Ceres

May 2023

Data as the Key

Essential Steps for Decarbonizing Private Equity

Introduction

Private equity is poised to play a unique role in the transition to a clean energy economy. Because PE general partners take significant and often majority ownership stakes in their portfolio companies, they are well-positioned to directly influence the development and implementation of a decarbonization strategy. This model of ownership, focused on value creation, usually over a five to ten year holding period, can help fast-track carbon footprinting and tactics for reducing emissions.

Private equity also has a broad reach: PE backed companies exist in all sectors of the economy and at many different organizational stages, from start-ups to mature companies purchased through leveraged buyouts. To cut emissions enough to avert the worst impacts of climate change, it is critical these companies make progress alongside their publicly-owned peers in decarbonizing their operations. In particular, private equity's outsized influence over portfolio companies can help decarbonize heavy emitting industries and scale new climate smart technologies.

Private equity's influence is also growing. Between 2016 and 2021, the assets under management of private equity in the United States more than doubled. With a current market cap of approximately $6 trillion, private equity represents more than 10% of the combined value of public and private companies in the U.S. Perhaps more importantly, the number of portfolio companies owned by GPs is approximately three times greater than companies listed on NYSE and NASDAQ. Including venture capital, this number is 10 times greater. These privately held companies represent the next generation of companies to be publicly listed and prepared for the energy transition.

There is also evidence of high-emitting assets moving from public to private markets as scrutiny of public company carbon emissions increases. One such example is the oil and gas sector, where assets are increasingly flowing from public companies with environmental commitments to private companies that often don't have such commitments. (Ceres has developed Principles to help companies and investors navigate these transfers.) This trend underscores the need for effective climate stewardship by PE investors.

But beyond its unique leverage over portfolio companies, private equity is critical to the transition to a clean economy because asset owners who have committed to net zero portfolios need the participation of their private equity managers to reach these goals. Combined, the UN Net Zero Asset Owner Alliance and the Paris Aligned Asset Owners initiative have more than 140 signatories, representing some of the largest asset owners in the world. Virtually all of these asset owners have allocations to private equity, which they will need to include in their interim and long-term emissions reduction targets and climate action plans.

Findings and Key Recommendations from Interviews with Private Equity Investors

Pressure to address climate-related impacts, develop carbon emissions reduction goals, and publicly commit to net zero is increasing for private equity managers. As the net zero movement continues to gain momentum, limited partners (LPs) increasingly need to be able to align their PE investments with their climate commitments and are therefore demanding increased transparency on climate-related performance from their GPs.

One of the key pieces of information necessary for assessing and measuring progress on decarbonization is high-quality portfolio company greenhouse gas (GHG) emissions data. Collecting this data has been a challenge for the private equity GPs, since there is currently no industry standard practice for compiling and sharing emissions data between GPs and LPs. While there is general agreement that company-reported emissions data is the most accurate, collecting such data has been challenging. GP staffing and resources are a significant constraint, particularly for middle and lower market GPs. These same constraints exist for many portfolio companies, which lack the expertise to calculate their own emissions. When portfolio companies are unable to provide reported emissions data, GPs often use estimated numbers based on sector and revenue data to fill in the gaps. But there is no clear understanding between GPs and LPs about how this data should be reported or used.

Why report?

In addition to meeting LP expectations, GPs and portfolio companies can benefit directly from collecting GHG emissions data. Portfolio companies that have measured their emissions will be better prepared to answer climate-related questions from their customers, who may be expected or even mandated to report on scope 3 emissions. Portfolio companies that have developed internal climate expertise can create long-term value and higher exit multiples for the GP, and will be prepared to comply with regulation themselves if they choose to enter the public markets. Additionally, by understanding the key contributors to their overall emissions, portfolio companies, and by extension their GPs, can begin to operationalize emissions reduction strategies, and better manage reputational, legal, physical, and transition risks.

To provide PE investors of various sizes and climate maturities with a place to start, Ceres conducted interviews with thirteen private equity investors (six GPs, and seven LPs) to assess the current "aspirational" landscape of GHG emissions data collection and reporting in private equity. This brief summarizes the emissions data collection and reporting practices of those thirteen investors and provides practical recommendations that GPs and LPs can use as they start collecting emissions data in their portfolios. Our analysis and recommendations are grouped into four themes:

1. **Engagement with portfolio companies**
2. **Methodologies for sourcing emissions data**
3. **Reasonable expectations for what and how to report**
4. **Structure for dialogue**

Our interviews revealed that while there are several basic aspects of GHG emissions collection and reporting that most private equity investors agree on, there are many gaps in practice between GPs and LPs. The table below identifies aspects of emissions collection and reporting that GPs and LPs agree on, as well as areas where there is no consensus yet.

Areas of Consensus

Measuring GHG emissions is a crucial step in developing climate aligned investment practices

A standardized reporting format for portfolio company emissions is needed

LPs drive demand and should set expectations for GPs

Reporting of emissions needs to start with portfolio companies

General Partners

Desire for unified reporting requests by LPs

Desire to have a dialogue about progress when data is incomplete

Desire to understand how LPs use emissions data

Limited Partners

Desire for editable data at the portfolio company level for ease of comparing GPs, funds and year-over-year progress

Desire to understand how emissions data will shape GP portfolio construction

No Consensus Yet

Methodologies for sourcing emissions data

How to prioritize portfolio companies deserving / requiring attention

Who has the responsibility to pay for carbon accounting tools (GP or portfolio company)

What LPs should expect from GPs when there is no self-reported data

Expectations for how data should be used in portfolio construction

Best practices for dialogue between GPs and LPs to harmonize expectations

1 Engagement with Portfolio Companies

Interview findings:

The market is fragmented in terms of who has the capacity to prioritize climate-related risks and develop strategies for reducing GHG emissions.

We generally found that GPs and LPs that were most advanced in collecting emissions data were the ones that had the greatest exposure to high emissions sectors. We also found that GP size is an important factor in engagement strategies between GPs and LPs. Many smaller GPs have few or no full-time sustainability staff. To help remedy this, some LPs that have staff dedicated to sustainability reported serving in an advisory role to their smaller GPs, including providing them with resources and recommending consultants. LPs that were invested in small or mid-market GPs also reported that they generally engage with their GPs on sustainability issues they consider most material. For example, an LP investing in a software fund might focus on issues of data privacy or human capital instead of or in addition to carbon footprinting.

Climate expertise among portfolio companies was varied and inconsistent, but having a climate transition plan is becoming a necessary part of most exit strategies, whether via an IPO or a private sale. In addition, the Securities and Exchange Commission's climate disclosure proposal for public companies requires that all companies (whether public or private) that are suppliers to public companies will need to develop carbon emissions baselines for reporting on material scope 3 emissions—the indirect emissions throughout the company's entire value chain, including suppliers and customers.

The two most important factors in shaping GP engagement strategy with a portfolio company were the company's climate expertise and the materiality of climate relative to other sustainability risk factors. GPs did note that it is easier to put a climate plan in place with new investments when it can be factored into the deal or addressed early on.

Recommendations

Develop a prioritization method for engaging companies: Given the potentially limited resources that a firm may have available for developing their climate strategy, the logical first step for most GPs is to identify the companies that would benefit the most from direct engagement regarding their emissions data. All of the GPs reported that they conduct some form of risk analysis to help prioritize those sectors and companies that pose the most significant climate risk.

This information can be used to structure an overall engagement strategy, starting with high emitting companies. Depending on the GP's internal capacity, the list might be further narrowed to those companies where the GP can make the most impact. The following factors can help GPs prioritize their companies for engagement. These and further recommendations can be found in the Initiative Climat International (iCI) report on Greenhouse Gas Accounting and Reporting for the Private Equity Sector.

- **Exit date** A portfolio company that is due to be exited within the next one to two years through an IPO may require focused engagement, especially in a high emitting sector, if its climate risk and GHG emissions profile may be critical to its valuation and receptivity by the marketplace.
- **Regulatory obligations** Engagement strategies with portfolio companies may be necessitated by mandatory disclosure of GHG emissions per such frameworks as the Streamlined Energy and Carbon Reporting regulations in the UK or the EU Emissions Trading Scheme.
- **Investment value** The GP may select for engagement portfolio companies where they have the greatest investment exposure.
- **Influence** The GP may choose to prioritize those portfolio companies where they have the most influence.
- **Company size** Within sectors, company size could be an important consideration, given the occasional correlation that larger companies are likely to have higher emissions.
- **Data requests from LPs** GPs may further prioritize engagement with portfolio companies based on requests from LPs for data on specific funds.
- **Response to customer requests** A portfolio company may be encouraged or even obligated by one or more of its clients to provide emissions information and/or a decarbonization strategy for reasons including but not limited to its role in the supply chain.

Among the GPs interviewed, the category mentioned most often was regulatory obligation, which affects publicly traded GPs and any portfolio company whose exit strategy may include an IPO. GPs reported increased urgency in engaging with these companies, even if they were still several years away from IPO, because it creates a culture of expectation concerning emissions reporting for the portfolio company. In addition, portfolio companies facing indirect regulatory obligations (for example, as suppliers to public companies) were also a priority for GPs. Many of these companies are already facing emissions disclosure requests, sometimes from their largest customers, and are prime candidates for an engagement strategy concerning decarbonization.

A topic that came up in interviews was fund life cycle. The greater focus has been on recently acquired companies that can develop a decarbonization strategy over the life of the investment. GPs have been able to establish net zero commitments for several of their new funds because they were able to include an emissions profile and an approach to climate mitigation in the deal for companies in these funds from the beginning. On the other hand, an exit date within the next year or two may mean that this conversation about emissions reduction is deprioritized, especially for portfolio companies in lower emitting sectors.

The nature of influence was noted in the context of both a majority ownership stake, and the quality of the relationship between the GP and the portfolio company. It is much easier to begin making progress on emissions reduction when that relationship is positive, constructive, and collaborative. Feedback from such discussions might also help inform engagements with other portfolio companies.

These factors, when considered together, can help a GP identify and prioritize the companies it should engage with to develop and implement a systematic strategy for reducing emissions, both from a risk management perspective and to create real world emissions reductions.

2 Methodologies for Sourcing Emissions Data

Interview findings:

Even the leading GPs do not get from their portfolio companies the self-reported emissions they need in order to avoid resorting to estimates and other approaches to fill the data gap.

Of the six GPs we spoke with, four either plan to or are developing a GHG emissions baseline for their portfolio companies. Three GPs use estimates, either in combination with reported data or as a placeholder until such reported data is available. Several approaches for sourcing data were mentioned, which can be broken into the following four categories:

1. The GP calculates emissions of their portfolio companies internally, using a self-developed model with energy or emissions data reported by the portfolio company.
2. The GP uses a third-party service provider to obtain raw energy use data from portfolio companies and provides support in selecting emissions factors to make an initial emissions calculation.
3. The GP recommends a third-party carbon accounting tool to be used by their portfolio companies, either financed by the portfolio company or by themselves.
4. The GP uses sector averages to develop emissions estimates.

Overall, providing support and expertise to help portfolio companies report their own emissions was seen by GPs as both the most accurate way to source emissions information, as well as the best way to drive lasting change in portfolio companies leading up to exit, and beyond. This takes significantly more time than developing estimates, yet some GPs reported that, with an increasing number of LPs asking for data, they are receiving requests from LPs that are interested in seeing emissions numbers regardless of their source. GPs noted the desire to have a dialogue to understand what LPs would use these numbers for, whether the LPs understood the uncertainty associated with estimates, and how much interest the LPs have in hearing how the GPs are road-mapping progress with their portfolio companies about the numbers they report.

Recommendations

Evaluate portfolio company climate expertise: To help determine how much support the GP will need to provide, a useful first step is to have a discussion with each portfolio company about its climate goals, including any work it has done so far to measure its emissions, and whether it has any existing partnerships with data service providers or carbon accounting platforms. For those companies that are not yet in the process of calculating their emissions, the GP may consider providing support in one of two general ways:

- **Support portfolio companies directly in data sourcing and emissions calculations** GPs with climate expertise can help their portfolio companies develop an internal model to calculate emissions or

otherwise support portfolio companies that have already developed some of the protocols necessary for collecting data. In these situations, the guidance recently published by iCI, Greenhouse Gas Accounting and Reporting for the Private Equity Sector, offers a useful methodology for identifying emissions sources, setting reporting boundaries, and selecting emissions factors.

- **Engage a third-party service or provider** For companies that have not developed internal data collection methods or whose emissions profile is more complicated, the GP may contract with a third-party platform to source raw energy use data from various places across the portfolio company's business to develop an initial emissions calculation. This calculation may be made with partial data initially, and improved over time as the portfolio company develops a better understanding of its emissions and the internal processes needed to capture accurate information.

When the needs of the portfolio company go beyond the GP's climate expertise or staff capacity, the logical alternative is to engage a third-party carbon accounting service provider to handle data sourcing and emissions calculations. The GPs that have vetted several carbon accounting platforms will recommend the most appropriate one to their portfolio companies based on their business model and needs, and more than one GP mentioned investing directly in companies that provide carbon accounting tools.

In practice, the majority of GPs use more than one of these methods to generate a picture of their entire portfolio. For example, one GP divides its portfolio companies into categories based on their climate maturity and business structure. Some portfolio companies may already be in the process of calculating their emissions and have an established relationship with a third-party carbon accounting tool. Others share their energy data directly with the GP so that they can provide the necessary emissions factors and establish procedures for how to best estimate data to close gaps. For portfolio companies whose emissions picture is more complicated or lack expertise, the GP recommends a vetted carbon accounting platform based on the portfolio company's business model. One common denominator among all the GPs interviewed was their expectation that portfolio companies calculate emissions using the GHG Protocol standards.

Who pays?

One question to consider when developing a carbon accounting plan is whether the GP or the portfolio company has responsibility to pay for the carbon accounting tool. Based on the GPs we spoke with, this can depend on several factors, including how the data will be used. Companies preparing for an IPO or that have other uses for the data (e.g., emissions data requests from companies they are suppliers to), should be more willing (or obligated) to pay for carbon accounting services. In cases where the primary purpose for conducting a carbon footprint is to provide the GP with emissions information for mandatory disclosure or to comply with requests from LPs, the GP may more rightfully bear responsibility for that analysis.

3 Reasonable Expectations for What and How to Report

Interview findings:

There is a manifest disconnect between the expectations that GPs and LPs have for one another concerning emissions data and reporting formats.

The interviews underscored that there are no unified expectations for how emissions data should be formatted and presented to LPs by GPs. Almost every GP mentioned receiving data requests from LPs in varying formats. Some requests are part of a larger due diligence questionnaire; others are Excel templates, each with different fields to fill out. In particular, GPs reported considerable variation in questions concerning policy and risk management and expressed concerns over whether LPs would continue to add their own qualitative questions even if the industry begins to converge on a standard template for requesting and reporting quantitative emissions data.

LPs reported receiving aggregated emissions numbers from GPs in PDF rather than in editable format, which most LPs said was their preferred format because it facilitates evaluating emissions across the LPs' entire private equity portfolio and comparing year-over-year data. Several LPs noted that the emissions surveys they send receive a poor response rate. While GPs expressed the desire for LPs to establish unified approach to reduce or prevent one-off requests, some of the LPs felt that GPs will ultimately need to coalesce around a reporting format that works for GPs and LPs alike.

Our interviews also revealed that these requests from LPs are still in their very early stages. Of the seven LPs interviewed, only two are formally requesting emissions data from their GPs across the portfolio. One reason for this hesitation is that many LPs feel the data is simply not available yet, and it would be premature to ask for it. Additionally, LPs noted they are still in the process of developing an operational strategy for how they will use the data they receive. Similarly, of the six GPs interviewed, three are proactively reporting emissions data to their LPs. Other GPs mentioned responding to specific LP requests when possible, but are waiting to report emissions data more broadly once they have put in place the infrastructure to calculate emissions baselines for their portfolio companies. Several GPs also noted the importance of having a conversation with portfolio companies about how the data being requested will be used.

Recommendations

Reporting of scope 1 and 2 emissions to LPs at the PC level on an annual basis.

Reporting of material scope 3 emissions as portfolio companies improve data gathering capacities.

In addition to emissions data, factors such as revenue should be provided to allow LPs to compare company performance. The recent publication by iCI, Greenhouse Gas Accounting and Reporting for the Private Equity Sector, has guidance on reporting and metrics (page 71), as well as additional contextual information regarding data quality and how numbers were calculated and attributed. Data should be reported in Excel (or other editable format) so that LPs can easily plug it in to their own calculations.

The ESG Data Convergence Initiative has a free template and data guide that GPs can use to report to LPs on portfolio company emissions by company using anonymous identifiers. LPs should encourage their GPs to use this template. If the GP is not ready to formally commit to the Initiative, this template will still be a useful tool to use for private reporting between GPs and LPs.

GPs should report even if numbers are incomplete: Several LPs noted that the emissions surveys they send receive a poor response rate. Even when GPs respond with incomplete emissions data, it is helpful for LPs to be able to track how much of that data is actual, how much is estimated, and how much is unknown. Such information will allow LPs to track improvements in emissions reporting over time.

LPs should work to unify reporting "asks": For the next year, LPs should limit the number of qualitative questions they add to their emissions reporting template. To establish standard reporting expectations, reporting templates should focus on quantitative information that GPs can provide without having to edit and amend for each LP. For LPs, this information will be more comparable across different GP funds. Qualitative questions should be saved for dialogues between GPs and LPs. Additionally, alignment between LPs is critical. LPs should work with one another, as well as industry bodies to develop unified reporting standards and asks.

4 Structure for Dialogue Between LPs and GPs

Interview findings:

There is no clear understanding by either party concerning how emissions data will ultimately be used in decision-making.

Every single GP and LP interviewed wanted to know how their counterparts are planning to use climate data. This suggests that GPs and LPs are not spending enough time communicating with each other on how they incorporate climate into their investment decisions. Fundamentally, LPs want to know how climate is influencing GP portfolio construction and risk management, while GPs want to know how LPs are using the data and how their reporting can best contribute to that. While most may still be in the early stages of developing these strategies, both parties stand to benefit from collaborating to develop expertise and mutual understanding of best practices for incorporating data into investment decision-making.

Recommendations

Use the emissions reporting template as a basis for dialogue: Building on our earlier recommendations to focus on reporting quantitative metrics and developing a standardized emissions reporting template for portfolio companies, LPs and GPs could use this as the starting point for dialogue that may include more qualitative questions and strategies the GP is using to improve portfolio company emissions reporting.

LPs internally prioritize communication with GPs: Larger LPs may have more GPs than they have the capacity to engage and can use the responses to the reporting template to prioritize which GPs they conduct dialogues with. Some of the same general criteria used by GPs to prioritize engagement with their portfolio companies apply to the LPs as they prioritize which GPs to engage:

- GPs invested in the heaviest emitting sectors
- GPs where the LP has significant investment, influence, or a strong relationship
- GPs whose leadership approaches to climate and emissions data and reporting could help inform LP engagement with less climate knowledgeable GPs

Focus on developing strategies for decarbonizing heavy emitting industries: LP–GP dialogue would benefit from better communication concerning high emitting portfolio companies and strategies for sector specific engagement and decarbonization.

LPs should be prepared to explain to GPs how they plan to use the data the GPs are providing: GPs and their portfolio companies need to understand why the emissions data, which require time and resources, are being requested and why they are expected to provide it in the format specified by the LP.

Estimated vs. reported data: GPs should clearly indicate those portfolio companies whose emissions data are estimated. To increase the number of portfolio companies that have self-reported

emissions data, LPs should include in their dialogues with GPs a discussion concerning how the GP is building climate expertise and reporting capacity among their portfolio companies.

When communicating with GPs just starting to think about climate, LPs should focus on education and provide guidance, resources and tools that GPs can use to begin or enhance their climate strategy. For GPs with more advanced climate strategies, LPs should be as transparent as possible concerning how they incorporate climate data into decision-making and manager selection.

Acting on data

How LPs use climate data: Most LPs would like to use emissions data to identify and understand where their largest exposures to climate risk are. Almost every LP that Ceres spoke with plans to use GP provided climate data in due diligence and risk management, and several have developed ESG scorecards that incorporate how GPs manage climate-related risks and provide disclosure concerning GHG emissions. Another major theme was net zero. Four LP interviewees have made a net zero commitment, and two are considering such a commitment. All specified that they want emissions data from their GPs in order to measure progress and inform target setting and benchmarking. More than one LP mentioned that GP goals for reducing emissions should be science based and use a known methodology or a transparent proprietary one. While most also spoke about future plans for utilizing climate data in their portfolio construction, they did not have an answer about how exactly they planned to do this.

How GPs use climate data: The GPs interviewed are using or plan to use emissions data as part of their due diligence process. Most plan to use the data as a starting point for engagement with portfolio companies they consider heavy emitters. One GP reported creating a carbon target for its next fund, though several other GPs noted the challenges of setting top-down emissions targets due to the dynamic nature of acquisitions and exits in private equity. A more common priority was a focus on reducing emissions of individual portfolio companies over their ownership timeline.

Climate Data Tools Used by Private Equity

Carbon Accounting Tools

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Description	Intended users	Resource type	Sector specialties	Frameworks Partnerships
Persefoni A carbon accounting and reporting platform that enables investors to calculate their financed emissions and companies to conduct carbon accounting • Offers Climate Impact Benchmarking to compare performance of investments against sector or geography • Climate trajectory modeling: uses SBTi temperature aligned scoring method to calculate temperature trajectory and alignment with 1.5°C and 2°C scenarios • Partnerships with Novata (ESG reporting platform), Workiva (ESG reporting platform), and Bain & Company	GPs/PCs	GHG accounting	Financials, industrials	Compliant with: GHG Protocol and PCAF Report with: TCFD, CDP, SASB, and GRI
Schneider Electric-Resource Advisor Platform (EcoStruxure™) A tool that can be used to capture energy use data from portfolio companies • Specializes in aggregating energy use data and spending across a whole company • Can look at energy usage facility by facility • Also has a tool that calculates carbon emissions and allows companies to view carbon emissions by source/scope	GPs/PCs	GHG accounting Collection of raw energy data	Companies with complex facilities and energy footprints	Compliant with: GHG Protocol Report with: TCFD
Oxia Initiative Carboscope platform is designed for private equity investors and private companies. GPs can track PC emissions data by adding PC information onto the platform and sending customized questionnaires to PCs through the Carboscope interface. Carboscope uses AI and other algorithms to quantify emissions, which can be reviewed and analyzed on the Carboscope platform. Reports can then be shared with stakeholders	GPs/PCs	GHG accounting	Agriculture, mining, construction, manufacturing, wholesale and retail, finance, transportation, warehousing	Compliant with: GHG Protocol, in line with SDGs, and ISO 14064

Carbon Accounting Tools, continued

Description	Intended users	Resource type	Sector specialties	Frameworks Partnerships
Sweep A carbon accounting tool and reporting platform that helps companies measure their emissions. Investors can use the tool to measure their financed emissions • Helps companies and teams set and track decarbonization goals	GPs/PCs	GHG accounting	Remote work, apparel, food, cloud computing	Compliant with: GHG Protocol Report with: TCFD, CDP, SASB, and GRI
Watershed A carbon accounting tool and reporting platform that helps companies and investors measure scope 1, 2 and 3 GHG emissions, set decarbonization goals, and report on targets • Incorporates emissions factors from government publications, life cycle assessment databases, academic research and company reports • Incorporates tools to forecast future emissions, engage with suppliers to incorporate data directly from the supply chain, and track performance of climate commitments • Enables investors to monitor both operational and financed emissions • Provides support to clients on setting decarbonization targets and identifying emission reduction efforts	GPs/PCs	GHG accounting	Remote work, apparel, food, cloud computing	Compliant with: GHG Protocol Report with: TCFD, CDP, SASB, and GRI
Sphera An ESG risk management, data, and consulting platform that helps investors manage ESG performance, measure carbon emissions, and set net zero targets	PCs	GHG accounting	Construction, chemicals, manufacturing, mining, oil and gas, energy, consumer goods	Compliant with: GHG Protocol Report with: CDP, TCFD

Carbon Accounting Tools, continued

Description	Intended users	Resource type	Sector specialties	Frameworks Partnerships
Sinai Technologies A decarbonization platform that helps companies calculate, monitor, forecast, and reduce their carbon emissions • Measure and report scope 1–3 emissions using emissions factors from EPA, IPCC, GHG Protocol, and DEFRA, or by building custom emissions factors • Collect primary data from suppliers and use global database for missing data points • Use predictive analytics to forecast future emissions • Explore and prioritize carbon reduction opportunities and compare marginal abatement cost curves across business units • Set SBTs and track performance against emission targets	PCs	GHG accounting	Transportation, industrials, utilities, consumer goods, buildings and construction	Compliant with: GHG Protocol Report with: CDP, SASB, GRI, TCFD
Envizi Comprehensive sustainability software program for companies, including carbon accounting and energy management tools • Scope 1, 2, and 3 reporting using extensive database of all publicly available carbon emissions factor data sets, plus third party and custom factors • Tracks performance against energy and emissions reduction targets • Energy management software supports monitoring, analysis, and reporting of energy consumption and emissions across the organization • Pulls data from utility bills and meters, and allows users to track energy performance and meet KPIs	PCs	GHG accounting Collection of raw energy data	—	Compliant with: GHG Protocol Report with: GRI, SASB, CDP, GRESB, SFDR, TCFD, SDG, NGER, SDG, SECR
Plan A A decarbonization platform that helps companies calculate scope 1, 2 and 3 emissions and set emissions reduction targets • Three pricing tiers available on website, 'Essential' package is a potentially more affordable option for less complicated businesses	PCs	GHG accounting	—	Compliant with: GHG Protocol

Estimation and Modeling Tools

Description	Intended users	Resource type	Sector specialties	Frameworks Partnerships
MSCI Carbon Foot Printing of Private Equity and Debt Funds The tool combines performance data produced by Burgiss Data and climate risk models by MSCI ESG Research and is intended to give investors insight into how climate risk may affect private company valuations • Measures GHG emissions of private equity portfolios based on estimates for over 15,000 companies in over 5,000 active private equity and debt funds • Aggregates and compares emissions by fund, asset class, strategy or portfolio • LPs can align private portfolios with global temperature targets • GPs can assess resilience of companies to climate-related transition and physical risk and model portfolio company emissions	GPs/LPs	Estimation and modeling tool	—	Report with: TCFD
S&P Global Trucost S&P's Global Trucost platform allows private equity investors to assess ESG scores and environmental footprints of private companies, conduct climate scenario analysis, and assess physical climate risk.	GPs/LPs	Estimation and modeling tool	—	Report with: TCFD
BlackRock eFront ESG module allows private equity investors to analyze ESG data across their portfolios Provides ESG risk data on thousands of private companies • Proactively identifies ESG risk exposure in private investments to create a holistic view of risk across their portfolio	GPs/LPs	Estimation and modeling tool	—	—

Climate Modeling and Risk Analysis Tools

Description	Intended users	Resource type	Sector specialties	Frameworks Partnerships
Cervest Platform that allows companies, asset managers, and insurers to track and quantify climate risk • Enables climate scenario modeling for personalized asset portfolios • View physical risk of assets from various climate related hazards (flooding, drought, wildfire, etc.) • EarthScan product processes climate data with statistical models and machine learning to calculate climate risk exposure at the asset level	GPs/LPs/PCs	Climate modeling and risk analysis	—	—
Ortec Finance Climate & ESG Solution was built to support investors in navigating climate change. Four tools have been developed to offer insights into investments' vulnerabilities and opportunities with regard to climate change: • Climate MAPS: Allows investors to quantify exposure to systemic, climate related financial risks across climate scenarios • Climate SIGNS: Users can track the world's climate trajectory • Climate PREDICT: Allows investors to evaluate exposure to physical risk through extreme weather frequency modeling and estimated financial losses • Climate ALIGN: Allows investors to monitor portfolio temperature alignment	LPs/PCs	Climate modeling and risk analysis	Financial institutions	—
Gro Intelligence Offers an AI powered tool that provides a unified view of climate, agriculture, and economic insights • Climate risk navigator for agriculture provides overview of weather and climate projections for crops • Land suitability rankings for well suited regions to grow crops	GPs/LPs/PCs	Climate modeling and risk analysis	Agriculture, food and beverage, shipping, financial institutions	—

Climate Modeling and Risk Analysis Tools, continued

Description	Intended users	Resource type	Sector specialties	Frameworks Partnerships
Jupiter Intelligence				
A climate risk platform that allows asset managers to quantify exposure to physical climate risk across portfolios • Offers portfolio scale to asset scale resolution • ClimateScore Global tool combines climate models, hydrology and extreme weather models and land use data and uses machine learning to quantify physical climate risk around the world • ClimateScore Planning tool provides asset level climate risk and scenario analysis	GPs/LPs/PCs	Climate modeling and risk analysis	Insurance, banking, asset management, real estate, energy, manufacturing, retail, agriculture	—

Conclusion

Climate change is increasingly being perceived by LPs and GPs alike as a systemic risk that is best addressed by actively working to reduce emissions associated with the assets they own. Standardized collection and reporting of GHG emissions data between GPs and LPs is an essential piece of this work, allowing investors to measure progress, account for risks, and to communicate with one another from a common starting point. While an industry standard has not yet been adopted, our interviews highlight emerging best practices, and show that this asset class is making progress on incorporating climate risks and strategies for reducing emissions into investment practice. An important next development will be increased transparency about fund holdings and public disclosure of decarbonization strategies and progress on emissions reduction. Between the net zero commitments being made by many LPs and the climate leadership by several prominent GPs, the prospects are excellent that during the next two to three years this asset class will be systematically addressing the energy transition risk and its contribution to reducing real world emissions.

Acknowledgments

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Project Contributors

We would like to thank our colleagues at Ceres who provided very useful assistance with this project, including Gabriel Gerson, Charles Gibbons, Barbara Grady, and Laetitia Pirson.

This report was made possible with support from ClimateWorks Foundation. The opinions and views of the authors do not necessarily state or reflect those of the Foundation.

The list of climate data tools on pages 13–18 is offered as a resource for investors who are beginning to evaluate options available to aid them as they develop their climate strategy. It is based on the carbon accounting tools which interviewees reported having used or vetted, as well as tools for estimating and benchmarking private company sustainability data and conducting climate risk and scenario analysis. It is neither exhaustive nor implies any endorsement by Ceres.

About Ceres

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