides comprehensive guidance for developing net zero investment strategies for asset owners and managers at both portfolio and asset class level. The framework currently covers four asset classes: corporate fixed income, listed equities, real assets, and sovereign bonds. Efforts are underway to include private equity and infrastructure as additional asset classes in an updated version of the framework, which is expected later in 2021.

Eurazeo's recently announced goal to achieve net zero by 2040 can serve as an example for peers looking to make similar commitments (see Case Study: Eurazeo). Three core pillars underpin Eurazeo's net zero goal: investing in the fast-growing low carbon economy; reducing portfolio exposure to carbon cost and risk; and measuring carbon footprint throughout the investment cycle.

Whether emissions goals developed by LPs and GPs are framed around portfolio carbon budgets, net zero commitments, science-based targets, or other frameworks and metrics, establishing interim targets and climate action plans is an important element of ensuring their success. Carlyle is currently developing its roadmap on climate, focusing on how private investors can help drive ambitious progress in the near term, in order to enable longer-term climate targets.

Investor Climate Guidance and Frameworks

- **The Ceres Roadmap 2030** presents a vision for sustainable business leadership. It provides a practical 10-year action plan to help companies strategically navigate this new and ever-changing business reality and thrive in the accelerated transition to a more equitable, just and sustainable economy.[83]
- **The Investor Agenda** is a common leadership agenda on the climate crisis that is unifying, comprehensive, and focused on accelerating investor action for a net zero emissions economy.[84]
- Developed by the Investor Agenda, the **Investor Climate Action Plans Expectations Ladder and Guidance** are intended to help investors act on climate through a single, comprehensive framework which draws on existing initiatives and guidance.[85]
- **The Net Zero Investment Framework** provides a comprehensive set of recommended actions, metrics, and methodologies investors can use to develop net zero investment strategies.[86]

> If large private companies are not held to the same level of scrutiny as public companies, we will create an unintended incentive to shift carbon-intensive assets to markets with less transparency and, often, less regulation.

Larry Fink
Chairman & CEO
BlackRock[82]

Case Study: Eurazeo

Location: Paris, France
Type: Private Equity Firm
AUM: €21.8 billion EUR (~$26 billion)
Affiliations: CDP, iCI, IIRC, PRI

Eurazeo is a leading global investment company committed to pro-actively accelerating the transition to a low carbon economy. It was the first GP in the industry to publicly commit to the goal of carbon net neutrality across the Group by 2040 at the latest, with the Science Based Target initiative (SBTi) methodology. On the climate front, the firm aims to deliver the following three core objectives:[87]

1. Invest in the fast-growing low carbon economy

> Increasing Eurazeo's investments in assets that offer significant potential to reduce carbon emissions.

> Developing innovative investment strategies to finance "positive solutions," including green and depollution-tech food solutions.

2. Reduce portfolio exposure to carbon cost and risk

> Implementing decarbonization plans in accordance with the criteria of the SBTi for Eurazeo as well as its portfolio companies in order to reach carbon net neutrality by 2040 at the latest.

> Setting an exclusion policy, which precludes investments in carbon-intensive or counter to the UN Sustainable Development Goals assets.

3. Measure carbon footprint throughout the investment lifecycle

> Considering carbon valuation in all investment business plans.

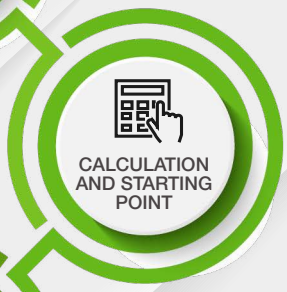
> Measuring the carbon performance of all our investment strategies.

Case Study: CDPQ

Location: Quebec, Canada
Type: Public Pension Fund
AUM: $365 billion CAD (~ $300 billion USD)
Affiliations: Ceres Investor Network, CDP Climate Change/Water, Net Zero Asset Owner Alliance, PRI

Caisse de dépôt et placement du Québec (CDPQ) is a leading institutional investor. CDPQ has established an investment strategy to address climate change based on four key pillars: factoring in climate change in every investment decision; increasing low carbon investments by 50 percent by 2020; reducing carbon footprint by 25 percent per dollar invested by 2025; and exercising stronger leadership. Effective governance arrangements are in place, with a strategy and targets informed by a thorough process-based analysis of current and emerging market risks and opportunities:[88]

1. **Reviewing best practices.** By joining international initiatives calling on the financial sector to make climate commitments, and through discussions with its international peers, CDPQ reviewed and identified current best practices. Since industry practices are constantly changing, this exercise will be ongoing.



2. **Calculating portfolio carbon footprints and setting a starting point.** Calculating GHG emissions related to assets in our portfolios provided a better understanding of CDPQ's carbon footprint. It also allowed us to set our starting point and benchmark year.

3. **Defining an overall target for lowering GHG emissions per dollar invested.** We analyzed our portfolios and set a GHG emissions intensity reduction target, equipping CDPQ to make a constructive contribution to the transition toward a low carbon economy and act on investment opportunities that generate good returns for our clients.

4. **Identifying actions to ensure the reduction of our portfolio's carbon footprint.** CDPQ wants to implement actions that empower our teams to achieve targeted results in the most efficient way possible. With flexibility to select the best investments, our teams will be able to meet the significant challenge of achieving their target.

5. **Implementing monitoring mechanisms.** Reporting on CDPQ's performance on climate matters by definition requires monitoring. We will integrate monitoring mechanisms into our business processes and prepare yearly exporting when we publish our annual report.

> LPs are one of the primary stakeholders driving change within GP organizations. They hold significant power and can help signal to the market how important it is to integrate climate-related risks and opportunities.

Megan Starr
Global Head of Impact
Carlyle

4

Recommendations & Conclusion

This chapter outlines recommendations and practical steps that will help the private equity sector better understand and address current and emerging climate-related risks and opportunities.

The private equity industry has a pivotal role to play in relation to climate and the net zero agenda. Climate-related risk is now understood as a systemic problem that must be addressed across all investment classes, and the low carbon economy transition presents a significant investment opportunity for the industry too.

With its experience, capital, and agility, private equity is uniquely positioned to invest in companies positioned to benefit from the transition to net zero and to create opportunities by helping hard-to-transition firms make the necessary shift.

> Carbon means nothing to the management and investment teams. If you translate it into Euros, then their motivation is changed.

Sophie Flak
Managing Partner: CSR & Digital Director
Eurazeo

Actions for the Private Equity Sector

To fully realize the investment opportunity related to the transition to net zero and overcome the systemic risk posed by climate change, the private equity industry should prioritize the following:

1. Embed the **consideration of climate-related risks and opportunities** into the policies and practices that guide private equity firms' own governance, due diligence, risk management, and engagement of portfolio companies.

2. Enhance and accelerate the **climate-related disclosure and transparency efforts** of private equity firms and the companies in which they invest.

3. Establish the business case required to make a public commitment to achieve **portfolio-wide net zero emissions by 2040 or no later than 2050**; ensure this includes setting science-based targets.

4. Identify and capture value from **investment opportunities relating to financing the low carbon economy transition**, including increasing investment in companies that offer low carbon solutions and technologies, and seizing opportunities to invest in presently high-emitting companies that can transform through defined decarbonization strategies that the firm can support.

5. Promote **greater industry alignment with and uptake of** existing and emerging ESG, climate-related, and Paris-aligned frameworks as well as related guidance, net zero commitments, science-based targets, standardized data, metrics, and tools.

The following tables present specific, practical steps for LPs and GPs to improve performance in three areas: Governance, Internal Resourcing & Goal Setting; Climate Risk Assessment, Investment Management & Disclosure; and Advocacy & Partnerships.

Recommendations for Limited Partners

Governance, Internal Resourcing & Goal Setting

- Leverage evolving net zero investment frameworks, industry initiatives, guidance and tools when defining net zero ambitions, goals, interim targets, investment strategy, and the actions required to realize a strategy aligned with the goals of the Paris Agreement.
- As an integral part of ESG/ responsible investment frameworks, develop specific, climate-related governance mechanisms for private equity investments such as expectations, oversight, and accountability for the board, senior management, and investment teams.
- Build in-house climate risk competency and capacity and equip the board, senior management, and investment teams with an informed understanding of climate risk and the different pathways that promote a just and equitable low carbon transition.
- Create an internal committee comprised of ESG specialists and private equity investment teams to foster coordination and collaboration and leverage their unique insights and expertise in ways that help to assess and manage climate-related risks and opportunities.
- Foster relationships with best-in-class consultants, advisors, and investment partners who offer deep climate-related expertise and services.

Climate Risk Assessment, Investment Management & Disclosure

- Include climate-related risks and opportunities as integral considerations in all forms of investment planning and analysis.
- Use GP engagement opportunities to gain a better line of sight over the climate-related risk and opportunity profiles of investment allocations.
- Enhance transparency efforts by publishing a TCFD report that specifically highlights climate-related risks and engagement efforts associated with private equity investments.
- Increase engagement of and disclosure expectations for GPs by increasing the frequency, consistency, and sophistication of LP climate-related queries and information requests.
- Develop processes so that climate-related information requests made to GPs are in a consistent format, align with current standards, and include metric definitions.

Advocacy & Partnerships

- Advocate for policies that support mandatory climate reporting and a just and a fair transition, and that promote innovation in the specific sectors critical to climate risk mitigation.
- Partner and participate in private equity working groups, alliances, and/or initiatives that support the transition towards a net zero economy.
- Help develop industry and investor network collaboration and engagement to shape net zero investment frameworks, tools, and implementation guides that will support practical and measurable progress across private markets.

Recommendations for General Partners

Governance, Internal Resourcing & Goal Setting

- Align investment practices with the objectives of the Paris Agreement and with goals supporting attainment of portfolio wide net zero GHG emissions no later than 2050. Set interim decarbonization targets spelling out the progress that will be made on the way to 2050.
- Appoint one or more board members as well as senior management personnel possessing background and knowledge concerning the impact of climate change on investments and the impact of investments on climate change.
- Make climate-related governance mechanisms such as expectations, oversight, and accountability for the board, senior management, and investment teams an integral part of the firm's ESG/responsible investment framework.
- Invest in training and educating the board, senior management, and investment teams on climate-related risks and opportunities as well as different pathways capable of supporting a just and equitable low carbon transition.
- Support portfolio companies in setting emissions targets and making the emissions reductions necessary to progressively align to a net zero pathway.

Climate Risk Assessment, Investment Management & Disclosure

- Conduct a carbon risk analysis within and across all portfolio companies. Incorporate Scope 1, 2, and, wherever possible, Scope 3 emissions. Incorporate assessment of physical and transition risks and opportunities.
- Identify and disclose the highest emitting assets and sectors included in all investments.
- Engage and support portfolio companies in their efforts to transition to low carbon models especially those in the hardest to abate sectors (energy, agriculture, transportation, manufacturing).
- Increase investments in companies that are working to advance and scale climate solutions and technologies.
- Reduce holdings of assets that perpetuate dependence on fossil fuels and contribute to "business as usual" GHG emissions.
- Publish an annual TCFD report with specific disclosures on actual and potential impacts of climate-related risks and opportunities across all portfolios.
- Support increased disclosure efforts by portfolio companies in alignment with TCFD reporting guidelines.
- Commit to progressively align an incremental percentage of assets under management with the objectives of the Paris Agreement and set measurable goals to track progress in low carbon investments.

Advocacy & Partnerships

- Advocate for policies that support mandatory climate reporting and a just and a fair transition, and that promote innovation in the specific sectors critical to climate risk mitigation.
- Limit political spending and industry affiliations that are not consistent with achieving the goals of the Paris Agreement.
- Join industry networks such as the Net Zero Asset Managers initiative and issue a Climate Action Plan.
- Increase collaboration with peers, investor networks, and industry led initiatives to demonstrate leadership, share best practices, and harmonize cross-sector engagement efforts on climate change.
- Partner and participate in and with industry working groups that support the transition towards a net zero economy.

Conclusion

The Introduction to this report stated that climate change is a universal problem in need of universal solutions. It went on to argue that business has an outsized part to play in addressing the climate crisis, and then suggested that the finance sector is uniquely well-positioned to influence the adoption of practices economy-wide that will support a just and equitable transition to a low carbon economy.

The rest of *The Changing Climate for Private Equity* focused on one financial system asset class, private equity. The research produced a suite of learnings, but its main headline is this: While private equity has not been on the leading edge of integrating climate considerations into investment decisions to date, its increasing size and influence make it essential to efforts to understand and address systemic climate risk and opportunity economy-wide in the future. This will include aligning internal operations with the goals of the Paris Agreement, but it is far more important that private equity asset owners and managers factor climate considerations into investment selection and portfolio management, as the collective impact of the climate-related performance of portfolio companies dwarfs anything that might result due to changes that take place inside the four walls of the investment firms alone.

The changes required to halt and reverse global warming are immense and will bring about unprecedented economic disruption. This rightfully causes anxiety, especially for incumbent organizations, including investors. But development of a net zero emissions economy is essential, and the leaders of the low carbon economy transition stand to reap huge benefits when they learn to minimize climate-related risk and capitalize on climate-related opportunity. Conversely, firms that fail to consider the climate crisis in investment selection and portfolio management may expose themselves to significant potential losses.

Much of private equity's future performance will be determined by how well it manages issues related to global warming. Ceres and the SustainAbility Institute by ERM believe that the sector can and should play a central role in ensuring that society meets the goals of the Paris Agreement, and that the firms that embrace this will be the most successful investors in the low carbon economy of the future. It is now in private equity's hands to determine which firms will set the pace and reap the rewards.

Endnotes

[1] United States Environmental Protection Agency. 2013. Vocabulary Catalog. Online posting. United States Environmental Protection Agency. Accessed 27 May 2021. https://sor.epa.gov/sor_internet/registry/termreg/searchandretrieve/glossariesandkeywordlists/search.do?details=&glossaryName=Glossary%20Climate%20Change%20Terms

[2] Kenton, W. 2001. Business Essentials, Guide to Mergers and Acquisitions. Online posting. Investopedia. Accessed 27 May 2021. https://www.investopedia.com/terms/g/generalpartner.asp

[3] United States Environmental Protection Agency. 2013. Vocabulary Catalog. Online posting. United States Environmental Protection Agency. Accessed 27 May 2021. https://sor.epa.gov/sor_internet/registry/termreg/searchandretrieve/glossariesandkeywordlists/search.do?details=&glossaryName=Glossary%20Climate%20Change%20Terms

[4] Chen, J. 2020. Guide to Hedge Funds. Online posting. Investopedia. Accessed 27 May 2021. https://www.investopedia.com/terms/i/institutionalinvestor.asp

[5] Kenton, W. 2001. Business Essentials, Guide to Mergers and Acquisitions. Online posting. Investopedia. Accessed 27 May 2021. https://www.investopedia.com/terms/l/limited-partner.asp

[6] United Nations Climate Change. What is the Paris Agreement? Online posting. Accessed 27 May 2021. https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

[7] Chen, J. 2020. What is private equity. Online posting. Investopedia. Accessed 27 May 2021. https://www.investopedia.com/terms/p/privateequity.asp

[8] https://sciencebasedtargets.org/how-it-works

[9] IPCC. 2020. Special Report – Global Warming of 1.5C. Online Posting. IPCC. Accessed 27 May 2021. https://www.ipcc.ch/sr15/

[10] Joyce, C. 2020. Future of Alternatives 2025: Private Equity AUM Will Top $9tn in 2025. Online posting. Preqin. Accessed 27 May 2021. https://www.preqin.com/insights/research/blogs/private-equity-aum-will-top-9tn-in-2025.

[11] Aragon, L. 2021. Friday Letter Apr 30 2021: Growing beyond buyouts. Online posting. Private Equity International. Accessed 27 May 2021. https://link.privateequityinternational.com/view/5eaa233c1faaa4438745389fe43q0.1hu/057d8f66

[12] Fink, L. 2021. Larry Fink's 2021 letter to CEOs. Online posting. BlackRock. Accessed 27 May 2021. https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter

[13] JPMorgan Chase. 2021. JPMorgan Chase Targets More Than $2.5 Trillion over 10 Years to Advance Climate Action and Sustainable Development. Online posting. JPMorgan Chase & Co. Accessed 27 May 2021. https://www.jpmorganchase.com/news-stories/jpmc-to-advance-climate-action-and-sustainable-dev-goals.

[14] Kelly, J. 2021. Brookfield Pursues $7.5 Billion Fund Devoted to 'Net-Zero' Shift. Online posting. Bloomberg Quint. Accessed 27 May 2021. https://www.bloombergquint.com/business/brookfield-pursues-7-5-billion-fund-devoted-to-net-zero-shift

[15] Smith, A. 2021. Biden touts green infrastructure spending plan: 'Built in Pittsburgh instead of Beijing'. Online posting. Washington Examiner. Accessed 27 May 2021. https://www.washingtonexaminer.com/policy/biden-touts-climate-plan-to-compete-with-china

[16] Paraskova, T. 2020. EU Presents $572 Billion Green Stimulus Package. Online posting. Oilprice.com. Accessed 27 May 2021. https://oilprice.com/Latest-Energy-News/World-News/EU-Presents-572-Billion-Green-Stimulus-Package.html.

[17] Energy & Climate Intelligence Unit. 2021. TAKING STOCK: A global assessment of net zero targets. Online posting. Energy & Climate Intelligence Unit. Accessed 27 May 2021. https://ca1-eci.edcdn.com/reports/ECIU-Oxford_Taking_Stock.pdf?mtime=20210323005817&focal=none.

[18] Tew, I. 2020. ESG inflows quadruple in 2020. Online posting. FT Adviser. Accessed 27 May 2021. https://www.ftadviser.com/investments/2020/11/05/esg-inflows-quadruple-in-2020/.

[19] Fink, L. 2021. Larry Fink's 2021 letter to CEOs. Online posting. BlackRock. Accessed 27 May 2021. https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter

[20] Businesswire. 2021. BlackRock Launches Two New Carbon Transition ETFs Underpinned by Proprietary Climate Analytics. Online posting. Businesswire. Accessed 27 May 2021. https://www.businesswire.com/news/home/20210409005295/en/BlackRock-Launches-Two-New-Carbon-Transition-ETFs-Underpinned-by-Proprietary-Climate-Analytics.

[21] https://www.netzeroassetmanagers.org/

[22] https://www.ceres.org/networks/ceres-investor-network

[23] https://www.climateaction100.org/

[24] https://thegiin.org/

[25] https://collaborate.unpri.org/group/761/stream

[26] https://ilpa.org/

[27] https://www.netzeroassetmanagers.org/

[28] https://www.unepfi.org/net-zero-alliance/

[29] https://www.parisalignedinvestment.org/

[30] Refinitiv. 2021. Top ESG Trends for 2021: Stability and Sustainability in the Investment Community. Online posting. Refinitiv. Accessed 27 May 2021. https://www.refinitiv.com/en/resources/special-report/2021-esg-playbook

[31] McKinsey & Company. 2020. McKinsey Global Private Markets Review 2020: A new decade for private markets. Online posting. McKinsey & Company. Accessed 27 May 2021. https://www.mckinsey.com/~/media/mckinsey/industries/private%20equity%20and%20principal%20investors/our%20insights/mckinseys%20private%20markets%20annual%20review/mckinsey-global-private-markets-review-2020-v4.ashx

[32] Joyce, C. 2020. Future of Alternatives 2025: Private Equity AUM Will Top $9tn in 2025. Online posting. Preqin. Accessed 27 May 2021. https://www.preqin.com/esg/rise-of-esg

[33] Ross Sorkin, A. 2021. Hank Paulson to Run Climate-Focused Fund at TPG. Online posting. The New York Times. Accessed 27 May 2021. https://www.nytimes.com/2021/01/06/business/dealbook/hank-paulson-climate-fund.html

[34] Joyce, C. 2020. Future of Alternatives 2025: Private Equity AUM Will Top $9tn in 2025. Online posting. Preqin. Accessed 27 May 2021. https://www.preqin.com/esg/rise-of-esg

[35] McGrath, C. and Lee, M. 2020. Preqin Impact Report: The Rise of ESG in Alternative Assets. Online posting. Preqin. Accessed 27 May 2021. https://www.preqin.com/insights/research/reports/preqin-impact-report-the-rise-of-esg-in-alternative-assets

[36] Intertrust Group. 2020. New study reveals rise of ESG among private equity GPs – yet obstacles remain. Online posting. Intertrust Group. Accessed 27 May 2021. https://www.intertrustgroup.com/news/new-study-reveals-rise-of-esg-among-private-equity-gps-yet-obstacles-remain/

[37] Preqin. 2020. ESG Explained. Online posting. Preqin. Accessed 27 May 2021. https://docs.preqin.com/pro/ESG-Explained.pdf

[38] McGrath, C. and Lee, M. 2020. Preqin Impact Report: The Rise of ESG in Alternative Assets. Online posting. Preqin. Accessed 27 May 2021. https://www.preqin.com/insights/research/reports/preqin-impact-report-the-rise-of-esg-in-alternative-assets

[39] Pucker, K. and Kotsantonis, S. 2020. Private Equity Makes ESG Promises. But Their Impact Is Often Superficial. Online posting. Institutional Investor. Accessed 27 May 2021. https://www.institutionalinvestor.com/article/b1m8spzx5bp6g7/Private-Equity-Makes-ESG-Promises-But-Their-Impact-Is-Often-Superficial

[40] PRI. 2021. Nearly 90 private equity firms representing $700 billion AUM have signed up to a global climate initiative ahead of COP26. Online posting. PRI. Accessed 27 May 2021. https://www.unpri.org/news-and-press/nearly-90-private-equity-firms-representing-700-billion-aum-have-signed-up-to-a-global-climate-initiative-ahead-of-cop26/7383.article

[41] Jackson-Moore, W. et. al. 2021. Private Equity Responsible Investment Survey 2021. Online posting. PwC. Accessed 27 May 2021. https://www.pwc.com/gx/en/services/sustainability/publications/private-equity-and-the-responsible-investment-survey.html

[42] Preqin. 2020. Preqin Impact Report: The Rise of ESG in Alternative Assets. Online posting. Preqin. Accessed 27 May 2021. https://www.preqin.com/insights/research/reports/preqin-impact-report-the-rise-of-esg-in-alternative-assets

[43] ERM. 2020. Eyes on the prize: Unlocking the ESG premium in private markets. Online posting. ERM. Accessed 27 May 2021. https://www.erm.com/insights/eyes-on-the-prize-unlocking-the-esg-premium-in-private-markets/

[44] The New Climate Economy. 2018. Unlocking the Inclusive Growth Story of the 21st Century: Accelerating Climate Action in Urgent Times. Online posting. The New Climate Economy. Accessed 27 May 2021.https://newclimateeconomy.report/2018/wp-content/uploads/sites/6/2018/09/NCE_2018_FULL-REPORT.pdf

[45] Basu, M. 2020. Investing $1.8 trillion globally in five areas to adapt to climate change can bring $7.1-trillion worth benefits. Online posting. Meaww. Accessed 27 May 2021. https://meaww.com/climate-change-adaptation-investing-1-8-trillion-adapt-climate-change-benefits-7-1-trillion

[46] ERM. 2020. Eyes on the prize: Unlocking the ESG premium in private markets. Online posting. Online posting. ERM. Accessed 27 May 2021. https://www.erm.com/insights/eyes-on-the-prize-unlocking-the-esg-premium-in-private-markets/

[47] McKinsey. 2021. CEO Interview: CDPQ invests in climate action. Online posting. McKinsey. Accessed 27 May 2021. https://www.mckinsey.com/business-functions/sustainability/our-insights/ceo-interview-cdpq-invests-in-climate-action

[48] World Economic Forum. 2021. The Global Risks Report 2021. Online posting. World Economic Forum. Accessed 27 May 2021. https://www.weforum.org/reports/the-global-risks-report-2021

[49] GlobeScan and SustainAbility. 2020. The 2020 Sustainability Leaders. Online posting. The SustainAbility Institute by ERM. Accessed 27 May 2021. https://www.sustainability.com/thinking/the-2020-sustainability-leaders/

Endnotes

[50] The White House. 2021. FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies. Online posting. The White House. Accessed 27 May 2021. https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/

[51] The European Union. 2021. Sustainable Finance and EU Taxonomy: Commission takes further steps to channel money towards sustainable activities. Online posting. The European Union. Accessed 27 May 2021. https://ec.europa.eu/commission/presscorner/detail/en/IP_21_1804

[52] Herren Lee, A. 2021. Public Input Welcomed on Climate Change Disclosures. Online posting. Securities and Exchange Commission. Accessed 27 May 2021. https://www.sec.gov/news/public-statement/lee-climate-change-disclosures

[53] Boyer, M. 2021. President Biden Issues Federal Direction on Disclosure of Climate-Related Financial Risk. Online posting. The National Law Review. Accessed 27 May 2021. https://www.natlawreview.com/article/president-biden-issues-federal-direction-disclosure-climate-related-financial-risk

[54] SASB. 2021. Integrating ESG Holistically in Private Equity: A Strategic Approach. Online posting. SASB. Accessed 27 May 2021. https://www.sasb.org/knowledge-hub/integrating-esg-holistically-in-private-equity-a-strategic-approach/

[55] Morgan Stanley. 2020. Sustainable Signals. Asset Owners See Sustainability as Core to the Future of Investing. Online posting. Morgan Stanley. Accessed 27 May 2021. https://www.morganstanley.com/press-releases/morgan-stanley-sustainable-signals--asset-owners-see-sustainabil

[56] https://theinvestoragenda.org/icaps/

[57] U.S. Department of the Treasury. 2021. Secretary of the Treasury Janet L. Yellen's Remarks to the Institute of International Finance. Online posting. U.S. Department of the Treasury. Accessed 27 May 2021. https://home.treasury.gov/news/press-releases/jy0139

[58] U.S. Department of the Treasury. 2021. Secretary of the Treasury Janet L. Yellen's Remarks to the Institute of International Finance. Online posting. U.S. Department of the Treasury. Accessed 27 May 2021. https://home.treasury.gov/news/press-releases/jy0139

[59] Kyte, R. 2021. Don't be fooled by 'net zero' pledges. Online posting. The Washington Post. Accessed 27 May 2021. https://www.washingtonpost.com/opinions/2021/03/22/net-zero-pledges-carbon-emissions/

[60] Guernsey. 2020. Green Private Equity Principles. Online posting. Guernsey. Accessed 27 May 2021. https://www.weareguernsey.com/media/7884/green-private-equity-principles.pdf

[61] Carlyle. 2020. Taskforce on Climate-related Financial Disclosures Report 2020 – TCFD Analysis. Online posting. Carlyle. Accessed 27 May 2021. https://www.carlyle.com/sites/default/files/2020-11/2020%20Carlyle%20TCFD%20Report_Nov2020.pdf

[62] CalPERS. 2020. CalPERS' Investment Strategy on Climate Change. Online posting. CalPERS. Accessed 27 May 2021. https://www.calpers.ca.gov/docs/board-agendas/202006/invest/item08c-01_a.pdf

[63] Cohen, J. 2021. For GPs, it's Time for a New Perspective on ESG. Online posting. SASB. Accessed 27 May 2021. https://www.sasb.org/blog/for-gps-its-time-for-a-new-perspective-on-esg/

[64] Segal, J. 2021. The Pressure Is on Private Equity To Take ESG Seriously. Online posting. Institutional Investor. Accessed 27 May 2021. https://www.institutionalinvestor.com/article/b1qcg33v33y7zl/The-Pressure-Is-on-Private-Equity-To-Take-ESG-Seriously

[65] CalPERS. 2020. CalPERS' Investment Strategy on Climate Change. First Report in Response to the Taskforce on Climate-Related Financial Disclosure. Online posting. CalPERS. Accessed 27 May 2021. https://www.calpers.ca.gov/docs/board-agendas/202006/invest/item08c-01_a.pdf

[66] Carlyle. 2020. Taskforce on Climate-related Financial Disclosures Report 2020. Online posting. Carlyle. Accessed 27 May 2021. https://www.carlyle.com/sites/default/files/2020-11/2020%20Carlyle%20TCFD%20Report_Nov2020.pdf

[67] PRI. 2020. Technical Guide: TCFD for Private Equity General Partners. Online posting. PRI. Accessed 27 May 2021. https://www.unpri.org/download?ac=10436

[68] Partners Group. 2021. Corporate Sustainability Report. Online posting. Partners Group. Accessed 27 May 2021. https://www.partnersgroup.com/fileadmin/user_upload/Files/ESG_and_Corporate_Responsibility_PDFs/20210325_PG_Corporate_Sustainability_Report_2020_Web.pdf

[69] SASB. 2021. Integrating ESG Holistically in Private Equity: A Strategic Approach. Online posting. SASB. Accessed 27 May 2021. https://www.sasb.org/knowledge-hub/integrating-esg-holistically-in-private-equity-a-strategic-approach/

[70] Coller Capital. 2020. Global Private Equity Barometer: Winter 2019-20. Online posting. Coller Capital. Accessed 27 May 2021. https://www.collercapital.com/coller-capital-global-private-equity-barometer-winter-2019-20

[71] PwC. 2020. The State of Climate Tech 2020. Online posting. PwC. Accessed 27 May 2021. https://www.pwc.com/gx/en/services/sustainability/assets/pwc-the-state-of-climate-tech-2020.pdf

[72] BlackRock. 2021. Temasek and BlackRock Launch Decarbonization Investment Partnership. Online posting. BlackRock. Accessed 27 May 2021. https://www.blackrock.com/corporate/newsroom/press-releases/article/corporate-one/press-releases/temasek-and-blackrock-launch-decarbonization-investment-partnership

[73] Giachino, A. 2021. Private Equity Energy Bets Burn Investors. Online Posting. Private Equity Stakeholder Project. Accessed 27 May 2021. https://pestakeholder.org/wp-content/uploads/2021/03/PE-Energy-Bets-Burn-Investors-PESP-March-2021.pdf

[74] Koning Beals, R. 2021. New York City divesting $4 billion in fossil fuels from pension funds as state made similar move. Online posting. MarketWatch. Accessed 27 May 2021. https://www.marketwatch.com/story/new-york-city-divesting-4-billion-in-fossil-fuels-from-pension-funds-as-state-made-similar-move-11611690875

[75] Taraporevala, C. 2021. The other climate risk investors need to talk about. Online posting. Financial Times. Accessed 27 May 2021. https://www.ft.com/content/c586e4cd-9fb7-47a3-8b43-3839e668fe3a

[76] Ceres. 2020. Benchmarking Air Emissions of the 100 Largest Electric Power Producers in the United States. Online posting. Ceres. Accessed 27 May 2021. https://www.ceres.org/resources/reports/benchmarking-air-emissions-100-largest-electric-power-producers-united-states-4

[77] Kerschberg, B. 2020. How Private Equity Can Fight Climate Change. Online posting. Forbes. Accessed 27 May 2021. https://www.forbes.com/sites/benkerschberg/2020/03/19/how-private-equity-can-fight-climate-change/?sh=4cf8d0b66fd6

[78] Kerschberg, B. 2020. How Private Equity Can Fight Climate Change. Online posting. Forbes. Accessed 27 May 2021. https://www.forbes.com/sites/benkerschberg/2020/03/19/how-private-equity-can-fight-climate-change/?sh=e679eb46fd67

[79] https://kkresg.com/responsibility

[80] Fink, L. 2021. Larry Fink's 2021 letter to CEOs. Online posting. BlackRock. Accessed 27 May 2021. https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter

[81] SBTi. 2021. Financial Sector Science-Based Targets Guidance. Online posting. SBTi. Accessed 27 May 2021. https://sciencebasedtargets.org/resources/files/Financial-Sector-Science-Based-Targets-Guidance-Pilot-Version.pdf

[82] Fink, L. 2021. Larry Fink's Chairman's Letter to Shareholders. Online posting. BlackRock. Accessed 27 May 2021. https://www.blackrock.com/corporate/investor-relations/larry-fink-chairmans-letter

[83] https://roadmap2030.ceres.org/

[84] https://theinvestoragenda.org/

[85] https://theinvestoragenda.org/icaps/

[86] https://www.parisalignedinvestment.org/media/2021/03/PAII_Net-Zero-Investment-Framework-1.0_Implementation-Guide.pdf

[87] https://www.eurazeo.com/en/responsibility/climate-reach-carbon-neutrality

[88] CDPQ. 2017. Our investment strategy to address climate change. Online posting. CDPQ. Accessed 27 May 2021. https://www.cdpq.com/sites/default/files/medias/pdf/en/investment_strategy_climate_change.pdf

Participating Firms

The 27 interviews for this report were conducted over the course of three months, starting in January of 2021. Eighteen of these firms were represented in the follow up workshop held in March of 2021, providing further guidance and direction. The firms involved in the report development process are as follows:

General Partners

- Actis - UK
- Apollo Global Management - USA
- Ares Management - USA
- Bain Capital - USA
- BlueOrchard Impact Investment Managers - Switzerland
- Cambridge Associates - USA
- The Carlyle Group - USA
- CVC - UK
- EQT AB - Sweden
- Eurazeo - France
- HarbourVest Partners - USA
- KKR & Co. Inc. - USA
- Pantheon Ventures - UK
- Partners Group - Switzerland
- Permira - UK
- TPG - USA
- Triton Partners - UK
- Warburg Pincus - USA

Limited Partners

- California Public Employees' Retirement System (CalPERS) - USA
- Caisse de dépôt et placement du Québec (CDPQ) - Canada
- Church of England Pensions Board - UK
- Harvard Management Company - USA
- New Jersey Division of Investment - USA
- Office of the New York City Comptroller - USA
- Ontario Municipal Employees Retirement System (OMERS) - Canada
- OPTrust - Canada
- San Francisco Employees' Retirement System (SFERS) - USA

The feedback provided by participating firms does not represent an investment endorsement or recommendation and does not necessarily reflect any policies or positions of these institutions.

About the SustainAbility Institute by ERM

The SustainAbility Institute is ERM's primary platform for thought leadership on sustainability. The purpose of the Institute is to define, accelerate, and scale sustainability performance by developing actionable insight for business. We provide an independent and authoritative voice to decode complexities. The Institute identifies innovative solutions to global sustainability challenges built on ERM's experience, expertise and commitment to transformational change.

Twitter: twitter.com/SustInsti
LinkedIn: linkedin.com/company/sustainabilityinstituteerm
Email: Institute@erm.com
Website: sustainability.com

About Ceres

Ceres is a nonprofit organization working with the most influential capital market leaders to solve the world's greatest sustainability challenges. Through our powerful networks and global collaborations of investors, companies and nonprofits, we drive action and inspire equitable market-based and policy solutions throughout the economy to build a just and sustainable future.

Twitter: www.twitter.com/ceresnews
LinkedIn: www.linkedin.com/company/ceres-org/
Email: info@ceres.org
Website: www.ceres.org

Contributors

Lead Contributors

Dazzle Bhujwala
Aiste Brackley
Mark Lee
Elaine Lonie
Justin Nelson
Steven Rothstein

Contributors

Monica Barros
James Bone
Jaideep Das
Natalie Queathem
Lee Solsbery
Laura Street

Acknowledgements

Rahul Arora
Stefano Bonelli
Rochelle Booker
Michael Bradley
Ariane Burwell
Emily Farnworth
Chris Fox
Charles Gooderham
Barbara Grady
Heather Green
Kathryn Harrison
Lars Kurznack
Beth Lowery
Melanie Mann
Jay Mason
Andrew Radcliff
Dominique Ranson
Connie Sasala
The Rev. Kirsten Snow Spalding
Lindsey White

Design

Danielle Contreras
Anika Laris
Michelle Raptakis

Ceres

The SustainAbility Institute by ERM