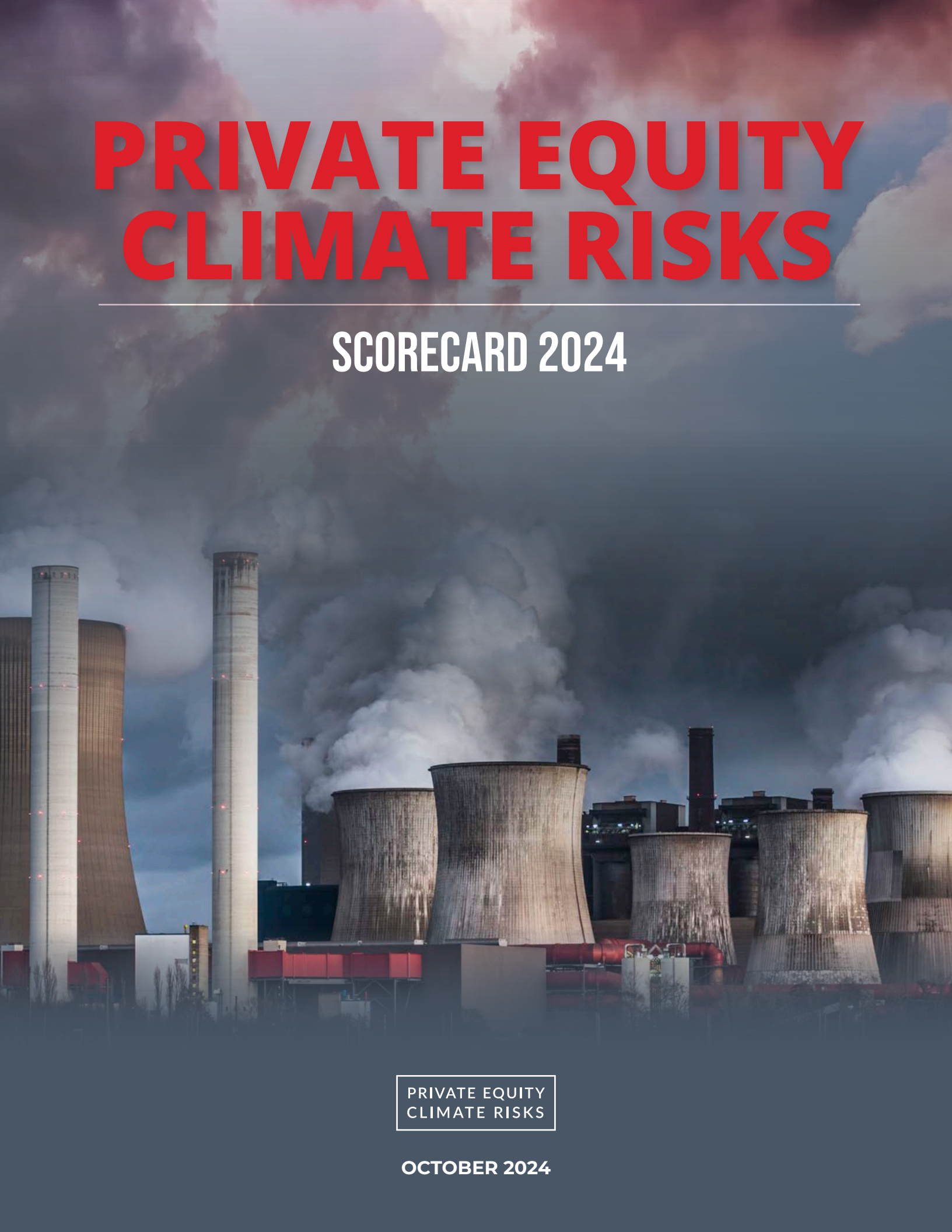


PRIVATE EQUITY CLIMATE RISKS

SCORECARD 2024



PRIVATE EQUITY
CLIMATE RISKS

OCTOBER 2024

PRIVATE EQUITY FIRMS		% CLIMATE DEMANDS MET	% FF COMPANIES IN PORTFOLIO	EMISSIONS (TCO2E)
Apollo Global Management	B 0.39	15%	60%	3,645,692
ArcLight Capital Partners	D 0.62	2%	81%	54,929,022
Ares Management	C 0.55	9%	78%	26,233,964
BlackRock Private Equity Partners	C 0.44	15%	24%	104,907,070
Blackstone Inc.	C 0.60	9%	85%	34,363,652
Brookfield/Oaktree Capital Management	D 0.74	17%	50%	211,782,710
The Carlyle Group/NGP Energy Capital	D 0.78	11%	77%	215,533,474
EIG Global Energy Partners	F 0.84	15%	82%	271,825,532
Encap	D 0.80	2%	87%	92,513,557
Energy Capital Partners	C 0.43	20%	64%	8,204,822
EQT	B 0.27	13%	17%	0
Global Infrastructure Partners	C 0.51	2%	59%	20,457,638
I Squared Capital	C 0.55	2%	79%	34,944
IFM Investors	C 0.46	26%	80%	13,165,674
Kayne Anderson Capital Advisors	D 0.61	9%	88%	64,373,463
KKR	C 0.59	11%	66%	64,877,619
MacQuarie Asset Management	B 0.40	31%	64%	6,917,800
Quantum Capital Group	D 0.74	9%	95%	152,223,163
Stonepeak Infrastructure Partners	C 0.49	7%	71%	6,943,572
TPG Inc.	B 0.33	13%	38%	0
Warburg Pincus	C 0.57	11%	93%	25,127,105

AUTHORS

October 2024

This report was researched, written, and edited jointly by researchers at Americans for Financial Reform Education Fund, Global Energy Monitor, and Private Equity Stakeholder Project. These organizations form the Private Equity Climate Risks research team (PECR).

Americans for Financial Reform Education Fund

Dustin Duong, Aditi Sen, Oscar Valdés Viera

Americans for Financial Reform Education Fund is a nonprofit, nonpartisan coalition of more than 200 civil rights, community-based, consumer, labor, small business, investor, faith-based, civic groups, and individual experts. It was founded in the wake of the 2008 financial crisis and its mission is to fight to create a financial system that deconstructs inequality and systemic racism and promotes a just and sustainable economy.



@realbankreform

Global Energy Monitor

Alex Hurley, Alyssa Moore

Global Energy Monitor (GEM) develops and shares information in support of the worldwide movement for clean energy. By studying the evolving international energy landscape, creating databases, reports, and interactive tools that enhance understanding, GEM seeks to build an open guide to the world's energy system. Users of GEM's data and reports include the International Energy Agency, United Nations Environment Programme, the World Bank, and the Bloomberg Global Coal Countdown.



Global Energy Monitor

@GlobalEnergyMon

Private Equity Stakeholder Project

Nichole Heil, Amanda Mendoza, Alissa Jean Schafer

The Private Equity Stakeholder Project (PESP) is a nonprofit organization with a mission to identify, engage, and connect stakeholders affected by private equity with the goal of engaging investors and empowering communities, working families, and others impacted by private equity investments.



@PEstakeholder

ENDORSEMENTS

The following organizations endorse the Private Equity Climate Risks Scorecard and Climate Demands for Private Equity.



TABLE OF CONTENTS

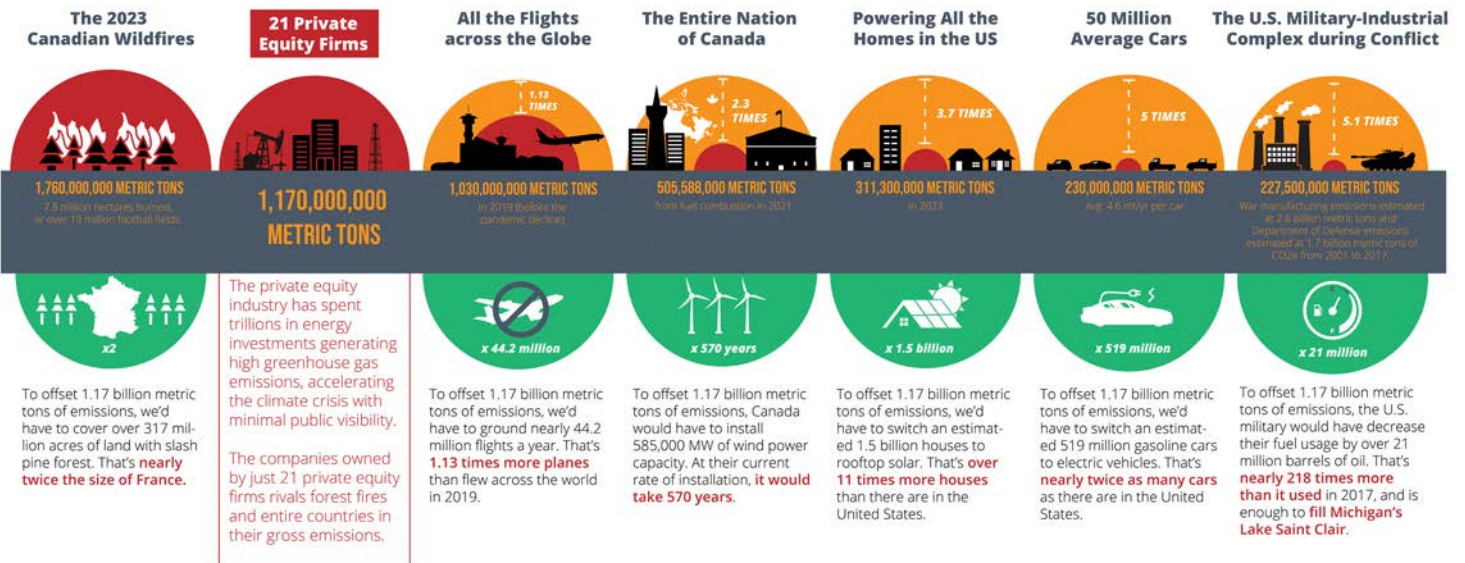
EXECUTIVE SUMMARY	5
PRIVATE EQUITY CLIMATE RISKS SCORECARD	8
THE PRIVATE EQUITY EMISSIONS PROBLEM	9
PRIVATE EQUITY PROPELS THE CLIMATE CRISIS	
CLIMATE AND FINANCIAL RISKS	
URGENCY OF A JUST TRANSITION AND ACCOUNTABILITY	
ASSESSING PRIVATE EQUITY'S CLIMATE IMPACT	14
PRIVATE EQUITY'S HIDDEN, GIGATON SIZED ENERGY FOOTPRINT	
PRIVATE EQUITY CLIMATE RISKS SCORECARD INDICATORS	
21 FIRMS, 1.7 GIGATONS OF EMISSIONS SCORES AND SUMMARIES OF FIRMS INCLUDED IN SCORECARD	
Apollo Global Management	
ArcLight Capital Partners	
Ares Management	
BlackRock Private Equity Partners	
Blackstone Inc.	
Brookfield/Oaktree Capital Management	
The Carlyle Group/NGP Energy Capital	
EIG Global Energy Partners	
EnCap	
Energy Capital Partners	
EQT	
Global Infrastructure Partners	
I Squared Capital	
IFM Investors	
Kayne Anderson Capital Advisors	
KKR	
Macquarie Asset Management	
Quantum Capital Group	
Stonepeak Infrastructure Partners	
TPG Inc.	
Warburg Pincus	
CLIMATE DEMANDS FOR PRIVATE EQUITY	30
CONCLUSION	31
APPENDICES	
APPENDIX A: ADDITIONAL BACKGROUND ON PRIVATE EQUITY CLIMATE DEMANDS	33
CLIMATE DEMANDS FOR PRIVATE EQUITY SCORING RUBRIC	
APPENDIX B: FIRMS' ENERGY HOLDINGS	44
APPENDIX C: SCORECARD METHODOLOGY	45
Indicators	
Normalization	
Aggregation	
The Carlyle Group/NGP Capital Partners Example	
Emissions Estimates	
Asset Verification	
Emissions Scope	
Upstream Fossil Fuel Extraction	
LNG Terminals	
Coal-Fired Power Plants	
Preventing Double Counting of Emissions	
ENDNOTES	52

EXECUTIVE SUMMARY

Private equity continues to transform the financial markets and the daily lives of communities around the globe. With over a trillion dollars in energy investments generating high greenhouse gas emissions and minimal public visibility, private equity firms play an outsized role in accelerating the climate crisis.¹ New research for this edition of the scorecard reveals just how high the industry's fossil fuel emissions are. **The private equity energy portfolios covered in this report are responsible for an estimated, combined total of 1.17 gigatons of annual emissions.** This figure equals 1.17 billion metric tons CO₂e and is limited to the three categories covered in the scope of this research: upstream, liquefied natural gas (LNG) terminals, and coal plants, and do not represent the firms' entire emissions footprint from energy investments. In the US alone, there were 28 weather and climate disasters in 2023, resulting in at least \$92.9 billion in disaster damages, according to the National Centers for Environmental Information.² The need for transparency, accountability, and a just transition to a clean energy economy has never been more urgent.

ONE GIGATON

In 2023, 21 private equity firms, through their investments in fossil fuel companies, emitted 1.17 billion metric tons of CO₂e — that's a **gigaton** and change. A thousand millions. How does it stack up to emissions from other sources?



Despite controlling vast networks of energy assets deeply integrated into our local and global economies, private equity firms escape much regulation. Private equity is exempt from most financial disclosures, "leaving regulators with more blind spots

concerning the risks buyout firms might pose.”³ The significant majority of private equity investments in the energy sector are in old and new fossil fuel infrastructure and generation.⁴ In fact, the 21 private equity firms featured in this scorecard had at least 67 percent of their energy portfolios in fossil fuels, as of July 2024.⁵

By choosing to invest in polluting portfolios, many private equity firms are contributing to the climate crisis. As public markets attempt to shed assets, private equity asset managers have repeatedly acquired these fossil fuel assets and operated them out of the public eye and often beyond the oversight of financial and environmental regulators.⁶ The billions of dollars private equity firms have deployed to drill, frack, transport, store, refine fossil fuels, and generate energy stand in stark contrast to what climate scientists and international policymakers have called upon to align our trajectory to the 1.5 degrees Celsius warming scenario.⁷

In addition to contributing to the climate crisis, fossil fuel investments face substantial financial risk. As fossil fuels become increasingly outdated and expensive, companies are facing challenges maintaining consistent revenue. For example, from 2012 to 2022 at least 60 US coal companies filed for bankruptcy.⁸ The methane gas industry (often referred to as “natural gas”) is also navigating headwinds, with projected demand declines in Europe⁹ and LNG global oversupply.¹⁰ Regulatory uncertainty for energy assets adds to potential financial risks as lawmakers and regulators evaluate the impacts of the industry in uncertain political times.

Public sector workers’ money, through national, state, and retirement pensions, provides much of the capital for private equity firms’ energy investments, but there is limited disclosure to the pension fund managers that the deferred earnings of their beneficiaries have potential climate impacts. Institutional investors with private equity allocations face exacerbated financial risk and attendant climate risk through exposure to private equity’s existing portfolio of polluting assets as well as political and social risks as society seeks to decrease greenhouse gas emissions and move to a clean energy economy.

This report pulls the curtain back and analyzes the fossil fuel holdings of 21 private equity firms, including large-scale buyout firms, infrastructure firms, and energy specialists. The report includes a set of climate demands to hold private equity accountable for the risks in the firms’ fossil fuel portfolios, the harmful impacts the fossil fuel investments have on the environment and frontline communities, and the need to execute a just energy transition.¹¹

What is Private Equity: The research in this report focuses on firms that function as private market investors and private fund managers with energy and infrastructure portfolio companies, specifically alternative asset managers and buyout firms. While some of the private equity firms are themselves publicly traded, they invest in portfolio companies that are generally not publicly traded.

The scorecard assesses and ranks the firms' portfolios by analyzing key fossil fuel assets (upstream fossil fuel extraction, liquefied natural gas, and coal plants) and the assets' emissions as well as the firms' progress toward an energy transition based on alignment with the following five demands.¹²

1. Align with Science-Based Climate Targets To Limit Global Warming To 1.5°C
2. Disclose Fossil Fuel Exposure, Emissions and Impacts
3. Report Portfolio-Wide Energy Transition Plan
4. Integrate Climate And Environmental Justice
5. Provide Transparency On Political Spending And Climate Lobbying

The 21 firms included in this report oversee a combined six trillion dollars in assets under management (AUM), as of the end of July 2024.¹³

EIG ranked last among its peers and received an F. With over \$47.9 billion invested in energy projects over the past 42 years, the firm had 23 fossil fuel companies in its portfolio, with a majority in upstream operations, resulting in the highest estimated upstream emissions total—over 255 million metric tons of CO₂e (tCO₂e) annually.¹⁴ The second highest overall emitter was The Carlyle Group, with \$435 billion in AUM as of August 2024, with an estimated 214 million tCO₂e annually in combined carbon-intensive asset emissions. **The Carlyle Group** holds 23 fossil fuel companies, representing 77 percent of its energy portfolio, as of the end of July 2024.¹⁵ Following close behind on emissions are **Brookfield** and **Quantum Capital Group**; both received D's on the scorecard. **Encap Investments (including Encap Flatrock Midstream)** also stands out, with the largest number of fossil fuel companies in its portfolio, 34. **Encap, alongside ArcLight, I Squared Capital and Global Infrastructure Partners**, failed the most climate demand metrics, only meeting two percent of demands. With relatively smaller fossil fuel portfolios and significantly lower total carbon-intensive emissions, **TPG, Apollo Global Management, and EQT** received B's, the highest score reached.

The poor grades reflected in this scorecard are more than a bad mark on a corporation's reputation; they signal serious harm being done to our communities, global economy, and climate. It is imperative that these private equity firms begin course correction today and move toward full alignment with the five climate demands outlined in this report. Society cannot afford to let private fund managers continue to pollute under the shroud of darkness and regulatory blindspots. The policymakers and regulators who govern financial markets, as well as private equity's investors, must require comprehensive disclosures and meaningful transition plans. The institutional investors whose capital is at risk, the communities harmed by fossil fuel extraction and emissions, and the public already experiencing the impacts of climate change deserve transparency and a just transition to a clean energy future.

PRIVATE EQUITY FIRMS		% CLIMATE DEMANDS MET	% FF COMPANIES IN PORTFOLIO	EMISSIONS (TCO2E)
Apollo Global Management	B 0.39	15%	60%	3,645,692
ArcLight Capital Partners	D 0.62	2%	81%	54,929,022
Ares Management	C 0.55	9%	78%	26,233,964
BlackRock Private Equity Partners	C 0.44	15%	24%	104,907,070
Blackstone Inc.	C 0.60	9%	85%	34,363,652
Brookfield/Oaktree Capital Management	D 0.74	17%	50%	211,782,710
The Carlyle Group/NGP Energy Capital	D 0.78	11%	77%	215,533,474
EIG Global Energy Partners	F 0.84	15%	82%	271,825,532
Encap	D 0.80	2%	87%	92,513,557
Energy Capital Partners	C 0.43	20%	64%	8,204,822
EQT	B 0.27	13%	17%	0
Global Infrastructure Partners	C 0.51	2%	59%	20,457,638
I Squared Capital	C 0.55	2%	79%	34,944
IFM Investors	C 0.46	26%	80%	13,165,674
Kayne Anderson Capital Advisors	D 0.61	9%	88%	64,373,463
KKR	C 0.59	11%	66%	64,877,619
MacQuarie Asset Management	B 0.40	31%	64%	6,917,800
Quantum Capital Group	D 0.74	9%	95%	152,223,163
Stonepeak Infrastructure Partners	C 0.49	7%	71%	6,943,572
TPG Inc.	B 0.33	13%	38%	0
Warburg Pincus	C 0.57	11%	93%	25,127,105

THE PRIVATE EQUITY EMISSIONS PROBLEM



Private Equity Propels The Climate Crisis

Private markets continue to grow, with more than \$14.7 trillion in assets by May 2024.¹⁷ Private equity asset managers are major investors in energy, having invested over \$1 trillion in energy companies since 2010.¹⁸ **The private equity energy portfolios covered in this report are responsible for at least a combined 1.17 gigatons of annual emissions, playing a significant role in propelling the climate crisis.** This figure equals 1.17 billion metric tons CO₂e and is limited to the three categories covered in the scope of this research: upstream, LNG terminals, and coal plants, and does not represent the firms' entire emissions footprint from energy investments.

The 21 private equity firms had 67 percent of their energy portfolios in fossil fuels as of July 2024.¹⁹ Given the depth and breadth of private equity's fossil fuel assets, investors face significant climate risks associated with private equity's existing portfolio of polluting assets, as well as financial risks as society seeks to decrease greenhouse gas (GHG) emissions.

Private equity asset managers typically hold companies for an average of five years.²⁰ The

relatively short-term nature of ownership means that if they so choose, a private equity asset manager could achieve fossil-free portfolios and emissions reduction targets within this decade through retirement of polluting assets and investments in renewable energy and a just transition, rather than on a timeline a generation away.²¹ The way private equity managers exit from existing holdings will matter too. Given the urgent need to accelerate serious climate action, private equity managers could – if they made different investment choices – make an important contribution to help the world stay under a 1.5 degrees Celsius warming scenario. Yet many private equity managers have not seized this opportunity, delaying mitigation of the climate crisis and safe management of climate-related financial risk. In terms of long-term climate commitments, private equity behemoths such as Blackstone, Apollo, KKR, Carlyle, and TPG, have not even signed onto their sector-specific alliance of the Glasgow Financial Alliance for Net Zero (GFANZ),²² in contrast to commitments from other banking and insurance industry leaders who represent \$130 trillion in assets.²³

The Private Equity Climate Risks Scorecard lays out which private equity firms' investments are exposed to fossil fuels in their energy portfolios, placing their investors and the public at greater financial risk. Despite some firms making statements about commitments to sustainability, the firms' lack of substantive progress in meeting the Climate Demands, particularly around transparency, integrating climate and environmental justice, and aligning their portfolio with the 1.5 degrees Celsius warming scenario, as further described in this report, indicates that many private equity firms not only lack climate leadership but are obstructing efforts to move the world to a renewable energy future.

Climate And Financial Risks

In the more immediate term, as large oil, gas, and coal companies seek to shed assets, private equity asset managers have repeatedly acquired and operated these fossil fuel assets out of the spotlight of public markets and beyond the oversight of financial regulators.²⁴ Similarly, as more banks internalize and account for the true long-term risk of these assets, private equity managers have been able to access substantial amount of debt²⁵ to expand their empires of polluting assets such as oil wells, pipelines, coal plants, and liquefied natural gas (LNG) export terminals. As private equity continues to operate and expand fossil fuel capacity and infrastructure, the underlying assets become highly leveraged – leading to increased risks of bankruptcy, stranded assets, and financial contagion,²⁶ often with the public bearing the cost of environmental cleanup, as well as poor investment returns for investors such as public sector pension beneficiaries.²⁷ Private equity firms also represent a growing percentage of assets that are not subject to comparable regulatory scrutiny as their public market counterparts – a regulatory arbitrage that allows these assets to operate in the shadows of our economy. As public fiduciaries, public pension fund trustees and staff should be mindful of how institutional investments in fossil fuels may impact long-term cost burdens.

In May 2021, the International Energy Agency said that a cessation of new oil, gas, and coal investments

was needed for alignment with a 1.5 degrees Celsius warming scenario.²⁸ The United Nations Intergovernmental Panel on Climate Change (IPCC) has made clear that the 1.5 degrees Celsius warming threshold is on track to be breached in the early 2030s,²⁹ making the next six years crucial for emissions reductions. The urgency increased further in May 2022, when scientists at the World Meteorological Organization found that the probability of surpassing the 1.5 degrees Celsius threshold is now 50 percent, up from zero percent in 2015. The global average temperature was already 1.1 degrees Celsius above pre-industrial levels in 2021.³⁰

Urgency Of A Just Transition And Accountability

Coupled with approaching thresholds for global warming, private equity firms' ongoing—and in some cases increased—involvement in the fossil fuel sector underscores the pressing need for accountability and real commitments to pursuing just transitions from private fund managers. While private equity firms announce “green” deals and investments to the media with regularity, the actual assets involved in these acquisitions often remain obscured. By making full use of loopholes and exemptions in securities laws, private equity funds can raise large sums of money from qualifying investors—such as wealthy individuals and institutions like pension funds, insurance companies, and university endowments—without needing to disclose detailed information about the financial, environmental, or social impacts of their actions.³¹ While some private equity firms are publicly traded and must file regular disclosures with the SEC, the companies can still create complex ownership structures that evade detailed disclosures and regulatory oversight at the fund level.³² Private equity firms also use limited liability and partnership structures to protect the firm and executives from liability for negligence or wrongdoing,³³ potentially including environmental liability.³⁴

These limited disclosures, use of regulatory loopholes, and complex corporate structures mean that some of the dirtiest assets are owned by relatively obscure investment firms. For example, Energy Capital Partners, which owns over 60 gas-



fired power plants, is ranked the number seven worst greenhouse gas (GHG) polluter by the University of Massachusetts Amherst Greenhouse 100 Polluters Index.³⁵ And, during Carlyle's partnership with Hilcorp (which ended in 2022),³⁶ Hilcorp was the largest US emitter of methane,³⁷ a major GHG with over 28 times the warming power of CO₂.³⁸

The trend of selling fossil fuel assets to private equity firms to avoid regulatory and public pressure or to quickly lighten the sellers' carbon footprint highlights a significant challenge in the fight against climate change:³⁹ the lack of visibility into who controls these assets.⁴⁰ These transfers of fossil fuel assets to private equity firms can lead to less oversight, reduced incentives for emission reductions, and increased risk-taking, making it difficult to hold these firms accountable—underscoring the urgent need for greater transparency and regulatory oversight of the industry.

Though the private equity firms in this scorecard have all released sustainability and ESG reports, and some are signatories to certain industry climate frameworks, the firms' commitments and targets vary significantly.⁴¹ Sustainability is increasingly important to a majority of investors, who recognize that "climate risk is investment risk"⁴² and want to ensure that a company's sustainability plans align with its business model.⁴³ For private equity firms that must constantly raise capital, publishing some minimum sustainability or climate-related plans is crucial to attracting investors.

Private Equity's Hidden Footprint

In order to fully understand the true scope of private equity firms' energy sector holdings, and how these investments align with their public statements on climate change, it is necessary to examine energy-sector portfolio companies at the asset level. This level of granularity ensures that there is full transparency for investors and other stakeholders on the true impact of these deals and allows for estimates of local (air and water pollution) and global (CO₂e emissions) impacts. Without this specificity, it is common for private equity firms to obscure or entirely omit the financed emissions and other local impacts of energy sector investments from the firms' public ESG and sustainability reports, statements, and announcements. However, full portfolio disclosures of fossil fuel investments at the company level are rare. When major deals are publicized, firms typically fail to disclose information down to the asset level.

It is a common refrain from investors in the energy sector that renewable investments have helped to prevent a certain amount of fossil fuel emissions by displacing one form of energy for another. In one sense, this argument is correct, but too frequently these renewable energy investors are also invested in fossil fuels, effectively rendering the impact moot. Renewable energy assets do not remove emissions from the atmosphere.^{44,45} Once in the atmosphere, greenhouse gasses have a certain energy-trapping impact over a certain period. The more emissions that are released into the atmosphere in total, the

more likely it is for the world to transition into an unsteady climate state. Given these physical realities, any private equity firm or other investor that is truly committed to the maintenance of a safe climate would no longer invest in any fossil fuels for any reason or return, and would certainly not justify any such investment with a corresponding investment in renewables.

The specific energy sources and technologies private equity firms choose to invest in also matter greatly. The industry often paints LNG as a transition fuel, which it is not. The life cycle emissions of LNG (extraction, transportation, liquefaction, shipping, regasification, and end-use) have been estimated to be on par or even higher than the emissions associated with coal-fired energy generation.⁴⁶ Carbon capture and storage has been well documented as an unproven technology that, at best, will not have a useful impact on climate targets, and at worst, is a way to greenwash to “maintain business as usual” activities in the fossil fuel industry.⁴⁷ Hydrogen faces similar issues. Hydrogen created by electrolyzers powered by clean energy (“green hydrogen”) might represent a useful tool for decarbonizing hard-to-abate sectors such as steel production. Other forms of hydrogen production, especially “blue hydrogen,” which is

created with fossil gas as a feedstock, is not clean or low carbon.⁴⁸ There are many more issues to consider, such as the mixing of hydrogen with methane gas and the leakage risks, which would lead to more greenhouse effects.

Risky Private Equity Cost Cutting Measures

The private equity playbook employs aggressive financial tactics that can undermine the financial stability of portfolio companies.⁴⁹ Private equity firms’ use of leveraged buyouts to load acquisition targets with significant debt often leaves the newly acquired portfolio company financially strained and vulnerable to bankruptcy.⁵⁰ Private equity owners frequently strip valuable assets such as real estate, impose excessive fees, and extract dividends funded by additional debt—a business model that prioritizes short-term gains over long-term sustainability.⁵¹ Loading companies with debt is usually paired with aggressive cost-cutting measures to free up funds to service the debt and boost profits.⁵² This can include reductions of qualified staff and the deferral of necessary maintenance and capital improvements.⁵³ These reductions and cutbacks are especially risky in the energy generation and infrastructure industry, creating the potential for serious safety hazards, environmental violations, and reliability concerns.



Private equity ownership and management of energy assets have already allegedly caused spills, leaks, explosions, and air pollution,⁵⁴ and several private equity-owned power plants have been subject to regulatory actions as a result of their cost-cutting efforts and subsequent non-compliance with environmental regulations. For example, in 2019, the Philadelphia Energy Solutions (PES) refinery suffered a catastrophic explosion that injured five workers and sent over 5,000 pounds of deadly chemicals into the air of a majority Black neighborhood in South Philadelphia.⁵⁵ As the Union of Concerned Scientists put it, “as the refinery’s financial position deteriorated, the owners made a remarkable decision: they abandoned a major maintenance turnaround one week before its planned execution.”⁵⁶ While the refinery couldn’t find money for crucial maintenance and repairs, The Carlyle Group and other investors had extracted over half a billion dollars (\$594 million) from the company in dividends and fees between 2012 and 2018, significantly weakening its financial health just before the disaster.⁵⁷ Similarly, Avenue Capital Group’s C.P. Crane coal-fired power plant in Maryland was forced to shut down and was levied regulatory penalties under allegations of failing to carry out necessary emissions testing and violations of emissions standard for particulate matter, hydrogen chloride, carbon monoxide emissions.⁵⁸ These examples show how private equity ownership can be associated with neglecting essential maintenance and safety measures, prioritizing immediate financial extraction over the well-being of workers and the surrounding community.

Disproportionate Environmental Impacts

As private equity firms double down on fossil fuels, vulnerable communities face the brunt of climate change and the diverse and deadly community-level impacts from fossil fuel assets. The most notable impacts are human health-related and stem from air and water pollution issues, contributing to asthma, bronchitis, lung cancer, neurological effects, and waterborne diseases.⁵⁹ Additional community-level impacts include environmental degradation, boom and bust economic cycles, and limited or no reinvestment into community development.^{60, 61, 62} Black, immigrant, Indigenous,

and low-income communities in North America, as well as those in countries with colonial histories, face significant risks. These communities have endured environmental injustices due to the placement of polluting industries and are particularly vulnerable to climate change.⁶³ The problem is worsened by limited access to affordable healthcare and exacerbated by factors like gender, race, ethnicity, income level, and a history of dispossession and slavery.⁶⁴

For example, KKR, a long-time investor in the Colonial Oil Products Pipeline, has faced scrutiny due to the pipeline’s environmental and operational issues. In 2020, Colonial was responsible for the “largest US gasoline pipeline spill on record,” according to E&E News, with nearly two million gallons of gasoline leaking in a North Carolina nature preserve, which went undetected for 18 days.⁶⁵ And in May 2021, a ransomware attack forced Colonial to shut down its pipeline system for nearly a week, causing fuel shortages and price increases on the East Coast.⁶⁶ Additionally, Colonial has been cited for local community harm, such as leaching methyl tert-butyl ether (MTBE), a toxic chemical, into a nearby community in North Carolina.⁶⁷



ASSESSING PRIVATE EQUITY'S CLIMATE IMPACT

Private Equity's Hidden, Gigaton Sized Energy Footprint

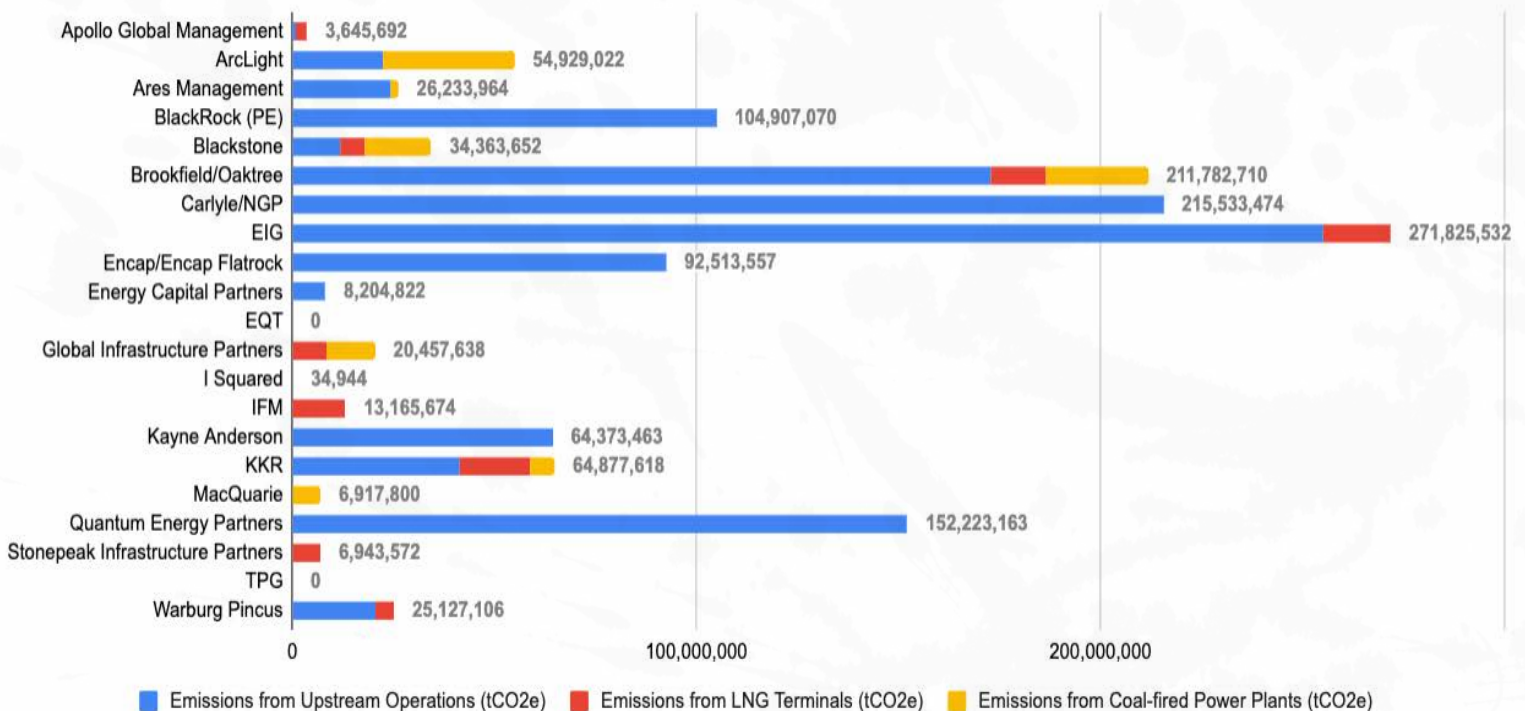
In order to hold private equity firms accountable for the impacts and risks their fossil fuel portfolios have on the environment and communities, it is important to first understand the magnitude of the companies' energy portfolios. However, private equity firms do not consistently report information about the companies' holdings, including in the energy sector. The opacity of the private equity industry makes it challenging for investors, regulators, policymakers, and the general public to easily gauge the climate impact these firms have. By compiling information not otherwise readily available, this research provides a look at the climate impact of private equity firms.

The Private Equity Climate Risks Scorecard analyzes 21 private equity firms including large-scale buyout firms, infrastructure firms, and energy specialists.

The research analyzes firms' energy holdings, identifies upstream, LNG terminals, and coal-fired power plants and their respective emissions, as well as the firms' actions to meet the Climate Demands based on analysis of publicly available information in addition to any information provided by the firms directly.⁶⁸ The absence of regulatory requirements for disclosing energy holdings and reporting the size of private equity firms' energy portfolio means that publicly available information is not comprehensive and not standardized among firms; therefore the data in the scorecard may not reflect the full scope of energy holdings.

Based on analysis of that data, it was calculated that the private equity energy portfolios covered in this report are responsible for a combined total of an estimated 1.17 gigatons of emissions annually. This figure equals 1.17 billion metric tons CO₂e.

Estimated Annual Emissions by Private Equity Firm and Asset Type



The billions of dollars private equity firms have deployed to drill, frack, transport, store, refine, and burn fossil fuels and generate this staggering amount of pollution stands in stark contrast to what climate scientists and international policymakers have called for to align our trajectory to the 1.5 degrees Celsius warming scenario, and the total emissions figure could be much higher.⁶⁹

Private Equity Climate Risks Scorecard Indicators

The Private Equity Climate Risks Scorecard analyzes the 21 private equity managers based on four indicators that provide a measure of the firms' energy holdings: the percentage of a firm's portfolio companies that are fossil-fuel based; the total number of fossil fuel companies owned by the firm; the firms' annual emissions from upstream, LNG terminals, and coal-fired power plants; and the firms' climate commitments.⁷⁰ This information is intended to facilitate greater transparency so that investors and the public can better assess and mitigate the financial and climate risks associated with fossil fuels.

The fossil fuel industry's supply chain can be divided into three major categories depending on their role: upstream, downstream, and midstream. Upstream fossil fuel companies are involved with the identification, exploration, extraction and production of raw materials such as oil, coal, and natural (fossil) gas. Downstream fossil fuel companies engage in any activity related to the post-production of the fossil fuel such as refineries and power plants. Midstream companies connect upstream and downstream operations and can include transportation infrastructure such as pipelines or storage containers. Companies throughout the fossil fuel supply chain emit harmful pollutants into the atmosphere. This scorecard reports estimated emissions from the following assets owned by portfolio companies: upstream oil, gas, and coal; LNG import and export terminals; and coal-fired power plants. The lack of emissions information throughout private equity's fossil fuel value chain further underscores the need for greater transparency by the firms themselves so that investors and other stakeholders can accurately account for the climate and financial risks.

Noting the lack of transparency and standardization surrounding private equity energy portfolios, the authors of this report conducted analyses of publicly available information to compile energy holdings for each private equity firm (see Appendix B for more details), including sources such as Pitchbook, the US Securities and Exchange Commission filings, company web pages, press releases, and news stories. Energy holding information is shown as the number of fossil fuel companies in each private equity firm's portfolio and the percentage of fossil fuel companies (relative to all energy companies, fossil and renewable").⁷¹ For renewable energy, this report includes energy generation, infrastructure investments or utility-scale solar and wind, but does not include investments in other transition-related companies like carbon credits or carbon capture, "renewable natural gas," blue hydrogen, energy analytics, residential solar, or electric vehicles.

Just as there is no standard for reporting energy portfolio or portfolio company holdings, there is no single regulatory standard for disclosing climate commitments, and therefore each firm may or may not develop its own climate policies. Thus, we included a qualitative metric based on a set of 27 sub-demands that private equity asset managers should implement to reduce climate, environmental, and financial risks associated with their current and future energy investments. The sub-demands are grouped into the following five primary demands: alignment with science-based climate targets to limit global warming to 1.5 degrees Celsius; disclosure of fossil fuel exposure, emissions, and impacts; reporting of a portfolio-wide energy transition plan; integration of climate and environmental justice; and providing transparency on political spending and climate lobbying (see Appendix A for complete details on all demands and sub-demands).

The values of the four indicators were normalized, and aggregated into a single score for each private equity firm (see Appendix C for full scorecard methodology).

21 Firms, 1.17 Gigatons Of Emissions Scores And Summaries Of Firms Included In Scorecard

Apollo Global Management							
Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
60%	3	716,000	2.9 million	0	3.6 million	15%	B 0.39

*emissions numbers are in metric tons carbon dioxide equivalent (tCO₂e)

Apollo Global Management (Apollo) was founded in 1990 and currently led by co-founder and CEO Marc Rowan.⁷² The firm has a total of \$696 billion in assets under management (AUM) as of August 2024,⁷³ and a smaller energy footprint compared to other large firms included in this report, with five energy companies, three of which are in fossil fuels. Sixty percent of the energy companies in Apollo's portfolio was made of fossil fuel companies,⁷⁴ as of

the end of July 2024. Apollo appears to have made some progress towards clean energy investing with a 2022 pledge not to invest in fossil fuels in the company's latest buyout fund.⁷⁵ This, alongside the firm's smaller energy portfolio, has earned Apollo a B on the Climate Risks Scorecard, an improvement from a D in the 2022 Scorecard.

ArcLight Capital Partners							
Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
81%	17	22.4 million	0	32.5 million	55 million	2%	D 0.62

*emissions numbers are in metric tons carbon dioxide equivalent (tCO₂e)

ArcLight Capital Partners (ArcLight) is an energy-focused investment firm with about \$10 billion in AUM, and is one the US' largest power suppliers, according to the company's 2023 ESG Report.⁷⁶ The company claims to be an investor in sustainable infrastructure, however, it received a D on the scorecard. As of the end of July 2024, the firm's portfolio included 17 fossil fuel companies invested in both upstream extraction and coal-fired power plants. Notably, ArcLight is a co-investor (with Blackstone) in the General J.M. Gavin (Gavin) coal plant in Ohio, which was the ninth top emitting power plant in the country in 2022, according to the most recently available EPA emissions data, and the deadliest coal plant in the nation as of 2023, according to research by Sierra Club.⁷⁷ ArcLight's power infrastructure subsidiary AlphaGen manages 21 power plants, which are predominantly gas-fired.⁷⁸ PEQR research found that 81 percent of the company's energy portfolio companies invest in fossil fuels.

ArcLight only partially met one of the 2024 Demand metrics through its incomplete disclosure of financed emissions. The company's 2023 ESG report discloses self-reported emissions from portfolio companies of ArcLight Energy Partners Fund VII ("Fund VII"), which closed at \$3.7 billion in commitments in 2020,⁷⁹ down from \$5.6 billion in commitments to the predecessor fund in 2015.⁸⁰ The company only reported 2.98 million metric tons of CO₂e of financed emissions from Fund VII investments in 2022.⁸¹ This reporting paints a rosy but incomplete picture at best. The PEQR emissions analysis of ArcLight found the company responsible for over an estimated 54 million metric tons of CO₂e annually from its coal-fired power plants and upstream alone. This figure excludes its downstream gas-fired power plants and some midstream sector investments.

Note: At the time of publication, it has been reported that Blackstone and ArcLight have entered into an agreement to sell the company that owns the Gavin coal plant to Energy Capital Partners. The date of sale or approval process has not yet been finalized. <https://disclosure.spglobal.com/ratings/en/regulatory/article/-/view/type/HTML/id/3244480>

Ares Management							
Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
78%	14	24 million	0	1.9 million	26.2 million	9%	C 0.55

*emissions numbers are in metric tons carbon dioxide equivalent (tCO2e)

Ares Management is a Los Angeles-based firm that holds \$447 billion in AUM as of June 2024.⁸² Ares currently holds 14 energy companies in its portfolio as of July 2024, with 78 percent of them in fossil fuels. Ares noted that its Corporate Opportunities Fund VI would not invest in energy, but said energy investments “will be completed outside of our sixth fund and in our dedicated energy funds going forward” in a 2020 earnings call.⁸³ In June 2023, Ares

published its second Climate Action Report based on the Task Force for Climate-related Financial Disclosures (TCFD) framework.⁸⁴ The report discloses financed emissions estimates (Scope 3) for 35 percent of its 2022 investments, earning a partial alignment with Demand 2.2.⁸⁵ Although the report affirms Ares’ interest in the energy transition, it is lacking in details. Overall, Ares has made small progress since the 2022 Scorecard, earning a C.

BlackRock Private Equity Partners							
Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
24%	9	104.9 million	0	0	104.9 million	15%	C 0.44

*emissions numbers are in metric tons carbon dioxide equivalent (tCO2e)

BlackRock is the world’s largest asset manager, with a giant \$10 trillion in assets under management⁸⁶ investing in nearly every corner of the economy.⁸⁷ BlackRock’s private equity platform has close to \$42 billion in AUM.⁸⁸ There have been many criticisms of the company’s corporate practices, including its investment in companies with poor human rights track records,⁸⁹ commitment to continue supporting fossil fuel investments,⁹⁰ and outsized political influence.⁹¹ The PEQR research team was able to estimate that BlackRock Private Equity backed 37 energy companies, a quarter of which invested in fossil fuels. BlackRock earned a C on this scorecard.

BlackRock intends to substantially grow its infrastructure asset management business with the announced acquisition of Global Infrastructure Partners (GIP) and its \$100 billion in AUM.⁹² This

acquisition would triple BlackRock’s infrastructure business to nearly \$150 billion and would be the firm’s largest acquisition since 2009.⁹³ The announced acquisition raised antitrust and anti-monopoly concerns from US Senator Bernie Sanders who expressed in a letter to the US Department of Justice and the Federal Trade Commission that “the asset management industry is quickly becoming a monopoly and BlackRock’s acquisition of GIP will make this problem even worse.”⁹⁴ BlackRock’s CEO and President made clear that the GIP acquisition is designed to grow the company’s private infrastructure business substantially, leveraging BlackRock’s corporate and governmental relationships while dramatically increasing the amount of the infrastructure industry that would be under BlackRock’s control.⁹⁵

Blackstone Inc.

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
85%	17	11.8 million	6.2 million	16.4 million	34.4 million	9%	C 0.60

*emissions numbers are in metric tons carbon dioxide equivalent (tCO₂e)

Blackstone Inc. is one of the world's largest private equity firms, with more than one trillion dollars in AUM and led by Stephen Schwarzman.⁹⁶ As of the end of July 2024, Blackstone backed 17 fossil fuel companies, representing 85 percent of the companies in its energy portfolio. The firm's shallow climate commitments and continued investments in dirty assets land Blackstone a C on the Private Equity Climate Risks Scorecard.

Blackstone has committed to decarbonization targets for existing assets and has placed restrictions on future investments.⁹⁷ In 2022, Bloomberg reported that Blackstone would not pursue upstream exploration and production assets in its next energy or credit funds, but that it would continue to make future investments in companies that transport oil and gas (midstream assets like pipelines and LNG terminals) or those that turn fuel into other products (downstream assets).

Blackstone's slow-moving decarbonization process leaves one of the most toxic polluters in the United States in its portfolio, the 50 year-old General J.M. Gavin coal plant. Gavin was the ninth top emitting power plant in the country as of 2022 and the largest

coal-fired power plant owned by Blackstone.⁹⁸ Blackstone has not announced retirement or transition plans for Gavin. According to Sierra Club research, Gavin is responsible for an estimated 244 premature deaths a year, and Blackstone's failure to retire the aging plant prolongs the risk for future negative health impacts resulting from toxic Gavin pollution.⁹⁹

To date, Blackstone's transition policy does not specify how the firm plans to reduce emissions in its existing fossil fuel portfolio of downstream, midstream, and upstream assets. The firm plans to reduce Scope 1 and 2 emissions by 15 percent starting from 2021 according to its' 2023 Climate-related Financial Disclosures report.¹⁰⁰

Note: At the time of publication, BlackRock was scheduled to close its acquisition of Global Infrastructure Partners on October 1, 2024. <https://www.businesswire.com/news/home/20240913612798/en/BlackRock-Announces-Expected-Closing-Date-for-Acquisition-of-Global-Infrastructure-Partners>

Brookfield/Oaktree Capital Management

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
50%	29	173 million	13.5 million	25.2 million	211.8 million	17%	D 0.74

*emissions numbers are in metric tons carbon dioxide equivalent (tCO2e)

Brookfield is a large private equity infrastructure asset manager with a trillion dollars in AUM as of August 2024,¹⁰¹ and has held a majority stake in Oaktree Capital Management since 2019.^{102,103} As of the end of July 2024, Brookfield and Oaktree collectively owned 29 fossil fuel companies, representing 50 percent of the energy companies in its portfolio. Brookfield met 17 percent of the Climate Demands and received a D grade in this scorecard.

Brookfield has committed to being net zero by 2050.¹⁰⁴ The firm said it “measured and tracked emissions across [its] business groups for several years ... informed by the GHG Protocol and Partnership for Carbon Accounting Financials (PCAF),”¹⁰⁵ and that it has agreed to “set an interim target for a portion of [its] AUM with the ambition to reduce emissions by 50 [percent] by 2030,”¹⁰⁶ and is a signatory to the Glasgow Alliance for Net Zero [GFANZ].¹⁰⁷ Despite its public commitment to net-zero emissions, Brookfield continues to actively hold fossil fuel investments, including the nearly seven billion dollar buyout of Canada’s fourth-largest midstream company, Inter Pipeline, in 2021.¹⁰⁸ In 2020, Brookfield acquired a 40 percent stake in an LNG export terminal in Louisiana for seven billion dollars, (which is co-owned by the country’s largest LNG producer, Cheniere Energy).¹⁰⁹

Although Brookfield has made a commitment to net zero by 2050, it appears that it will continue to own and operate a large amount of fossil fuel infrastructure. In the company’s 2023 Sustainability Report, Brookfield discloses a limited emissions analysis of “controlled portfolio companies” Scope 1 and 2 emissions of over 9 million tons of CO2e in the reporting period,¹¹⁰ compared to PECC findings that Brookfield and Oaktree’s portfolio emits an order of magnitude more emissions, over 211 million tons of CO2e per year. Brookfield’s double standards underscore the need for private equity firms to commit to a fossil-free portfolio sooner, rather than by 2050, which is nearly a generation away.

The Carlyle Group/NGP Energy Capital

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
77%	23	215.5 million	0	0	215.5 million	11%	D 0.78

*emissions numbers are in metric tons carbon dioxide equivalent (tCO2e)

The Carlyle Group and its subsidiary, NGP Energy Capital,¹¹¹ have one of the worst rankings amongst the 21 firms in this scorecard, scoring a D. Carlyle is one of the world's largest alternative asset managers, with \$435 billion in AUM as of August 2024.¹¹² Led by CEO Harvey Schwartz, the Washington DC-based firm is one of the highest private equity emitters, holding 23 fossil fuel companies, representing 77 percent of its energy portfolio, as of the end of July 2024.

Despite Carlyle's public commitment towards net zero by 2050 in its 2021 TCFD report,¹¹³ Carlyle's investments in fossil fuels have dumped at least 215.5 million metric tons of CO2e into the atmosphere annually.

Carlyle has no public fossil fuel policy,¹¹⁴ but the firm helped launch the ESG Data Convergence Initiative,¹¹⁵ with CalPERS, a major institutional investor, to set standardized voluntary reporting within the private equity industry on a few Environmental, Social, and Governance (ESG) metrics. Despite Carlyle's work on that project, the firm has no publicly announced plans to stop its investments in fossil fuels. In 2024, Carlyle

announced plans to build an oil and gas company focused on the Mediterranean, with a \$945 million acquisition of projects in Italy, Egypt, and Croatia.¹¹⁶

Carlyle's 2021 TCFD and its 2023 ESG reports did not include NGP in the scope of its reporting.¹¹⁷ These omissions should concern investors and the public because Carlyle's recent 2024 second-quarter earnings report indicates that around three percent of the firm's revenue and 20 percent of the firm's profit for the first half of 2024 came from NGP.¹¹⁸

EIG Global Energy Partners

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
82%	23	255 million	16.8 million	0	271.8 million	15%	F 0.84

*emissions numbers are in metric tons carbon dioxide equivalent (tCO₂e)

EIG Global Energy Partners (EIG) ranked as the most polluting private equity firm in the scorecard—its carbon-intensive portfolio is estimated to emit 271.8 million tons CO₂e annually. EIG is led by Chairman and CEO R. Blair Thomas, was established in 1982, and is the self-proclaimed “leading institutional investor in the global energy and infrastructure sectors.”¹¹⁹ The firm has \$24.9 billion in AUM as of the end of June 2024 and has invested over \$47.9 billion in energy projects over the past 42 years¹²⁰—with 23 fossil fuel companies in its portfolio as of the end of July 2024. EIG is invested in six LNG Terminals and eight upstream oil and gas companies. The firm’s

2024 acquisition of the Brazilian company, Ocyan, a company that specializes in Floating Oil Production, Storage and Offloading (FPSO) is said to be the first of as many as 20 potential deals in the energy sector in Brazil.¹²¹

EIG only met 15 percent of the Climate Demands as outlined in this scorecard. While the firm is a long way from transitioning to a cleaner energy portfolio, it does disclose its energy portfolio, its emissions, and commits to increase investment in clean energy.¹²² EIG ranks last of all the firms in this scorecard, earning an F.

EnCap

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
87%	34	92.5 million	0	0	92.5 million	2%	D 0.80

*emissions numbers are in metric tons carbon dioxide equivalent (tCO₂e)

EnCap was founded in 1988 by David Miller, Gary Peterson, D. Martin Phillips, and Robert Zorich, and has \$31.3 billion in AUM.¹²³ Although the company has begun raising energy transition funds and claims to incorporate “ESG considerations” in its business decisions,¹²⁴ the firm invests in 34 fossil fuel companies (as of the end of July 2024), is responsible for over 92.5 million metric tons of CO₂e from its upstream extraction operations annually, and only partially met one Demand, resulting in a D.

The firm has carved out a niche in the energy private equity sector through investments in oil and gas exploration, midstream infrastructure, and energy technology. The company has three platforms: Encap Upstream, Encap Energy Transition, and Encap Flatrock Midstream,¹²⁵ which were combined

for the purpose of this research. Outside of the company’s climate impacts, Encap got into trouble with the FTC in 2022 over a proposed \$1.445 billion acquisition of EP Energy Corp, which was found to eliminate competition between Uinta Basin crude oil producers.¹²⁶ As a result, the company sold its Uinta assets to KKR-backed Crescent Energy for \$690 million in 2022.¹²⁷ Encap is back at the FTC this year seeking approval to purchase another Uinta Basin driller, Altamont Energy, per the terms of the original settlement agreement.¹²⁸

Energy Capital Partners

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
64%	9	8.2 million	0	0	8.2 million	20%	C 0.43

*emissions numbers are in metric tons carbon dioxide equivalent (tCO2e)

Energy Capital Partners (ECP), based in New Jersey, was founded by Doug Kimmelman in 2005 and has \$19 billion in AUM.¹²⁹ As of the end of July 2024, out of the 14 energy companies in its portfolio, 64 percent of them have fossil fuel assets. While the firm does not have any LNG terminals or coal-fired power plants in its portfolio, it does back Ramaco Resources, which operates nine coal mines in the United States.¹³⁰ The firm was also found to be the largest private equity investor in US power plants in an analysis completed by Americans for Financial Reform Education Fund in 2022,¹³¹ with around 60 gas-fired power plants in its portfolio.¹³² These gas plants alone are responsible for an estimated 46.5 million metric tons of CO2e annually.¹³³ The firm also ranked as the number seven top polluting company on the 2023 University of Massachusetts Amherst Political Economy Research Institute's (PERI) Greenhouse 100 Polluters Index.¹³⁴

On the 2024 Private Equity Climate Risks Scorecard, Energy Capital Partners earned a C.

The firm announced in May 2024 that it closed its most recent flagship fund, ECP V, at \$6.7 billion raised.¹³⁵ The fund will be focused on energy transition and infrastructure investments. ECP also announced its most recent take-private acquisition in May of Atlantica Sustainable Infrastructure—the company has a gas-fired power plant in Mexico and renewable energy assets in the UK, Spain, Italy, South Africa, and a few South American countries.¹³⁶

In Sept 2023, ECP and Bridgepoint announced a merger between the two firms, though the deal was rejected by the Federal Energy Regulatory Commission (FERC) in March 2024 citing competition concerns.¹³⁷

EQT

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
17%	1	0	0	0	0	13%	B 0.27

*emissions numbers are in metric tons carbon dioxide equivalent (tCO2e)

EQT AB is a Swedish global investment organization founded in 1994 with \$267 billion in AUM.¹³⁸ The company's infrastructure asset management business stands out when it comes to sustainability and climate goals for its operations and portfolio.

As of the end of July 2024, EQT had the least fossil fuel intensive energy portfolio of the 21 firms, with five companies focused exclusively on solar and wind energy and one company with gas-fired

power generation assets.¹³⁹ EQT instituted Net Zero guidelines for its corporate operations as well as fund investments generally, with the goal of net zero alignment by 2040¹⁴⁰—though this falls short of the PECCR demand of achieving a Net Zero portfolio by 2030. While EQT has stated that it will not stop investing in fossil fuel companies,¹⁴¹ the company's limited fossil fuel holdings earn it a B on the Scorecard.

Note: At the time of publication, it has been reported that Blackstone and ArLight have entered into an agreement to sell the company that owns the Gavin coal plant to Energy Capital Partners. The date of sale or approval process has not yet been finalized. <https://disclosure.spglobal.com/ratings/en/regulatory/article/-/view/type/HTML/id/3244480>

Global Infrastructure Partners

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
59%	13	0	8.4 million	12 million	20.5 million	2%	C 0.51

*emissions numbers are in metric tons carbon dioxide equivalent (tCO₂e)

Global Infrastructure Partners (GIP) is an asset management firm founded in 2006 and led by Founding Partner, Chairman & Chief Executive Officer Adebayo Ogunlesi. The firm focuses on infrastructure investments including energy, digital, water and waste, with approximately \$112 billion in AUM as of August 2024.¹⁴² As of the end of July 2024, of the energy companies found in its portfolio, 59 percent have fossil fuel assets.

The company is the majority investor in the development of Rio Grande LNG terminal in Brownsville, TX.¹⁴³ The terminal would be built on the sacred land of the Carrizo Comecrudo Tribe of Texas,¹⁴⁴ but Rio Grande LNG, regulatory agencies and banks have all failed to adequately consult

with the tribe on local impacts.¹⁴⁵ Additionally, the facilities would significantly degrade local fishing, shrimping, and natural tourism industries, putting communities' livelihoods at risk.¹⁴⁶ Frontline community members from the South Texas Environmental Justice Network, the Carrizo Comecrudo Tribe, and advocates, met with GIP in person in June of 2024 to raise the environmental, Indigenous rights, community concerns, and financial risks associated with the LNG terminal.¹⁴⁷

Global Infrastructure Partners has only partially met one Climate Demand for this scorecard, in addition to its high number of holdings in LNG terminals and coal-fired power plants, resulting in a C on the Private Equity Climate Risks Scorecard.

I Squared Capital

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
79%	15	0	34,900	0	34,900	2%	C 0.55

*emissions numbers are in metric tons carbon dioxide equivalent (tCO₂e)

I Squared Capital is a Miami-based infrastructure investor founded in 2012 with \$40 billion in AUM as of August 2024.¹⁴⁸ The company claims to have an Energy Transition Strategy that "embraces the full breath of clean energy,"¹⁴⁹ however, 79 percent of the 19 energy companies in its portfolio are invested in fossil fuels, as of the end of July 2024. Six of the companies in the firm's portfolio operate gas-fired power generators and five companies are midstream oil and gas companies. These types of companies generally have high emissions, though these asset types were not included in the emissions calculations for this report.

Additionally, in January of 2024 founder, chairman, and managing partner Sadek Wahba wrote an op-ed in Forbes about the outcomes of COP28 and the need for investors to keep investing in traditional energy sources as well as investing in renewable energy.¹⁵⁰ He also claimed that the best outcome of COP28 was "that the oil companies were involved in the discussions instead of being ostracized." I Squared falls in the middle of the pack with a score of a C on the Private Equity Climate Risks Scorecard.

Note: At the time of publication, BlackRock was scheduled to close its acquisition of Global Infrastructure Partners on October 1, 2024. <https://www.businesswire.com/news/home/20240913612798/en/BlackRock-Announces-Expected-Closing-Date-for-Acquisition-of-Global-Infrastructure-Partners>

IFM Investors

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
80%	8	0	13.1 million	0	13.1 million	26%	C 0.46

*emissions numbers are in metric tons carbon dioxide equivalent (tCO₂e)

IFM Investors (IFM) is an Australian-based investment firm with \$147 billion in AUM and collectively owned by 17 Australian pension funds, responsible for the retirement savings of more than 120 million people.¹⁵¹ As of late July 2024, 80 percent of the companies found in the firm's energy portfolio have investments in fossil fuels.

The firm actively supports managing climate-related risks through its Sustainable Business Report, and they have a 40 percent emissions reduction target by 2050 compared to 2019 levels.¹⁵² Part of this commitment includes restricting new investments in thermal coal and targeting zero coal exposure by 2030.¹⁵³ Although this research did not find exposure to coal or upstream drilling in IFM's portfolio, they are exposed to, and responsible for emissions from, the

various LNG investments that the company has made. This includes IFM's investment in Freeport LNG, which is notorious for being out of commission regularly since an explosion at the plant in 2022 for which a consultant found Freeport LNG was at fault.¹⁵⁴ An investigation by the Pipeline and Hazardous Materials Safety Administration found several causes for the explosion, including issues with safety and operating procedures.¹⁵⁵ Recently, Hurricane Beryl forced the facility to cancel at least 10 cargoes as hurricane-related disruptions were felt throughout the region.¹⁵⁶

IFM meets a relatively high amount of the demands compared to its peers, but the firm's continued commitment to the carbon-intensive LNG industry has earned the firm a C on the Climate Risks Scorecard.

Kayne Anderson Capital Advisors

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
88%	14	64.3 million	0	0	64.3 million	9%	D 0.61

*emissions numbers are in metric tons carbon dioxide equivalent (tCO₂e)

Kayne Anderson Capital Advisors (Kayne Anderson), is a private equity firm based in Los Angeles, California with close to \$32 billion in AUM as of August 2024.¹⁵⁷ Founded in 1984 by Richard Kayne and John Anderson, the firm specializes in energy, infrastructure, real estate, credit, and growth equity investments.¹⁵⁸ Albert Rabil serves as the CEO of the company.¹⁵⁹ Under his leadership, Kayne Anderson has expanded its investment footprint, particularly in energy-related sectors, solidifying its position as a major player in the energy infrastructure investment space. PEQR research found that 88 percent of Kayne's energy portfolio is invested in fossil fuels, as of end of July, 2024.

In a 2022 interview with CNBC, Rabil acknowledged the need to address climate change but downplayed the urgency of transitioning away from fossil fuels.¹⁶⁰ "We've got a climate change issue, [the] transition

needs to take place, the question mark is really, over what time can that transition reasonably take place," Rabil said.¹⁶¹ The firm's lackluster commitments to transitioning its portfolio on a Paris-aligned timeline, along with its fossil fuel holdings earned the firm a C on the Private Equity Climate Risks Scorecard.

One notable transaction is Kayne Anderson's involvement with Terra Energy Partners (Terra), a company focused on extraction of oil and gas in the United States, including over 500 federal permits to drill on public lands.¹⁶² In 2015, Kayne Anderson made a \$300 million equity investment in Terra¹⁶³ and unsuccessfully tried to find a buyer for the company seven years later.¹⁶⁴ Since putting Terra on the market for about \$2.5 billion in 2022, no acquisition has been formally announced.¹⁶⁵

KKR							
Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
66%	19	41.3 million	17.5 million	6 million	64.9 million	11%	C 0.59

*emissions numbers are in metric tons carbon dioxide equivalent (tCO2e)

KKR is one of the largest private equity firms in the world, with \$601 billion of AUM as of August 2024.¹⁶⁶ As of the end of July 2024, the firm owned 19 fossil fuels companies, comprising 66 percent of its energy portfolio. In March 2022, KKR reported that it oversees \$73 billion in infrastructure assets globally.¹⁶⁷

KKR has a “Climate Action Strategy” and says it integrates TCFD questions into its internal reporting processes, including collecting emissions information from some portfolio companies.¹⁶⁸ However, KKR has not made robust portfolio-wide emissions reduction commitments, nor has it committed to public disclosure of fossil fuel holdings. In 2022, KKR disclosed only 30,142 metric tons CO2e across Scopes 1, 2 and 3, having excluded emissions from its portfolio companies even though the firm claimed to separately track financed emissions for at least 90 percent of them. The 2024 Scorecard finds KKR invested in 19 portfolio companies responsible for over an estimated 64 million tons CO2e annually from upstream oil and gas, LNG, and coal-fired power plants, and previous PECR research estimated their total emissions footprint at 93 million tons of CO2e annually.¹⁶⁹ KKR’s 2023 Sustainability Report also has stated that it intends to continue investing in conventional fossil fuel energy projects.¹⁷⁰

One key example of KKR’s continued investment in fossil fuels is evident in its formation of Crescent Energy in 2021 as its “primary platform for pursuing upstream oil and natural gas opportunities,”¹⁷¹ as well as midstream infrastructure.¹⁷² Crescent Energy is KKR’s largest polluter and makes up over a quarter of the firm’s total fossil fuel emissions, even though KKR describes the portfolio company as “advancing smart energy investing” in the firm’s 2022 sustainability report.¹⁷³ KKR is also invested in the Coastal Gaslink Pipeline in Canada, where the Wet’suwet’en hereditary chiefs’ opposition has resulted in protests, delays, and blockades.¹⁷⁴ Approximately 190 kilometers of the Coastal Gaslink pipeline cuts through wetlands, cultural lands,

and creek land at the center of this territory,¹⁷⁵ but according to some Wet’suwet’en leaders, spokespeople, and allies, the company has forged ahead with the project without receiving permission from all involved tribal authorities.¹⁷⁶ Wet’suwet’en representatives rallied at KKR’s New York City headquarters in September 2023 to highlight their fight for sovereignty and the environmental risks of the project to water and wildlife.¹⁷⁷

Although the firm’s score improved to a C from a D on the 2022 Private Equity Climate Risks Scorecard, KKR has failed to demonstrate meaningful progress on transitioning towards a clean energy portfolio, and continues to engage in the extraction of resources and wealth from marginalized communities under the opacity that is inherent to private equity.

Macquarie Asset Management

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
64%	9	0	0	6.9 million	6.9 million	31%	B 0.40

*emissions numbers are in metric tons carbon dioxide equivalent (tCO2e)

Macquarie Asset Management (Macquarie) is the asset management division of the larger Macquarie Group, founded in 1969, based in Sydney, and with over \$600 billion in AUM globally as of August 2024.¹⁷⁸ The firm was ranked as the largest infrastructure fund manager by Infrastructure Investor in 2023.¹⁷⁹ As of the end of July 2024, the firm's portfolio included nine fossil fuel companies, representing 64 percent of the energy portfolio. Macquarie received a B on this scorecard.

The firm's portfolio also includes five midstream oil and gas companies that are outside the scope of the emissions calculations for this report, including HES International (HES). Macquarie, alongside Goldman Sachs, acquired the company from Carlyle and Riverstone in 2019.¹⁸⁰ HES is a shipping and logistics company that serves "the heart of industrial Europe," operating several large terminals, moving oil, gas, coal, and other industrial products around the world.¹⁸¹ The company emitted an estimated 1.5 million metric tons of CO2e in 2019.¹⁸²

The firm has some of the most robust disclosures of the private equity firms in the dataset, fully meeting six of the Demands submetrics, and partially meeting five. The firm was recently caught in the US anti-ESG furor when the Texas Permanent School Fund committed \$300 million to Macquarie's Green Investment Group's energy transition solutions fund, amid a fierce anti-ESG landscape in Texas.¹⁸³ The fund did not fall within the list of ten firms and more than 300 funds Texas Comptroller Glenn Hager named for divestment by Texas pension funds and state endowments.¹⁸⁴

Quantum Capital Group

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
95%	18	152 million	0	0	152 million	9%	D 0.74

*emissions numbers are in metric tons carbon dioxide equivalent (tCO2e)

Quantum Capital Group (Quantum) is one of the worst offenders on the Private Equity Climate Risks Scorecard, earning a D. As of the end of July, 2024, 95 percent of Quantum’s energy portfolio was invested in fossil fuels. Historically an oil and gas investor,¹⁸⁵ Quantum was founded in 1998 by Wil VanLoh, who is currently the CEO of the Houston-based firm with \$26 billion in AUM as of August 2024.¹⁸⁶ The firm has drilled over 1,700 wells from 2018 to 2023 and produces 500,000 barrels of oil equivalent per day (boe/d), according to the company.¹⁸⁷ PECR estimates that Quantum is responsible for over 152 million metric tons of CO2e annually from its upstream operations which is the equivalent annual emissions of 36 coal-fired power plants.¹⁸⁸

Quantum’s CEO Wil VanLoh claimed the company is agnostic when it comes to energy investments in fossil fuels versus energy transition during the July 19, 2023 Oregon Investment Council meeting.¹⁸⁹ However, looking more closely, the firm’s investment practices still very heavily lean towards traditional exploration and extraction of fossil fuels. Quantum Energy Fund VII, which closed in 2018,¹⁹⁰ invested 72

percent of the fund in upstream oil and gas and the firm is targeting a 70 to 80 percent allocation in its open successor fund, Fund VIII.¹⁹¹

In Quantum’s 2023 ESG report, the company stated that a transition from fossil fuels would take decades and “may not be necessary”.¹⁹² The company justifies drilling by lauding its investments in Carbon Capture and Sequestration (CCS) and LNG in its 2023 ESG report.¹⁹³ One of Quantum’s CCS investments, Project Canary, which certifies oil and gas operations as “responsibly sourced”,¹⁹⁴ was shown to consistently fail to detect pollution events, according to research from EarthWorks.¹⁹⁵

The study further found that the company’s certification services and aggressive marketing are a means to justify continued extraction rather than reduce emissions, and that individuals in leadership positions at Project Canary also have direct financial ties to the gas companies they certify, creating possible conflicts of interest.¹⁹⁶

Stonepeak Infrastructure Partners

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
71%	10	0	6.9 million	0	6.9 million	7%	C 0.49

*emissions numbers are in metric tons carbon dioxide equivalent (tCO2e)

Stonepeak Infrastructure Partners is one of the largest infrastructure fund managers, founded in 2011 and based in New York. With \$71.2 billion in AUM as of March 2024,¹⁹⁷ Stonepeak had investments in at least 14 energy companies, 71 percent of which are fossil fuel-based companies. The firm invests in two LNG Terminals, Bahrain LNG and Calcasieu Pass LNG, which are responsible for an estimated 6.9 million tons CO2e annually. The firm earned a C on the Private Equity Climate Risks Scorecard.

In 2022, Stonepeak purchased a specialized ice-class LNG tanker company, Seapeak,¹⁹⁸ which was found

to be serving Yamal LNG, Russia's largest export terminal and a key to replenishing the dwindling funds of the Russian government, according to a July 2024 investigation by Bloomberg.¹⁹⁹ The investigation stated that several US pension funds are invested in Stonepeak's Infrastructure Fund IV, and therefore indirectly invested in Seapeak, servicing the Russian LNG market.²⁰⁰ These funds include: Washington State Investment Board, Oregon Public Employees Retirement Fund, New York State Common Retirement Fund, and California Public Employees's Retirement System.²⁰¹

TPG Inc.

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
38%	3	0	0	0	0	13%	B 0.33

*emissions numbers are in metric tons carbon dioxide equivalent (tCO2e)

TPG Inc. is a San Francisco-based private equity firm with \$229 billion in AUM as of August 2024.²⁰² As of the end of July, 2024 firm had eight energy companies in its portfolio, with the majority of them focused on renewable energy. Of the three fossil fuel-based companies, two of them are termed "renewable natural gas" (RNG) by the industry, which are considered upstream biomass companies for the purposes of this research. RNG is a costly fuel source with a large carbon footprint that relies on pipelines and trucking, with a high risk of methane leakage.²⁰³

According to TPG's 2023 ESG report, less than one percent of its AUM were invested in fossil fuel companies.²⁰⁴ Although the firm has conducted an analysis on its financed emissions, it has not

disclosed the full or detailed results of its findings. Instead, TPG has only disclosed the results of the firm's "Operational Emissions" for the "firm's offices and employee activities, to better understand our emissions and identify opportunities for reduction and offsetting."²⁰⁵

Although TPG is moving away from fossil fuels, the firm's minimal level of disclosure is inadequate for investors or the public to accurately account for the level of climate risks in the firm's remaining portfolio, and TPG has yet to make a public commitment that future funds will be free of fossil fuels. Although TPG touts its climate-friendly series of Rise Funds,²⁰⁶ it has not met an adequate threshold of climate risk transparency, earning it a B on the 2024 Climate Risks Scorecard.

Warburg Pincus

Percent of Fossil Fuel Companies In Energy Portfolio	Number of Fossil Fuel Companies	Emissions from Upstream Operations	Emissions from LNG Terminals	Emissions from Coal-fired Power Plants	Total Est. Annual Emissions (upstream, LNG, coal)	Percent of Demands Met	Grade
93%	13	20.7 million	4.4 million	0	25.1 million	11%	C 0.57

*emissions numbers are in metric tons carbon dioxide equivalent (tCO2e)

Warburg Pincus has more than \$83 billion in AUM as of August 2024.²⁰⁷ As of the end of July, 2024, Warburg Pincus owned 13 fossil fuel companies, comprising 93 percent of its total energy portfolio. Warburg Pincus only discloses about 9,000 metric tons of CO2e of firm level emissions, excluding the emissions from its fossil fuel portfolio.²⁰⁸ The 2024 Private Equity Climate Risks Scorecard estimates Warburg Pincus' financed emissions to be over 25 million metric tons of CO2e annually. The lack of robust disclosures and the firm's commitment to continued fossil fuel investment earned the company a C on the 2024 Scorecard.

In March 2021, Warburg Pincus announced that it will not seek fossil fuel investments in its next buyout fund.²⁰⁹ Yet in October of 2021, Warburg Pincus-owned Citizen Energy acquired a portfolio of oil and gas production assets located in Oklahoma through a \$153 million leveraged buyout.²¹⁰ In June 2022, Citizen Energy acquired more upstream acreage in Oklahoma.²¹¹

In the second quarter of 2022, Warburg Pincus acquired ClimeCo, a decarbonization advisory firm specializing in carbon offsets,²¹² and made an equity commitment in Viridi Energy, a "renewable natural gas" (RNG) company. RNG technologies are often claimed to be sustainable but do not reduce emissions in a meaningful way, in some cases potentially increasing emissions.²¹³ The offsets (or carbon credits) market is largely unregulated, and there is mounting evidence showing that these offsets fail to deliver its promised GHG emissions reductions.^{214, 215} RNG is a costly fuel source with a large carbon footprint that relies on pipelines and trucking, with a high risk of methane leakage.²¹⁶

CLIMATE DEMANDS FOR PRIVATE EQUITY

Holding Private Equity Accountable

Given the trillion-plus dollars private equity firms have invested in fossil fuels—including the energy holdings of the 21 private equity managers evaluated in the scorecard—and the need for immediate climate action, this report recommends a set of commitments to hold private equity accountable.

Private equity managers must be transparent about their investments in fossil fuels. Private equity asset managers must also account for the impacts and risks their fossil fuel portfolios have on the environment and communities.²¹⁹ The industry must act to remediate the harms, particularly in communities of color where climate impacts and toxic pollution are the highest. Private equity managers must simultaneously transition to a clean energy economy, including a just transition for workers.

Together, Americans for Financial Reform Education Fund, Global Energy Monitor and the Private Equity Stakeholder Project, along with The Carrizo Commechrudo Tribe, Citizens Caring For the Future, Climate Organizing Hub, Divest Oregon, Divest Washington, Earthworks, Food & Water Watch, Friends of the Earth US, Green America, Greenpeace USA, LittleSis, Minnesota Divestment Coalition, Public Citizen, Rainforest Action Network, Sierra Club, Solutions For Our Climate, South Texas Environmental Justice Network, STAND.earth, Strong Economy For All, The Sunrise Project, Urgewald, and Western Environmental Law Center call on private equity firms to implement these demands and reduce climate and financial risks associated with their current and future investments (see the detailed explanation of each demand in Appendix A).

Climate Demands For Private Equity

1. ALIGN WITH SCIENCE-BASED CLIMATE TARGETS TO LIMIT GLOBAL WARMING TO 1.5°C

- Immediately cease investments in fossil fuel expansion
- Cease gas flaring and venting by 2025
- Achieve a fossil-free energy portfolio by 2030
- Retire fossil fuel energy assets by 2030²¹⁷

2. DISCLOSE FOSSIL FUEL EXPOSURE, EMISSIONS, AND IMPACTS

- Disclose all fossil fuel assets and financial estimates and assumptions regarding asset impairment
- Disclose all direct and indirect emissions²¹⁸ and climate-related community impacts

3. REPORT A PORTFOLIO-WIDE ENERGY TRANSITION PLAN

- Disclose a portfolio-wide climate transition plan
- Disclose role of voluntary carbon offsets immediately and cease their utilization by 2025
- Disclose use of carbon removal, carbon utilization and storage, and related technologies
- Disclose comprehensive analyses under various climate warming scenarios and decarbonization timelines

4. INTEGRATE CLIMATE AND ENVIRONMENTAL JUSTICE

- Establish robust due diligence, verification, and grievance redress mechanisms to ensure that all human rights and land rights are respected
- Require all portfolio companies to adopt no-deforestation, no peat, and no exploitation (NDPE) policies
- Develop a just transition program with impacted communities and workers

5. PROVIDE TRANSPARENCY ON POLITICAL SPENDING AND CLIMATE LOBBYING

- Disclose political spending and climate lobbying at asset manager, portfolio company, and trade association level
- Provide transparency on alignment with global standards on responsible corporate climate lobbying

CONCLUSION



The negative impacts of private equity's polluting investments are being felt today. 244 premature deaths a year have been connected to just one coal plant, Blackstone and Arlight's Gavin plant in Ohio.²²⁰ As greenhouse gas emissions continue to trap heat, the global temperature has continued to increase, breaking records month after month.²²¹ According to the US National Oceanic and Atmospheric Administration, April 2024 was Earth's warmest on record and also the 11th-consecutive month of record-breaking global warmth.²²² The National Centers for Environmental Information now calls weather events/climate disasters "billion dollar events." Halfway through 2024, there had already been 15 confirmed weather/climate disaster events with losses exceeding \$1 billion each in the US alone, resulting in the death of 106 people.²²³

In the midst of the climate crisis, substantial change is necessary within the capital markets. Private equity firms, as fiduciaries of billions of dollars of public sector workers' retirement savings, have a responsibility to take more of a leadership role in redirecting flows of capital towards clean energy endeavors that minimize climate and financial risks, and remediating and mitigating harms against

workers and communities as the world transitions away from fossil fuels. But most firms have not.

Private equity asset managers such as Blackstone, Warburg Pincus, Ares, and Apollo have made varying commitments to transition away from fossil fuels in particular funds. These commitments do not offset the firms' current investments in the fossil fuel supply chain. All of the companies have not provided adequate disclosure regarding climate risks, energy holdings, and energy transition plans. Other private equity asset managers such as TPG, Carlyle/NGP, Brookfield/Oaktree, and KKR have refrained from making any concrete commitments around transitioning away from fossil fuels in future funds and similarly lack adequate disclosures.

In June 2024, U.N. Secretary-General António Guterres said he

"urge[s] financial institutions to stop bankrolling fossil fuel destruction and start investing in a global renewables revolution; [t]o present public, credible and detailed plans to transition [funding] from fossil fuels to clean energy with clear targets for 2025 and 2030; [a]nd

to disclose your climate risks – both physical and transitional – to your shareholders and regulators. Ultimately such disclosure should be mandatory.^{224m}

Within this urgent context, long-term institutional investors have the opportunity to urge private equity asset managers to transition away from polluting assets, and to shift capital investments towards viable and credible renewable energy solutions. Regulatory and legislative action can close the loopholes and exemptions in securities laws allowing the private equity industry to raise funds from external investors and operate in crucial public sectors without providing reliable data on the environmental or social impacts of their activities, and can help address the some of the most predatory elements of the private equity playbook including by:

- Making private equity executives and firms liable for the damage they may cause, including environmental violations.
- Revising bankruptcy laws to protect workers and place paid severance and other promised contributions from employers as a higher priority in the bankruptcy process.

- Limiting the executive compensation private equity and portfolio firm executives can take out of companies during bankruptcy.
- Closing tax loopholes that allow private equity magnates to pay lower taxes than essential workers.
- Requiring private equity firms to be transparent about costs and returns, and disclose information regarding political spending, climate and environmental risks, and public funding received by portfolio companies.

Governments can help ensure a just transition by making climate disclosures mandatory for financial institutions and championing a climate industrial policy that spurs clean investment. Private equity firms must be more transparent about holdings, emissions, and impacts, not just with investors, but also the public – as all are impacted by the climate and financial risks of fossil fuels.



APPENDICES

Appendix A: Additional Background On Private Equity Climate Demands

1. ALIGN WITH SCIENCE-BASED CLIMATE TARGETS TO LIMIT GLOBAL WARMING TO 1.5°C:

a. Immediately Cease Fossil Fuel Expansion

- Immediately discontinue all new financing of or investment in fossil fuel companies and/or new projects throughout the value chain.²²⁵

b. Cease Flaring And Venting By 2025

- Flaring by the oil and gas industry is a major source of climate pollution, as it releases pollutants such as carbon dioxide, black soot, and methane.²²⁶ Methane has more than 80 times the warming power of carbon dioxide over the first 20 years after it reaches the atmosphere and it is responsible for at least 25 percent of global warming today.²²⁷ Reducing flaring is among the fastest and most impactful ways to cut global greenhouse gas emissions, though it is critical that the practice is not replaced with venting, which would have even worse climate consequences. For natural gas upstream or midstream assets, end natural gas flaring and venting by 2025, and eliminate all fugitive emissions.²²⁸

c. Achieve Fossil-Free Energy Portfolio By 2030

- Given that private equity typically own portfolio companies for fewer than five years,²²⁹ ensure that a majority of energy holdings are in renewable energy by no later than 2025, with all energy holdings fossil-free by 2030.

d. Retire Fossil Fuel Energy Assets By 2030

- The urgency to limit global warming to 1.5 degrees Celsius was heightened in May 2022, when scientists at the World Meteorological Organization found that the probability of surpassing the 1.5 degrees Celsius threshold in one of the next five years is now 50 percent, having increased from virtually zero percent in 2015.²³⁰ Scientists found in 2021 that the vast majority of fossil fuel reserves owned today must remain in the ground to keep warming to 1.5 degrees Celsius.²³¹ Research published in 2019 found that a pathway that limits warming to 1.5 degrees Celsius would require no additional fossil fuel power stations; plants will have to accelerate retirement plans due to continued overinvestment.²³² The United Nations Intergovernmental Panel on Climate Change's (IPCC) 1.5 degrees Celsius pathway, it is necessary for OECD countries to phase out investments in existing coal power plants by 2030, with all coal investments in other countries following suit by 2040. Asset managers and owners are also advised to end all new fossil fuel exploration and production and shift towards renewable energy.²³³ Thus, private equity managers should align with the IPCC pathway on coal and begin decommissioning oil and gas power plants and pipelines, and cap exploration and production infrastructure and other related fossil fuel assets no later than 2030.²³⁴

2. DISCLOSE FOSSIL FUEL EXPOSURE, EMISSIONS, AND IMPACTS

a. Disclose All Fossil Fuel Assets And Financial Estimates And Assumptions Regarding Asset Impairment

- Disclose all oil, natural gas, and coal assets in the asset manager's equity and credit portfolios,

and financial estimates and assumptions around future commodity prices, cash flows, asset impairment, and asset retirement obligations.

b. Disclose All Direct And Indirect Emissions And Climate-Related Community Impacts

- Disclose all direct and indirect emissions (Scope 1, 2, and 3 as defined by the GHG Protocol and the Partnership for Carbon Accounting Financials [PCAF])²³⁵ in absolute and intensity terms as well as other climate impacts, environmental violations and litigation, and climate-related community impacts for its entire portfolio.
- Report portfolio-wide gross emissions, avoided emission carbon credits, and carbon removal credits separately from one another, without netting. If carbon offsets are purchased, they should be reported separately from greenhouse gas emissions.

3. REPORT A PORTFOLIO-WIDE ENERGY TRANSITION PLAN

a. Disclose A Portfolio-Wide Climate Transition Plan

- Report the asset manager's progress with implementing its climate transition plan throughout the firm's entire portfolio annually, and any adjustments that have been made to original assumptions about the availability of technologies and market conditions. The climate transition plan should include a detailed description of GHG emissions reduction targets, metrics on progress toward those targets, capital expenditures due to climate impacts and for transition activities, and a commitment to increase clean energy investments, year over year.

b. Disclose Role Of Voluntary Offsets Immediately And Cease Their Utilization By 2025

- Offsets markets have significant environmental, accounting, and social integrity problems²³⁶ that jeopardize the fulfillment of corporate climate pledges and can negatively impact marginalized communities.²³⁷ Failure by companies to report their investments in offsets across their investment portfolios and how they will address these integrity problems poses a material risk to investors and the financial system.²³⁸ To address these concerns, private equity asset managers must report details on whether and to what extent the asset manager is transitioning to a net zero investment portfolio through internal decarbonization efforts, by directly investing in carbon removal capacity, or by buying carbon offsets, including:
 - Disclose plan to reduce the use of carbon offsets to zero by 2025.
 - Disclose details about the procurement and holding of offsets in the firm's investment portfolio as well as the GHG emissions reductions achieved and anticipated from these offsets projects.
 - Disclose whether and to what extent it has purchased offsets over the reporting period and retired offsets as compensation for any gross emissions during the reporting period.
 - Disclose the registry number and details of the projects underlying any carbon offsets acquired, and whether emissions were purportedly reduced, avoided, or removed. For removal, indicate the expected time period of emissions storage.
 - While offsets are in use, state all assumptions used to calculate the GHG emissions changes.

c. Disclose Use Of Carbon Removal, Carbon Utilization And Storage, And Related Technologies

- Carbon dioxide removal (CDR) technologies and carbon capture utilization and storage (CCUS) will not be able to address extraction-driven climate and ecological crises at the scale necessary as long as fossil fuels continue to be extracted and burned. Both CDR/CCUS contributes to worsened air quality directly, as the carbon capture process generates toxic pollution through fuel combustion and chemical release, as well as by increasing the lifetime of assets that produce

toxic air pollutants, disproportionately harming disadvantaged, and other environmental justice communities.²³⁹ Moreover, as nearly all captured carbon to date has been used for enhanced oil recovery, CDR/CCUS may ultimately increase emissions overall when additional oil production is considered. As such, private equity managers and their portfolio companies should disclose any use of carbon dioxide removal, carbon capture utilization and storage, and related technologies. They should also disclose plans to reduce investment in CDR/CCUS and instead plan to meet GHG targets through bonafide emission reductions.

d. Disclose Comprehensive Analyses Under Various Climate Warming Scenarios

- Disclose a comprehensive climate risk management strategy under a 1.5 degrees Celsius global warming scenario consistent with science-based emissions targets, as well as scenarios above 1.5 degrees Celsius, including at least 2 degrees Celsius and 3 degrees Celsius, assuming both orderly and disorderly transition scenarios, as outlined by the Network for Greening the Financial System.²⁴⁰

4. INTEGRATE CLIMATE AND ENVIRONMENTAL JUSTICE

a. Establish Robust Due Diligence, Verification, And Grievance Redress Mechanisms To Ensure That All Human Rights And Land Rights Are Respected

- Establish robust due diligence, verification, and grievance redress mechanisms to ensure that all human rights are respected, particularly the rights of Indigenous peoples, including their rights to their water and lands and the right to Free, Prior, and Informed Consent, as articulated in the UN Declaration on the Rights of Indigenous Peoples,²⁴¹ and ensure that ongoing community impacts are monitored.

b. Require All Portfolio Companies To Adopt No-Deforestation, No Peat, And No Exploitation (NDPE) Policies

- Forests not only source the livelihoods for 22 percent of humanity, but they also absorb 40 percent of greenhouse emissions.²⁴² Asset managers should prohibit financing or investment in any company or asset that involves the degradation or loss of natural forests or other natural ecosystems, with particular emphasis on peatlands, or any company that fails to comply with a No Deforestation, No Peatland, No Exploitation (NDPE) policy at a corporate group level.²⁴³ Reducing deforestation and the degradation of natural ecosystems protects critical carbon sinks. Any expansion of industrial-scale forestry, agriculture, or commodity production that directly or indirectly results in forest degradation and deforestation, new infrastructure in Intact Forest Landscapes, or violations of the rights of Indigenous Peoples, is incompatible with the Paris Agreement.²⁴⁴ Companies expanding the production and use of fossil fuels or the degradation of ecosystems, or that are violating human rights, cannot be regarded as transitioning toward climate alignment.²⁴⁵ As such, asset managers should eliminate deforestation, conversion, and associated human rights abuses from their portfolios by 2025.²⁴⁶

c. Develop A Just Transition Program With Impacted Communities And Workers

- Engage with impacted communities to develop a just transition program both for the workforces facing dislocation from the energy transition, and communities impacted by current fossil fuel holdings to ensure remediation of health and environmental harms, including land use changes and deforestation, infringement of land rights and the rights of Indigenous peoples, natural resource extraction, disruption to local economies, air and water pollution, harm to public health and safety, and worker dislocation.²⁴⁷

5. PROVIDE TRANSPARENCY ON POLITICAL SPENDING AND CLIMATE LOBBYING

a. Disclose Political Spending And Climate Lobbying At Asset Manager, Portfolio Company, And Association Level

- Companies should be consistent in their policy engagement in all geographic regions and they should ensure any engagement conducted on their behalf or with their support is aligned with restricting global warming to the 1.5 degrees Celsius scenario. As such asset managers must annually disclose the political spending and climate lobbying of:
 - the asset manager and its executives;
 - its portfolio companies and their executives;
 - of the associations, alliances, coalitions, or think tanks of which it is a member or to which it provides support.²⁴⁸

b. Provide Transparency On Alignment With Global Standards On Responsible Corporate Climate Lobbying

- Provide transparency on the asset manager's alignment with the Global Standard on Responsible Corporate Climate Lobbying including:
 - Make a public commitment to align all climate change lobbying for the asset manager, its subsidiaries, and associations, alliances, and coalitions of which it is a member with the goal of restricting global temperature rise to 1.5 degrees Celsius above pre-industrial levels
 - Establish an annual monitoring and review process to ensure that all direct and indirect climate change lobbying activities across all geographies are consistent with the goal of restricting global temperature rise to 1.5 degrees Celsius above pre-industrial levels
 - Establish a clear framework for addressing misalignments between the climate change lobbying positions adopted by the associations, alliances and coalitions of which it is a member and the goal of restricting global temperature rise to 1.5 degrees Celsius above pre-industrial levels

Climate Demands For Private Equity Scoring Rubric

Immediately discontinue the financing of or investment in new fossil fuel companies or projects throughout the value chain.

Cease gas flaring and venting by 2025

Commit to achieve a fossil-free energy portfolio by 2030.

Phase out existing coal power investments by 2030 in OECD countries, with all coal investments in other countries following suit by 2040.

Carlyle/NGP	No
Brookfield/Oaktree	No
Blackstone	Partial
KKR	No
Warburg Pincus	Partial
Apollo	Partial
Ares	Partial
TPG	No
MacQuarie	No
EQT	No
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	No
Quantum Capital Group	No
Arclight	No

Carlyle/NGP	No
Brookfield/Oaktree	No
Blackstone	No
KKR	No
Warburg Pincus	No
Apollo	No
Ares	No
TPG	No
MacQuarie	No
EQT	No
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	No
Quantum Capital Group	No
Arclight	No

Carlyle/NGP	No
Brookfield/Oaktree	No
Blackstone	No
KKR	No
Warburg Pincus	No
Apollo	No
Ares	No
TPG	No
MacQuarie	No
EQT	No
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	No
Quantum Capital Group	No
Arclight	No

Carlyle/NGP	Partial
Brookfield/Oaktree	Partial
Blackstone	No
KKR	No
Warburg Pincus	Partial
Apollo	Partial
Ares	No
TPG	Partial
MacQuarie	Partial
EQT	Partial
IFM	Yes
Global Infrastructure Partners	No
BlackRock Private Equity Partners	Partial
Stonepeak	Partial
I Squared	Partial
Encap	Partial
Kayne Anderson	Partial
EIG	Partial
Energy Capital Partners	Partial
Quantum Capital Group	Partial
Arclight	No

Begin decommissioning oil and gas power plants and pipelines, and capping exploration and production infrastructure, and other related fossil fuel assets no later than 2030.

Disclose all oil, natural gas, and coal assets in the asset manager's equity and credit portfolios, and financial estimates and assumptions around future commodity prices, cash flows, asset impairment, and asset retirement obligations.

Disclose Scope 1, 2, and 3 (as defined by the GHG Protocol and the Partnership for Carbon Accounting Financials [PCAF]) in absolute and intensity terms as well as other climate impacts, environmental violations and litigation, and climate-related community impacts for its entire portfolio

Report gross emissions, avoided emission carbon credits, and carbon removal credits separately from one another, without netting. If carbon offsets are purchased, they should be reported separately from greenhouse gas emissions.

Carlyle/NGP	No	Carlyle/NGP	No	Carlyle/NGP	Partial	Carlyle/NGP	No
Brookfield/Oaktree	No	Brookfield/Oaktree	No	Brookfield/Oaktree	Partial	Brookfield/Oaktree	No
Blackstone	No	Blackstone	No	Blackstone	Partial	Blackstone	No
KKR	No	KKR	No	KKR	Partial	KKR	No
Warburg Pincus	No	Warburg Pincus	No	Warburg Pincus	Partial	Warburg Pincus	No
Apollo	No	Apollo	No	Apollo	Partial	Apollo	No
Ares	No	Ares	No	Ares	Partial	Ares	No
TPG	No	TPG	No	TPG	Partial	TPG	No
MacQuarie	No	MacQuarie	No	MacQuarie	Partial	MacQuarie	No
EQT	No	EQT	No	EQT	Partial	EQT	No
IFM	No	IFM	No	IFM	Partial	IFM	No
Global Infrastructure Partners	No	Global Infrastructure Partners	No	Global Infrastructure Partners	No	Global Infrastructure Partners	No
BlackRock Private Equity Partners	No	BlackRock Private Equity Partners	No	BlackRock Private Equity Partners	Partial	BlackRock Private Equity Partners	No
Stonepeak	No	Stonepeak	No	Stonepeak	Partial	Stonepeak	No
I Squared	No	I Squared	No	I Squared	No	I Squared	No
Encap	No	Encap	No	Encap	No	Encap	No
Kayne Anderson	No	Kayne Anderson	No	Kayne Anderson	Partial	Kayne Anderson	No
EIG	No	EIG	No	EIG	Yes	EIG	No
Energy Capital Partners	No	Energy Capital Partners	No	Energy Capital Partners	Partial	Energy Capital Partners	Yes
Quantum Capital Group	No	Quantum Capital Group	No	Quantum Capital Group	Partial	Quantum Capital Group	No
Arclight	No	Arclight	No	Arclight	Partial	Arclight	No

Report progress with implementing climate transition plan throughout the firm's entire portfolio annually, and any adjustments that have been made to original assumptions about the availability of technologies and market conditions.

Report a detailed description of GHG emissions reductions targets, and metrics on progress toward those targets

Report capital expenditures due to climate impacts and for transition activities.

Commit to increase clean energy investments, year over year.

Carlyle/NGP	<u>Partial</u>
Brookfield/Oaktree	<u>Partial</u>
Blackstone	<u>Partial</u>
KKR	No
Warburg Pincus	No
Apollo	<u>Partial</u>
Ares	<u>Partial</u>
TPG	<u>Partial</u>
MacQuarie	<u>Yes</u>
EQT	<u>Yes</u>
IFM	<u>Yes</u>
Global Infrastructure Partners	<u>Partial</u>
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	<u>Partial</u>
EIG	<u>Yes</u>
Energy Capital Partners	No
Quantum Capital Group	<u>Partial</u>
Arclight	No

Carlyle/NGP	<u>Partial</u>
Brookfield/Oaktree	<u>Partial</u>
Blackstone	<u>Partial</u>
KKR	<u>Partial</u>
Warburg Pincus	No
Apollo	No
Ares	No
TPG	No
MacQuarie	<u>Yes</u>
EQT	<u>Partial</u>
IFM	<u>Partial</u>
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	No
Quantum Capital Group	<u>Partial</u>
Arclight	No

Carlyle/NGP	No
Brookfield/Oaktree	No
Blackstone	No
KKR	No
Warburg Pincus	No
Apollo	No
Ares	No
TPG	No
MacQuarie	No
EQT	No
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	<u>Partial</u>
Energy Capital Partners	No
Quantum Capital Group	No
Arclight	No

Carlyle/NGP	No
Brookfield/Oaktree	<u>Partial</u>
Blackstone	<u>Partial</u>
KKR	No
Warburg Pincus	No
Apollo	<u>Yes</u>
Ares	No
TPG	No
MacQuarie	<u>Partial</u>
EQT	<u>Yes</u>
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	<u>Partial</u>
Stonepeak	<u>Partial</u>
I Squared	No
Encap	No
Kayne Anderson	<u>Partial</u>
EIG	<u>Yes</u>
Energy Capital Partners	<u>Partial</u>
Quantum Capital Group	No
Arclight	No

Disclose plan to reduce use of carbon offsets to zero by 2025

Disclose details about the procurement and holding of offsets as well as the GHG emissions reductions achieved and anticipated from these offsets projects.

Disclose whether and to what extent the private equity firm and its portfolio company has purchased offsets over the reporting period and retired offsets as compensation for any gross emissions during the reporting period.

Disclose the registry number and details of the projects underlying any carbon offsets acquired, and whether emissions were purportedly reduced, avoided, or removed. For removal, indicate the expected time period of emissions storage.

Carlyle/NGP	No
Brookfield/Oaktree	No
Blackstone	No
KKR	No
Warburg Pincus	No
Apollo	No
Ares	No
TPG	No
MacQuarie	Yes
EQT	No
IFM	Yes
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	Yes
Quantum Capital Group	No
Arclight	No

Carlyle/NGP	No
Brookfield/Oaktree	No
Blackstone	No
KKR	No
Warburg Pincus	No
Apollo	No
Ares	No
TPG	No
MacQuarie	No
EQT	No
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	No
Quantum Capital Group	No
Arclight	No

Carlyle/NGP	Partial
Brookfield/Oaktree	Partial
Blackstone	No
KKR	Partial
Warburg Pincus	Partial
Apollo	No
Ares	Partial
TPG	Partial
MacQuarie	Yes
EQT	No
IFM	Yes
Global Infrastructure Partners	No
BlackRock Private Equity Partners	Partial
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	Partial
EIG	No
Energy Capital Partners	Yes
Quantum Capital Group	Partial
Arclight	No

Carlyle/NGP	Partial
Brookfield/Oaktree	No
Blackstone	No
KKR	Partial
Warburg Pincus	Partial
Apollo	No
Ares	Partial
TPG	Partial
MacQuarie	Partial
EQT	No
IFM	Yes
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	Partial
Quantum Capital Group	No
Arclight	No

While offsets are in use, state all assumptions used to calculate the GHG emissions changes

Disclose private equity firm level and portfolio company level use of carbon dioxide removal, carbon capture utilization and storage (CDR/ CCUS), and related technologies.

Disclose plans to reduce investment in CDR/ CCUS and instead plan to meet GHG targets through bonafide emission reductions.

Disclose a comprehensive climate risk management strategy under a 1.5 degrees Celsius global warming scenario consistent with science-based emissions targets.

Carlyle/NGP	No
Brookfield/Oaktree	No
Blackstone	No
KKR	No
Warburg Pincus	No
Apollo	No
Ares	No
TPG	Partial
MacQuarie	No
EQT	No
IFM	Yes
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	Partial
Quantum Capital Group	No
Arclight	No

Carlyle/NGP	No
Brookfield/Oaktree	No
Blackstone	No
KKR	No
Warburg Pincus	No
Apollo	No
Ares	No
TPG	No
MacQuarie	No
EQT	No
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	No
Quantum Capital Group	No
Arclight	No

Carlyle/NGP	No
Brookfield/Oaktree	No
Blackstone	No
KKR	No
Warburg Pincus	No
Apollo	No
Ares	No
TPG	No
MacQuarie	No
EQT	No
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	No
Quantum Capital Group	No
Arclight	No

Carlyle/NGP	No
Brookfield/Oaktree	Partial
Blackstone	No
KKR	Partial
Warburg Pincus	No
Apollo	Partial
Ares	No
TPG	Partial
MacQuarie	Yes
EQT	No
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	Yes
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	No
Quantum Capital Group	No
Arclight	No

Disclose a comprehensive climate risk management strategy for scenarios above 1.5 degrees Celsius, including at least 2 degrees Celsius and 3 degrees Celsius, assuming both orderly and disorderly transition scenarios, as outlined by the Network for Greening the Financial System.

Establish robust due diligence, verification, and grievance redress mechanisms to ensure that all human rights are respected, particularly the rights of Indigenous peoples, including their rights to their water and lands and the right to Free, Prior, and Informed Consent, as articulated in the UN Declaration on the Rights of Indigenous Peoples, and ensure that ongoing community impacts are monitored.

Prohibit financing or investment in any company or asset that involves the degradation or loss of natural forests or other natural ecosystems, with particular emphasis on peatlands, or any company that fails to comply with a No Deforestation, No Peatland, No Exploitation (NDPE) policy at a corporate group level.

Eliminate deforestation, forest conversion, and associated human rights abuses from their portfolios by 2025.

Carlyle/NGP	No
Brookfield/Oaktree	Partial
Blackstone	No
KKR	Partial
Warburg Pincus	No
Apollo	Partial
Ares	No
TPG	No
MacQuarie	Yes
EQT	No
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	Yes
Stonepeak	Partial
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	No
Quantum Capital Group	No
Arclight	No

Carlyle/NGP	No
Brookfield/Oaktree	No
Blackstone	No
KKR	No
Warburg Pincus	Partial
Apollo	No
Ares	No
TPG	No
MacQuarie	No
EQT	No
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	No
Quantum Capital Group	No
Arclight	No

Carlyle/NGP	No
Brookfield/Oaktree	No
Blackstone	No
KKR	No
Warburg Pincus	No
Apollo	No
Ares	No
TPG	No
MacQuarie	No
EQT	No
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	No
Quantum Capital Group	No
Arclight	No

Carlyle/NGP	No
Brookfield/Oaktree	No
Blackstone	No
KKR	No
Warburg Pincus	No
Apollo	No
Ares	No
TPG	No
MacQuarie	No
EQT	No
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	No
Quantum Capital Group	No
Arclight	No

Engage with impacted communities to develop a just transition program both for the workforces facing dislocation from the energy transition, and communities impacted by current fossil fuel holdings to ensure remediation of health and environmental harms, including land use changes and deforestation, infringement of land rights and the rights of Indigenous peoples, natural resource extraction, disruption to local economies, air and water pollution, harm to public health and safety, and worker dislocation.

Annually disclose the political spending and climate lobbying of the asset manager and its executives; its portfolio companies and their executives; of the associations, alliances, coalitions or think tanks of which it is a member or to which it provides support.

Provide transparency on the asset manager's alignment with the Global Standard on Responsible Corporate Climate Lobbying.

Carlyle/NGP	No
Brookfield/Oaktree	Partial
Blackstone	No
KKR	No
Warburg Pincus	No
Apollo	No
Ares	No
TPG	No
MacQuarie	No
EQT	No
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	No
Quantum Capital Group	No
Arclight	No

Carlyle/NGP	No
Brookfield/Oaktree	No
Blackstone	No
KKR	No
Warburg Pincus	No
Apollo	No
Ares	No
TPG	No
MacQuarie	Partial
EQT	No
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	No
Quantum Capital Group	No
Arclight	No

Carlyle/NGP	No
Brookfield/Oaktree	No
Blackstone	No
KKR	No
Warburg Pincus	No
Apollo	No
Ares	No
TPG	No
MacQuarie	No
EQT	No
IFM	No
Global Infrastructure Partners	No
BlackRock Private Equity Partners	No
Stonepeak	No
I Squared	No
Encap	No
Kayne Anderson	No
EIG	No
Energy Capital Partners	No
Quantum Capital Group	No
Arclight	No

Appendix B: Firms' Energy Holdings

In the Private Equity Climate Risks Scorecard, the rows containing the number of fossil fuel companies and the percent fossil fuel companies in the energy portfolio are based on the “Private Equity Energy Tracker” that examines the energy holdings for 21 of the world’s largest alternative asset managers. To compile energy holding for private equity firms, the authors of the report drew on information from Pitchbook, Securities and Exchange Commission (SEC) filings, company web pages, press releases, news stories, and other sources.

These are the energy investments for the 21 firms included in the scorecard as of the end of the July 2024:

Table 1: Energy Holdings for the 21 Private Equity Firms Included in the Scorecard (by Number of Fossil Fuel Companies)

Private Equity Firm	Number of Fossil Fuel Companies Held	Number of Renewable Companies Held	Total Number of Energy Companies	Percent Fossil Fuels
Encap/Encap Flatrock Midstream	34	5	39	87%
Brookfield (Oaktree)	29	29	58	50%
Carlyle (NGP)	23	7	30	77%
EIG	23	13	28	82%
KKR	19	10	29	66%
Quantum Energy Partners	18	1	19	95%
Arclight	17	4	21	81%
Blackstone	17	3	20	85%
I Squared	15	4	19	79%
Ares	14	4	18	78%
Kayne Anderson	14	2	16	88%
Global Infrastructure Partners	13	9	22	59%
Warburg Pincus	13	1	14	93%
Stonepeak	10	4	14	71%
Blackrock PE	9	28	37	24%
Energy Capital Partners	9	5	14	64%
MacQuarie	9	5	14	64%
IFM	8	2	10	80%
Apollo	3	2	5	60%
TPG	3	5	8	38%
EQT	1	5	6	17%

Private equity firms do not consistently report information about their holdings, including those in the energy sector. The scorecard analyzes 21 firms with some of the largest energy portfolios and provides a description of their energy holdings and ability to meet the Private Equity Climate Demands based on publicly available information, which means that the data in the scorecard may undercount energy holdings and may be incomplete. The absence of regulatory guidance on reporting energy holdings means that publicly available information is not standardized among firms. Similarly, there is no single regulatory standard for disclosing climate commitments and, therefore, each firm may develop its own climate policies.

Appendix C: Scorecard Methodology

The Private Equity Climate Risks Scorecard is a composite measure summarizing three dimensions along private equity firms' portfolios: their portfolio exposure to fossil fuel energy; direct contribution to the climate crisis; and existing commitments to transparency, decarbonization, and a just energy transition. These three dimensions are captured in four indicators—three quantitative indicators regarding the fossil fuel energy exposure, and one indicator reflecting an assessment of each asset manager's alignment with the Climate Demands for Private Equity.²⁴⁹ The values of the indicators were normalized, and aggregated into a single score for each private equity firm.

Indicators

The four indicators are (1) the number of fossil fuel portfolio companies as of the end of July 2024; (2) the share of fossil fuels in the energy portfolio (relative to renewables); (3) the estimated annual carbon dioxide emissions from upstream operations, LNG terminals, and coal-fired power plants and (4) the alignment with the Climate Demands For Private Equity. The first three indicators allow us to better understand the extent and impact of the firms included in this report across the portfolio exposure and contribution to climate change dimensions. The fourth indicator, covering the commitments dimension, is a qualitative metric based on a set of 27 sub-demands that private equity asset managers should implement to reduce climate, environmental, and financial risks associated with their current and future energy investments. The sub-demands are grouped into the following five primary demands: alignment with science-based climate targets to limit global warming to 1.5 degrees Celsius; disclose fossil fuel exposure, emissions, and impacts; report portfolio-wide energy transition plan; integrate climate and environmental justice; and provide transparency on political spending and climate lobbying. These indicators were selected by a combination of expert opinion and analysis and the limited relevant and consistent data available for the private equity industry—which operates with minimal disclosure requirements regarding its portfolio holdings at the fund level.²⁵⁰

Normalization

The values for the indicators were normalized using a min-max method. This is a common method frequently used in composite indices, including prominent measures like the Human Development Index,²⁵¹ when data is expressed in different units of measurement (e.g., percentages, number of companies, metric tons). The min-max normalization converts the indicators into values ranging from 0 to 1 by subtracting the minimum possible value for that indicator and dividing it by the range of the indicator values. This enables us to compare “apples to apples.” The selected minimum and maximum goal posts for each indicator are established as shown in Table 1:

Table 1: Minimum and Maximum Values For Each Indicator

Indicator	Minimum	Maximum
Number of Fossil Fuel Companies	0	34
Share Of Fossil Fuel Companies In Energy Portfolio (%)	0	100
Total Emissions (tCO ₂ e) ²⁵²	0	271,825,532
Alignment with the Climate Demands for Private Equity	0	54

The justification for establishing zero as the minimum possible value for each of the indicators is because these companies potentially could have a fossil fuel-free energy portfolio with no carbon dioxide emissions if they chose to do so and could be completely aligned with the set of climate demands.

Since the potential number of fossil fuel portfolio companies and carbon dioxide emissions that each private equity firm could have is unlimited, the maximum values for those indicators are set to the largest observed values from the sample of firms in this report (34 companies and 271,825,532 metric tons, respectively). The maximum value of 100 percent is set for the share of fossil fuels in the energy portfolio because the private equity firms could potentially have their entire energy portfolio composed of fossil fuel companies.

Before normalizing the indicator capturing alignment with the set of Climate Demands for Private Equity, we first evaluated each firm’s compliance with each of the sub-27 demands under the five primary demands (see Appendix B) and scored them on the following scale (see Table 2):

Table 2: Scoring Rubric for Climate Demands

Climate Demand Alignment Progress	Score
No known commitments to accomplish the Private Equity Climate Demand	0
Partial policies to meet the Private Equity Climate Demand	1
Alignment with Private Equity Climate Demand	2

Thus, for the Climate Demands for Private Equity indicator, the maximum possible score is 54 (27 sub-demands multiplied by 2, indicating complete alignment with the sub-demands) and the minimum possible value is 0 (indicating zero alignment with any of the sub-demands). To make it easier for readers we present the alignment with the Climate Demands in the firms’ summaries above as the percentage of the total possible points (score/54).

Technically, we can express the normalization of the fossil fuel holdings and emissions indicators as:

$$I_c^q = \frac{x_c^q - \min(x_q)}{\max(x_q) - \min(x_q)}$$

where:

I_c^q is the normalized value of indicator q for private equity company c ;

x_c^q is the actual value of indicator q for company c ;

$\min(x_q)$ is the minimum potential value of the indicator q across all private equity firms;

and,

$\max(x_q)$ is the maximum observed/potential value of the indicator q across all private equity firms.

Unlike the other indicators, for the indicator capturing alignment with the Climate Demands, a higher score is more desirable—i.e., the higher the score, the more in compliance with the demands. In order to maintain consistency in the directionality with the other indicators (where a larger value represents a harmful effect of a firm’s portfolio), the demands indicator is then normalized by:

$$I_{qc}^t = 1 - \frac{x_{qc}^t - \min(x_q)}{\max(x_q) - \min(x_q)}$$

The directionality of the Climate Demands indicator is reversed during the normalization, meaning that the normalized indicator is expressing the degree to which the private equity firms are out of compliance with the set of demands. In other words, a normalized value of 1 means that the company is not complying with any of the demands and the closer to a normalized value of zero, the more the company is in alignment with the demands.

In calculating a composite score, each indicator is weighed equally.

Aggregation and Weights

The normalized indicators were aggregated by a simple arithmetic mean to arrive at the final score for each private equity company. Using the arithmetic mean is both one of the most frequently used methods in the construction of composite indices,²⁵³ and it offers us the advantage of avoiding scores of zero.²⁵⁴

The arithmetic mean is the sum of the numerical values of each normalized indicator, divided by the number of indicators.

Here are the results of the aggregation process for each private equity firm (see Table 3):

Table 3: Private Equity Aggregated Score And Grade

Private Equity Firms	SCORES (arithmetic mean)	GRADE
Apollo Global Management	0.39	B
ArcLight	0.62	D
Ares Management	0.55	C
BlackRock (PE)	0.44	C
Blackstone	0.60	C
Brookfield/Oaktree	0.74	D
Carlyle/NGP	0.78	D
EIG	0.84	F
Encap/Encap Flatrock	0.80	D
Energy Capital Partners	0.43	C
EQT	0.27	B
Global Infrastructure Partners	0.51	C
I Squared	0.55	C
IFM	0.46	C
Kayne Anderson	0.61	D
KKR	0.59	C
MacQuarie	0.40	B
Quantum Energy Partners	0.74	D
Stonepeak Infrastructure Partners	0.49	C
TPG	0.33	B
Warburg Pincus	0.57	C

The scale for the grade is as follows (see Table 4):

Table 4: Private Equity Score Ranking Scale

Ranking Scale
F = > 0.80
D = 0.61 - 0.80
C = 0.41 - 0.60
B = 0.21 - 0.40
A = 0 - 0.20

The Carlyle Group/NGP Capital Partners Example

To further illustrate the scorecard methodology, here is an example of how the score for Carlyle/NGP was calculated.

1. Table 5 shows where Carlyle/NGP stands on the four indicators:

Table 5: Carlyle/NGP's Assessment

Number of Fossil Fuel Companies	% Of Fossil Fuels In Energy Portfolio	Total Est. Annual tCO ₂ e Emissions (upstream, LNG, coal)	Alignment with Climate Demands
23	77%	215,533,474	6 out 54 (11%)

Carlyle/NGP made partial progress on private equity climate sub-demand: “Phase out existing coal power investments by 2030 in OECD countries, with all coal investments in other countries following suit by 2040,” because it has no coal power investments at present. It has disclosed its operational emissions,²⁵⁵ which partially meets Demand 2.2, “Disclose Scope 1, 2, and 3 (as defined by the GHG Protocol and the Partnership for Carbon Accounting Financials [PCAF]) in absolute and intensity terms as well as other climate impacts, environmental violations and litigation, and climate-related community impacts for its entire portfolio,” and it received a score of 1 out of 2 for this sub-demand. Twenty-two out of 88 portfolio companies Carlyle deems in-scope have Paris-aligned goals, giving it a score of 1 out 2 for sub-demand 3.1: “Report progress with implementing climate transition plan throughout the firm’s entire portfolio annually, and any adjustments that have been made to original assumptions about the availability of technologies and market conditions” and another 1 out 2 for sub-demand 3.2: “Report a detailed description of GHG emissions reductions targets, and metrics on progress toward those targets.” Carlyle reports that it has purchased carbon offsets and describes some of the projects,²⁵⁶ giving it a partial score of 1 out of 2 on both sub-demands 3.7 (“Disclose whether and to what extent the private equity firm and its portfolio company has purchased offsets over the reporting period and retired offsets as compensation for any gross emissions during the reporting period”) and 3.8 (“Disclose the registry number and details of the projects underlying any carbon offsets acquired, and whether emissions were purportedly reduced, avoided, or removed. For removal, indicate the expected time period of emissions storage.”) This gave it a total demand metrics score of six out of a maximum of 54 (or 11 percent). (See complete list of demands in Appendix B).

2. Each indicator was then normalized, according to the process outlined above.

Carlyle/NGP's estimated annual emissions from the carbon-intensive assets included in this report (coal, LNG, upstream) is 215,533,474 tCO₂e. The maximum observed within our sample is 271,825,532 tCO₂e (by EIG). Thus, Carlyle/NGP's normalized emissions value is as follows:

$$\text{Normalized Emissions Value} = \frac{215,533,474 - 0}{271,825,532 - 0} = 0.79$$

$$\text{Normalized Climate Demands Value} = 1 - \frac{6 - 0}{54 - 0} = 0.89$$

The normalized values for each of Carlyle/NGP's indicators are as follows (see Table 6):

Table 6: Normalized Values For Each Carlyle/NGP Indicator

Number of Fossil Fuel Companies	% Of Fossil Fuels In Energy Portfolio	Total Est. Annual tCO ₂ e Emissions (upstream, LNG, coal)	Climate Demands
0.77	0.68	0.79	0.89

3. In the aggregation process, a simple arithmetic mean of the unweighted normalized indicators is calculated:

$$Y_{\text{Carlyle}} = \frac{(0.77 + 0.68 + 0.79 + 0.89)}{4} = 0.78$$

Y_{Carlyle} is the total aggregate score for the private equity firms The Carlyle Group and NGP.

Emissions Estimates

Asset Verification

Once financial deal and portfolio company information are verified with a given private equity firm, the next step of the research process is to identify the assets currently owned by portfolio companies. This is accomplished by searching through a variety of online sources including company websites, news articles, press releases, corporate financial reports, and government databases including those from the Environmental Protection Agency (the FLIGHT tool and the ECHO database), the Energy Information Administration (Form 860), and the Pipeline and Hazardous Materials Safety Administration, Global Energy Monitor's Trackers, Climate Trace, Urgewald's Global Oil and Gas Exit List and Investing in Climate Chaos databases, ShaleXP, and others. Asset lists were shared with all of the firms, along with the request that the firms correct any errors and/or omissions. Some firms responded and provided corrections.

Emissions Scope

Private equity firms have impacts on the climate through both their corporate operations and their investment portfolios through direct and indirect emissions.²⁵⁷ The investment portfolio typically has far, far greater impacts, and accounts for around 99 percent of emissions. To capture the entire emissions footprint of private equity firm activities, the PECR project believes that scopes 1, 2, and 3 emissions should be disclosed both at the firm level and across the full investment portfolio.²⁵⁸

To capture the climate impacts from a PE firm's most carbon-intensive activities, our research activities typically focus on a subset of the investment portfolio—the fossil fuels assets of portfolio companies. We look at the emissions associated with upstream, midstream, and downstream energy infrastructure, including stationary combustion, fugitive emissions, and process emissions from portfolio companies. This means that there are elements of Scope 1 and 2 emissions from portfolio companies not included, such as the emissions associated with electricity and HVAC in their offices, and that we also exclude Scope 3 emissions related to the downstream portfolio. Thus, the emissions from a PE firm's energy and infrastructure portfolio companies calculated by this project do not represent the firm's total emissions, but more than likely represent the majority of portfolio company emissions from that PE firm for the particular asset class in question (e.g. Upstream oil and gas, LNG terminals, Coal-fired power plants).

All firms were asked for emissions data related to the firm's assets. None of the firms provided emissions data.

Upstream Fossil Fuel Extraction

The upstream oil and gas emissions are calculated utilizing RMI's OCI+ database on oil and gas supply chain emissions.²⁵⁹ Upstream and embedded fuel emissions factors by basin are utilized. Where a specific basin is not available in the database, we source the closest nearby basin in the OCI database. When we do not have information on a particular basin owned by the portfolio company, an average of all upstream emissions factors for basins that the PE firm in question invested in is applied. Additional upstream data is cross-referenced from Carbon Tracker Initiative using Rystad Energy data, which uses emissions factors that are broadly in line with the IPCC's Guidelines for National Greenhouse Gas Inventories.^{260, 261, 262}

Emissions estimates for coal mines were derived from methods utilized by **Global Energy Monitor's Global Coal Mine Tracker**. The emissions within the embedded coal were counted and estimated using eGRID emissions factors, presuming that the coal would ultimately be burned for power or steel making purposes. Additional methods were used to estimate carbon dioxide²⁶³ and methane²⁶⁴ emissions from coal extraction activities.

LNG Terminals

For LNG export terminals, the emissions factor for the LNG liquefaction process is an average of five emissions factors from a 2020 NRDC study on lifecycle emissions of LNG.²⁶⁵ This same study also included emissions factors for LNG import terminals, which perform the regasification process. In both instances, we only focused on the process emissions (liquefaction and regasification), and omitted embedded fuel emissions.

Coal-Fired Power Plants

For downstream power plants, we collect plant capacity from public sources (such as news articles, financial reports, and company websites) and then apply average emissions factors by plant type from EIA's Electric Power Monthly's "Chapter 6. Capacity" data.²⁶⁶ This results in estimated generation values, which are then used in conjunction with the EPA eGRID emissions factors based on plant type to calculate more accurate emissions estimates. Where coal plants operators listed coal/biomass co-firing targets, we assumed that no biomass was used at this time.

Preventing Double Counting of Emissions

Given that this study only focused on a handful of asset classes, there were theoretically just two instances where double counting of emissions could occur. One was associated with the lone coal mine in the database and coal fired power plants. The private equity firm which invested in the coal mine did not also invest in coal fired power plants though, so no double counting occurred. The other instance where measures were in fact implemented to prevent double counting was with upstream oil and gas and LNG

terminals. The reason that there might be double counting is because the RMI OCI+ emissions factors utilized for upstream oil and gas does include LNG process emissions for basins that commonly feed LNG supply chains, and because in this dataset there are private equity firms that are invested in both assets in upstream oil and gas basins and LNG terminals that are located downstream from those same basins. Where this did occur, the estimated oil and gas production figures were utilized to estimate corresponding LNG emissions, and these emissions were removed from the upstream totals from that basin for that particular private equity firm.

ENDNOTES

- 1 Tabuchi, Hiroko. 2021. "Private Equity Funds, Sensing Profit in Tumult, Are Propping up Oil." The New York Times, October 13, 2021, sec. Climate. <https://www.nytimes.com/2021/10/13/climate/private-equity-funds-oil-gas-fossil-fuels.html>
- 2 Smith, Adam. 2024. "2023: A Historic Year of US Billion-Dollar Weather and Climate Disasters | NOAA Climate.gov." [www.climate.gov](https://www.climate.gov/news-features/blogs/beyond-data/2023-historic-year-us-billion-dollar-weather-and-climate-disasters). January 8, 2024. <https://www.climate.gov/news-features/blogs/beyond-data/2023-historic-year-us-billion-dollar-weather-and-climate-disasters>.
- 3 Lim, Dawn, and David Brooke. 2022. "Private Market Boom: How Private Equity and Private Credit Have Grown." [Bloomberg.com](https://www.bloomberg.com/news/articles/2022-06-14/how-the-boom-in-private-markets-has-changed-finance-quicktake). Bloomberg. June 14, 2022. <https://www.bloomberg.com/news/articles/2022-06-14/how-the-boom-in-private-markets-has-changed-finance-quicktake>.
- 4 Giachino, Alyssa, and Riddhi Mehta-Neugebauer. 2021. "Private Equity Propels the Climate Crisis", Private Equity Stakeholder Project, October 2021, https://pestakeholder.org/wp-content/uploads/2021/10/PESP_SpecialReport_ClimateCrisis_Oct2021_Final.pdf
- 5 "Private Equity Energy Tracker - Private Equity Climate Risks." 2024. Private Equity Climate Risks. January 30, 2024. <https://peclimaterisks.org/peenergytracker/>. Accessed July 2024.
- 6 The Economist. 2022. "Who Buys the Dirty Energy Assets Public Companies No Longer Want?" The Economist. February 12, 2022. <https://www.economist.com/finance-and-economics/who-buys-the-dirty-energy-assets-public-companies-no-longer-want/21807594>.
- 7 IPCC. 2022. "Climate Change 2022: Impacts, Adaptation and Vulnerability." IPCC Sixth Assessment Report. IPCC. 2022. <https://www.ipcc.ch/report/ar6/wg2/>; Kelly, Stephanie. 2021. "About half of US oil pipeline space is empty after boom time building spree," Reuters, December 15, 2021, <https://www.reuters.com/markets/commodities/about-half-us-oil-pipeline-space-is-empty-after-boom-time-building-spre-2021-12-16/>; Lindwall, Courtney. 2022. "IPCC Climate Change Reports: Why They Matter to Everyone on the Planet," NRDC. July 20, 2022. <https://www.nrdc.org/stories/ipcc-climate-change-reports-why-they-matter-everyone-planet#sec-latest>
- 8 Ward Jr., Ken, Alex Mierjeski, and Scott Pham. 2023. "In the Game of Musical Mines, Environmental Damage Takes a Back Seat" ProPublica and Mountain State Spotlight, April 26, 2023. <https://www.propublica.org/article/west-virginia-coal-blackjewel-bankruptcy-pollution>
- 9 "Less Natural Gas Consumption in Europe Is Keeping Storage Full - US Energy Information Administration (EIA)." 2024. [Eia.gov](https://www.eia.gov/todayinenergy/detail.php?id=62564&utm_medium=email). 2024. https://www.eia.gov/todayinenergy/detail.php?id=62564&utm_medium=email.
- 10 "IEEFA: Tidal Wave of New LNG Supply to Flood Market amid Demand Uncertainty." 2024. [ieefa.org](https://ieefa.org/articles/ieefa-tidal-wave-new-LNG-supply-flood-market-amid-demand-uncertainty). 2024. <https://ieefa.org/articles/ieefa-tidal-wave-new-LNG-supply-flood-market-amid-demand-uncertainty>.
- 11 The private equity firms in this report's sample are some of the largest buyout firms with energy exposure with at least \$50 billion of assets under management.
- 12 See page 5 of this report.
- 13 According to corporate websites and Pitchbook data, all last accessed August 9, 2024. See pp. 16 - 39 below.
- 14 About Us - EIG Partners." EIG Partners. August 5, 2024. <https://eigpartners.com/about-us/>
- 15 Pitchbook data, accessed August 9, 2024.
- 16 Please find additional details and references for each scorecard indicator in the Appendices.
- 17 Shwartz, Nathan et al. 2024. "Private Capital's Path to \$20 Trillion." Pitchbook. May 1, 2024. https://files.pitchbook.com/website/files/pdf/Q2_2024_PitchBook_Analyst_Note_Private_Capitals_Path_to_20_Trillion.pdf. Accessed August 12, 2024.
- 18 Giachino, Alyssa and Riddhi Mehta-Neugebauer. 2021. "Private Equity Propels the Climate Crisis", Private Equity Stakeholder Project, October 2021, https://pestakeholder.org/wp-content/uploads/2021/10/PESP_SpecialReport_ClimateCrisis_Oct2021_Final.pdf; Americans for Financial Reform Education Fund. 2022. "Private Equity Ownership of US Power Plants: A Hidden Climate Threat." May 2022. <https://ourfinancialsecurity.org/2022/05/report-private-equity-ownership-of-u-s-power-plants-a-hidden-climate-threat/>
- 19 "Private Equity Energy Tracker - Private Equity Climate Risks." 2024. Private Equity Climate Risks. January 30, 2024. <https://peclimaterisks.org/peenergytracker/>. Accessed July 2024.
- 20 MacArthur, H., et al. 2021. "The Private Equity Market in 2020: Escape from the Abyss", Bain & Company, March 1, 2021 <https://www.bain.com/insights/the-private-equity-market-in-2020/>; US PE Breakdown, Pitchbook. Annual 2021, See page 33. https://files.pitchbook.com/website/files/pdf/2021_Annual_US_PE_Breakdown.pdf
- 21 Private equity asset managers would not be alone in meeting a more immediate timeline. Last year, La Banque Postale – a major French bank with nearly \$902 billion in assets committed to suspending support for all companies expanding oil and gas and exiting oil and gas financing entirely by 2030. "La Banque Postale Is Stepping Up Its Decarbonisation Strategy," La Banque Postale, 13 October 2021, <https://www.lapostegroupe.com/en/news/la-banque-postale-is-stepping-up-its-decarbonisation-strategy>; "French Bank La Banque Postale

Quits Oil & Gas, Sets International Precedent,” Reclaim Finance, 14 October 2021, <https://reclaimfinance.org/site/en/2021/10/14/french-bank-la-banque-postale-quits-oil-gas-sets-international-precedent/>.

As of August 12, 2024. A list of signatories to the Net Zero Asset Managers Initiative is available at: <https://www.netzeroassetmanagers.org/signatories/>

Marsh, Alastair. 2021. “Blackstone, Apollo Among Holdouts Snubbing New Finance Club,” Bloomberg, November 27, 2021, <https://www.bloomberg.com/news/articles/2021-11-28/blackstone-among-key-holdouts-snubbing-new-club-in-big-finance>

“Who buys the dirty energy assets public companies no longer want?” The Economist. February 12, 2022. <https://www.economist.com/finance-and-economics/who-buys-the-dirty-energy-assets-public-companies-no-longer-want/21807594>

The Economist. “Private markets have grown exponentially.” February 23, 2022. <https://www.economist.com/special-report/2022/02/23/private-markets-have-grown-exponentially>

Quinio, Akila, Ortenca Aliaj, and Will Louch. 2024. “Lenders Flying Blind on Private Equity Risk, Bank of England Warns.” Financial Times, April 23, 2024, sec. UK financial regulation. <https://www.ft.com/content/c115c24a-9fd2-4dc4-8018-b9ff18960fe6>. ; Aliaj, Ortenca, Sam Learner, Irene de la Torre Arenas, Sam Joiner, Will Louch, and Kaye Wiggins. 2024. Review of How Private Equity Tangled Banks in a Web of Debt. [ig.ft.com](https://www.ig.ft.com/private-equity/). Financial Times. July 23, 2024. <https://www.ig.ft.com/private-equity/>.

Gagliardi, Margherita. 2021. “Without Appropriate Bonding Incentives, Taxpayers May Be Forced to Pay Billions in Clean up Costs,” Carbon Tracker Initiative, July 15, 2021, <https://carbontracker.org/without-appropriate-bonding-incentives-taxpayers-may-be-forced-to-pay-billions-in-clean-up-costs/>; Phan, Michelle. 2020. “Real Asset Dynamics: PE Energy - Cambridge Associates.” Cambridge Associates. May 21, 2020. <https://www.cambridgeassociates.com/insight/real-asset-dynamics-pe-energy/> (pg.4).

International Energy Agency. 2021. “Net Zero by 2050: A Roadmap for the Energy Sector,” May 2021. <https://www.iea.org/reports/net-zero-by-2050>.

IPCC. 2018. “Summary for Policymakers — Global Warming of 1.5 oC.” IPCC. IPCC. 2018. <https://www.ipcc.ch/sr15/chapter/spm/>.

Carrington, Damian. 2022. “Climate limit of 1.5C close to being broken, scientists warn.” The Guardian, May 9, 2022. <https://www.theguardian.com/environment/2022/may/09/climate-limit-of-1-5-c-close-to-being-broken-scientists-warn>; World Meteorological Organization. 2022. “Global Annual to Decadal Climate Update,” 2022 https://hadleyserver.metoffice.gov.uk/wmolc/WMO_GADCU_2022-2026.pdf.

Appelbaum, Eileen and Rosemary Batt. 2012. “A Primer on Private Equity at Work.” Center for Economic and Policy Research. February 2012. <https://cepr.net/documents/publications/private-equity-2012-02.pdf>; Karma, Rogé. 2023. “The Secretive Industry Devouring the US Economy.” The Atlantic. October 30, 2023. <https://www.theatlantic.com/ideas/archive/2023/10/private-equity-publicly-traded-companies/675788/>;

Appelbaum, Eileen and Rosemary Batt. 2012. “A Primer on Private Equity at Work,” Center for Economic and Policy Research. February 2012. pp. 5-7. <https://cepr.net/documents/publications/private-equity-2012-02.pdf>

Levitin, Adam. 2019. “Private Equity’s Abuse of Limited Liability.” Credit Slips. August 27, 2019. <https://www.abi.org/feed-item/private-equitys-abuse-of-limited-liability>; Pradhan, Rohit, et al. 2014. “Private Equity Ownership of Nursing Homes: Implications for Quality.” Journal of Health Care Finance. Vol. 42, No. 2, June/July 2014. <https://healthfinancejournal.com/index.php/johcf/article/view/12>; Rowland, Christopher. 2021. “How one of the largest nursing home chains in Florida could avoid nearly all of \$256 million fraud judgment.” The Washington Post. September 14, 2021. <https://www.washingtonpost.com/business/2021/09/14/nursing-home-bankruptcy-fraud/>

Morton, Matthew D. 2016. “Strategies to Protect Your Fund from Portfolio Company Environmental Liability.” Global Private Equity Watch. March 28, 2016. <https://privateequity.weil.com/features/strategies-protect-fund-portfolio-company-environmental-liability/>

Corporate Toxics Information Project. “Greenhouse 100 Polluters Index (2023 Report, Based on 2021 Data).” Political Economy Research Institute at the University of Massachusetts. 2023. <https://peri.umass.edu/greenhouse-100-polluters-index-current>

Pitchbook data.

Tabuchi, Hiroko. 2021. “Private Equity Funds, Sensing Profit in Tumult, Are Propping up Oil.” The New York Times. October 13, 2021. sec. Climate. <https://www.nytimes.com/2021/10/13/climate/private-equity-funds-oil-gas-fossil-fuels.html>

US Environmental Protection Agency. “Global Methane Initiative: Importance of Methane.” Last updated on November 1, 2023. <https://www.epa.gov/gmi/importance-methane>

White, Natasha. 2024. “Banks Shying Away From Fossil Fuels Bolster Private Credit Deals,” Bloomberg, March 25, 2024. Accessed August 7, 2024. <https://www.bloomberg.com/news/articles/2024-03-25/private-credit-funds-see-huge-rise-in-fossil-fuel-deals-as-banks-walk-away?sref=f7rH2jWS>; also, for examples of particular sales see: Giachino, Alyssa, et al. Americans for Financial Reform Education Fund, Global Energy Monitor, and Private Equity Stakeholder Project. 2023. “The Carlyle Group’s Hidden Climate Impact: Exposing A Decade of Fossil Fuel Investments,” Private Equity Climate Risks. April 2023. at p. 9, https://6000718.fs1.hubspotusercontent-na1.net/hubfs/6000718/PE%20Climate%20Risks/PECR_Report_Carlyles-Hidden-Climate-Impact_April2023.pdf

Kirchgaessner, Stephanie. 2010. “Private equity swoops on nursing homes.” Financial Times. October 27, 2010. <https://www.ft.com/content/ed74c384-e21e-11df-9233-00144feabdc0>

For example see reports by the Private Equity Climate Risks investigating the roles of The Carlyle Group, KKR,

and Brookfield in the climate crisis at: <https://peclimaterisks.org/reports/>

42 Fink, Larry. 2020. "Larry Fink's 2020 letter to CEOs: A Fundamental Reshaping of Finance," BlackRock, 2020, <https://www.blackrock.com/corporate/investor-relations/2020-larry-fink-ceo-letter>

43 PwC. 2023. "Trust, tech and transformation: Navigating investor priorities," PwC's Global Investor Survey 2023. November 15, 2023. <https://www.pwc.com/gx/en/issues/c-suite-insights/global-investor-survey.htm>

44 Carbon Market Watch. "No Added Value: Flaws of Renewable Energy Carbon Credits Hidden in Plain Sight." Last modified June 7, 2024. Accessed August 8, 2024. <https://carbonmarketwatch.org/2024/06/07/no-added-value-flaws-of-renewable-energy-carbon-credits-hidden-in-plain-sight/>.

45 "The biggest problem with carbon offsetting is that it doesn't really work". Greenpeace UK. Accessed August 9, 2024. <https://www.greenpeace.org.uk/news/the-biggest-problem-with-carbon-offsetting-is-that-it-doesnt-really-work/>.

46 Olano, Maria Virginia. 2024. "Chart: Is LNG worse for the climate than coal?" Canary Media. January 26, 2024. <https://www.canarymedia.com/articles/liquefied-natural-gas/chart-is-lng-worse-for-the-climate-than-coal>

47 Morrison, Kevin. 2024. "Why carbon capture and storage is not the solution," Institute for Energy Economics and Financial Analysis (originally published in Eco-Business). July 10, 2024. <https://ieefa.org/resources/why-carbon-capture-and-storage-not-solution>

48 Schlissel, David. 2024. "CCS and Blue Hydrogen: Unproven Technology and Financial Risk." Institute for Energy Economics and Financial Analysis. July 22, 2024. <https://ieefa.org/resources/ccs-and-blue-hydrogen-unproven-technology-and-financial-risk>

49 For more on private equity general practices see: Americans for Financial Reform, "America for Sale? An Examination of the Practices of Private Funds." Testimony Submitted to the Committee on Financial Services US House of Representatives, November 19, 2019. <https://ourfinancialsecurity.org/2019/11/congressional-testimony-2/>; Appelbaum, Eileen and Rosemary Batt. 2012. "A Primer on Private Equity at Work," Center for Economic and Policy Research, February 2012, <https://cepr.net/report/primer-on-private-equity/>; Morran, Chris and Daniel Petty. 2024. "What Private Equity Firms Are and How They Operate," ProPublica. August 3, 2022. accessed July 3, 2023. accessed August 7, 2024. <https://www.propublica.org/article/what-is-private-equity>

50 Aliaj, Ortenca. 2024. "How private equity tangled banks in a web of debt." Financial Times. July 24, 2024. accessed August 7, 2024. <https://ig.ft.com/private-equity/>; Thomas, Dylan and Annie Sabater. 2024. "Private equity portfolio company bankruptcies maintain record pace." S&P Global, Market Intelligence. May 15, 2024. accessed August 7, 2024. <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/private-equity-portfolio-company-bankruptcies-maintain-record-pace-81665915>

51 Berfield, Susan, et al. 2024. "Tears 'R' Us: The World's Biggest Toy Store Didn't Have to Die." Businessweek. June 6, 2018. accessed August 7, 2024. <https://www.bloomberg.com/news/features/2018-06-06/toys-r-us-the-world-s-biggest-toy-store-didn-t-have-to-die?sref=f7rH2jWS>

52 Kelman, Brett and Blake Farmer. 2024. "Doctors are disappearing from emergency rooms as hospitals look to cut costs." KFF Health News. February 13, 2023. accessed August 7, 2024. <https://kffhealthnews.org/news/article/doctors-are-disappearing-from-emergency-rooms-as-hospitals-look-to-cut-costs/>

53 See footnotes 20-26. For example of job losses see: Woodall, Patrick and Oscar Valdés Viera. 2020. "Double Exposure: Retail workers hammered by combo crisis of pandemic and private equity." Americans for Financial Reform Education Fund, The Center for Popular Democracy, and United for Respect. December 2020. at p. 16. <https://ourfinancialsecurity.org/wp-content/uploads/2020/12/double-exposure-PE-retail-jobs-12-2020.pdf>; for

54 First-Arai, Leanna. 2024. "The Price of Private Equity's New York Power Plant Grab." The Nation. September 13, 2022. accessed August 7, 2024. <https://www.thenation.com/article/environment/private-equity-power-plants-new-york/>; Salamone, Anthony. 2020. "Talen Energy-owned power plants hit with third bankruptcy since 2014. Lehigh Valley company says no changes seen to local operations." The Morning Call. July 2, 2020. accessed August 7, 2024. <https://www.mcall.com/2020/07/02/talen-energy-owned-power-plants-hit-with-third-bankruptcy-since-2014-lehigh-valley-company-says-no-changes-seen-to-local-operations/>; Villarosa, Linda. 2024. "Pollution Is Killing Black Americans. This Community Fought Back." The New York Times. July 28, 2020. accessed August 7, 2024. <https://www.nytimes.com/2020/07/28/magazine/pollution-philadelphia-black-americans.html>; Giachino, Alyssa, Alex Hurley, Riddhi Mehta-Neugebauer, Amanda Mendoza, Alyssa Moore, and Oscar Valdés Viera. 2024. "The Carlyle Group's Hidden Climate Impact: Exposing a Decade of Fossil Fuel Investments," Private Equity Climate Risks. April 2023. <https://www.peclimaterisks.org/the-carlyle-groups-hidden-climate-impact/>; Renshaw, Jarrett. 2024. "Before fire, Philadelphia refinery scaled back big maintenance project: sources." Reuters. June 26, 2019. accessed August 7, 2024. <https://www.reuters.com/article/us-refinery-blast-philadelphia-maintenan/before-fire-philadelphia-refinery-scaled-back-big-maintenance-project-sources-idUSKCN1TR2NP>; Renshaw, Jarrett. 2024. "Refiner goes belly-up after big payouts to Carlyle Group." Reuters. February 20, 2018. accessed August 7, 2024. <https://www.reuters.com/article/business/refiner-goes-belly-up-after-big-payouts-to-carlyle-group-idUSKCN1G40HV/>

55 US Chemical Safety Board. "CSB Releases Final Report into 2019 PES Fire and Explosion in Philadelphia." News Release. October 11, 2022. accessed August 7, 2024. <https://www.csb.gov/csb-releases-final-report-into-2019-pes-fire-and-explosion-in-philadelphia/>; Villarosa, Linda. 2024. "Pollution Is Killing Black Americans. This Community Fought Back." The New York Times. July 28, 2020. accessed August 7, 2024. <https://www.nytimes.com/2020/07/28/magazine/pollution-philadelphia-black-americans.html>

56 Simeone, Christina E. PhD. 2024. "An Unrefined Ending: Lessons Learned from the Creation and Closure of the

Philadelphia Energy Solutions Refinery.” Union of Concerned Scientists. March 2023. at p. 5. accessed August 7, 2024. <https://www.ucsusa.org/sites/default/files/2023-03/unrefined-ending-pa-energy-solutions-refinery.pdf>; Renshaw, Jarrett. 2024. “Before fire, Philadelphia refinery scaled back big maintenance project: sources.” Reuters. June 26, 2019. Pg 29. accessed August 7, 2024. <https://www.reuters.com/article/world/us/before-fire-philadelphia-refinery-scaled-back-big-maintenance-project-sources-idUSKCN1TR2NP/>

57 Renshaw, Jarrett. 2018. “Refiner goes belly-up after big payouts to Carlyle Group.” Reuters. February 20, 2018. accessed August 7, 2024. <https://www.reuters.com/article/business/refiner-goes-belly-up-after-big-payouts-to-carlyle-group-idUSKCN1G40HV/>

58 Dance, Scott. 2024. “Crane power plant in Baltimore County set to reopen after regulator denies environmentalists’ appeal.” The Baltimore Sun. July 24, 2019. accessed August 7, 2024. <https://www.baltimoresun.com/2019/07/24/crane-power-plant-in-baltimore-county-set-to-reopen-after-regulator-denies-environmentalists-appeal/>; “Department of the Environment Significant Enforcement Actions (April 2018 – June 2018).” 2018. Department of the Environment. 2018. https://mde.maryland.gov/Pages/enf_comp_2018_3.aspx.

59 Harvard T.H. Chan School of Public Health. “Fossil Fuels & Health.” Center for Climate, Health, and the Global Environment. Accessed August 8, 2024. <https://www.hsph.harvard.edu/c-change/subtopics/fossil-fuels-health/>.

60 Denchak, Melissa. 2018. “Fossil Fuels: The Dirty Facts.” NRDC. Last modified June 29, 2018. Accessed August 8, 2024. <https://www.nrdc.org/stories/fossil-fuels-dirty-facts>.

61 Mary D. Willis, Lara J. Cushing, Jonathan J. Buonocore, Nicole C. Deziel, and Joan A. Casey. 2023. “It’s Electric! An Environmental Equity Perspective on the Lifecycle of Our Energy Sources.” Environmental Health Perspectives 131, no. 8 (2023): Article PMC10097546. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10097546/>.

62 <https://www.hcn.org/issues/51-15/public-lands-can-western-states-afford-to-break-the-boom-and-bust-cycle/>

63 Intergovernmental Panel on Climate Change. “Synthesis Report for the Sixth Assessment Report during the Panel’s 58th Session held in Interlaken, Switzerland from 13-19 March 2023.” see section “2.1.2 Observed Climate System Changes and Impacts to Date” at pp. 11-17. accessed August 7, 2024. https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf

64 Intergovernmental Panel on Climate Change. “Synthesis Report for the Sixth Assessment Report during the Panel’s 58th Session held in Interlaken, Switzerland from 13-19 March 2023.” see section “2.1.2 Observed Climate System Changes and Impacts to Date” at pp. 51, 101. accessed August 7, 2024. https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_LongerReport.pdf; Hill, Iatoya, Nambi Ndugga, and Samantha Artiga. 2023. “Key Data on Health and Health Care by Race and Ethnicity,” KFF, Annual update published on March 15, 2023. accessed August 7, 2024. <https://bit.ly/3OGYTVw>

65 Soraghan, Mike. 2024. “N.C. pipeline caused largest US gasoline spill, records say.” E&E News (by Politico). July 25, 2022. accessed August 7, 2024. <https://www.eenews.net/articles/n-c-pipeline-caused-largest-u-s-gasoline-spill-records-say/>

66 Office of Cybersecurity, Energy Security, and Emergency Response. “Colonial Pipeline Cyber Incident.” **Energy.gov**. n.d., accessed August 7, 2024. <https://www.energy.gov/ceser/colonial-pipeline-cyber-incident>; GEM.wiki. “Colonial Oil Products Pipeline.” accessed August 7, 2024. https://www.gem.wiki/Colonial_Oil_Products_Pipeline; Morrison, Sara. 2021. “How a major oil pipeline got held for ransom.” VOX. June 8, 2021. accessed August 7, 2024; Vasquez, Christian. 2024. “How the Colonial pipeline hack galvanized a nation at risk.” E&E News (by Politico). May 9, 2022. accessed August 7, 2024. <https://www.eenews.net/articles/how-the-colonial-pipeline-hack-galvanized-a-nation-at-risk/>

67 Sorg, Lisa. 2023. “Colonial Pipeline tank farm in Greensboro cited for discharging MTBE at 312% above permit limit,” NC Newswire. July 10, 2023. accessed August 7, 2024. <https://ncnewswire.com/briefs/colonial-pipeline-tank-farm-in-greensboro-cited-for-discharging-mtbe-at-312-above-permit-limit/>

68 The private equity firms in this report’s sample are some of the largest buyout firms with energy exposure with at least \$50 billion of assets under management.

69 IPCC. 2022. “Climate Change 2022: Impacts, Adaptation and Vulnerability.” IPCC Sixth Assessment Report. IPCC. 2022. <https://www.ipcc.ch/report/ar6/wg2/>. Kelly, Stephanie. 2021. “About half of US oil pipeline space is empty after boom time building spree.” Reuters. December 15, 2021. <https://www.reuters.com/markets/commodities/about-half-us-oil-pipeline-space-is-empty-after-boom-time-building-spre-2021-12-16/>; Lindwall, Courtney. 2022. “IPCC Climate Change Reports: Why They Matter to Everyone on the Planet,” NRDC. July 20, 2022. <https://www.nrdc.org/stories/ipcc-climate-change-reports-why-they-matter-everyone-planet#sec-latest>

70 See Appendix B for details on each private equity firm. The absence of regulatory guidance on reporting energy investments and climate impacts means that the information available is not standardized between private equity asset managers. Similarly, there is no single regulatory standard for disclosing climate commitments, either for publicly listed or privately held companies, and therefore each asset manager may develop its own climate policies that are not standardized.

71 See Appendix B. The energy holdings and percent fossil fuels were updated the end of July 2024 based on a review of emailed responses from several of the private equity firms.

72 “Marc Rowan.” **Apollo.com**. <https://www.apollo.com/aboutus/leadership-and-people/marc-rowan>. Accessed July 2024.

73 Pitchbook data. Accessed August 9, 2024.

74 “Private Equity Energy Tracker - Private Equity Climate Risks.” 2024. Private Equity Climate Risks. January 30, 2024. Accessed July 2024. <https://peclimaterisks.org/peenergytracker/>.

75 Willmer, Sabrina.2022. "Apollo (APO) to Shun Fossil-Fuel Investments in next Buyout Fund." **Bloomberg.com**.
 Bloomberg. January 21, 2022. <https://www.bloomberg.com/news/articles/2022-01-21/apollo-plans-to-shun-fossil-fuel-investments-in-next-buyout-fund?embedded-checkout=true>.

76 "ArcLight 2023 ESG Report." n.d. Accessed August 6, 2024. At p. 5 https://arclight.com/wp-content/uploads/2023/10/ArcLight_2023ESGReport_Final.pdf.

77 US Environmental Protection Agency, Facility Level Information on GreenHouse gasses Tool (FLIGHT). Accessed August 7, 2024. <https://bit.ly/4dAEGKO>; Prull, Daniel PhD and Noah Ver Beek. 2023. "Out of Control: The Deadly Impact of Coal Plant Pollution," Sierra Club, February 2023, at p. 4, <https://www.google.com/url?q=https://coal.sierraclub.org/deadly-impact-of-coal-pollution&sa=D&source=docs&ust=1723148891383315&usg=AOvVaw0V9WwEX94RQ0DTJ-CLSz8h>

78 "Portfolio - Alpha Generation." Alpha Generation. December 15, 2023. Accessed July 2024. <https://www.alpha-gen.com/portfolio/>; "About Us - Alpha Generation." Alpha Generation. July 15, 2024. <https://www.alphagen.com/about-us/>.

79 ArcLight Capital Partners. 2020. "ArcLight Closes Seventh Fund with \$3.4 Billion in Commitments." **Prnewswire.com**. February 3, 2020. <https://www.prnewswire.com/news-releases/arclight-closes-seventh-fund-with-3-4-billion-in-commitments-300997414.html>.

80 ArcLight Capital Partners, LLC. 2015. "ArcLight Closes Sixth Fund with \$5.6 Billion in Commitments." **Prnewswire.com**. July 29, 2015. <https://www.prnewswire.com/news-releases/arclight-closes-sixth-fund-with-56-billion-in-commitments-300120201.html>.

81 "ArcLight 2023 ESG Report." n.d. Accessed August 6, 2024. At p. 18 https://arclight.com/wp-content/uploads/2023/10/ArcLight_2023ESGReport_Final.pdf.

82 "About Ares Management Corporation." Ares Management. June 1, 2024. Accessed August 9, 2024. <https://www.aresmgmt.com/about-ares-management-corporation>.

83 Motley Fool Transcribers. 2020. "Ares Management Corporation (ARES) Q2 2020 Earnings Call Transcript." The Motley Fool. The Motley Fool. August 6, 2020. <https://www.fool.com/earnings/call-transcripts/2020/08/05/ares-management-corporation-ares-q2-2020-earnings.aspx>.

84 "TCFD Climate Action Report 2022 FULL YEAR REPORT JULY 2023" n.d. https://www.aresmgmt.com/sites/default/files/2023-07/Climate-Action-Report_0725-003.pdf.

85 Ibid (pg 23)

86 "BlackRock Reports Full Year 2023 Diluted EPS of \$36.51, or \$37.77." n.d. BlackRock. <https://www.blackrock.com/corporate/newsroom/press-releases/article/corporate-one/press-releases/blackrock-reports-full-Year-2023-diluted>.

87 Lee, Anderson, and Hayden Higgins. 2024. "3 Ways BlackRock Can Do Better on Sustainable Finance." **ww.wri.org**. March 2024. <https://www.wri.org/insights/3-ways-blackrock-can-do-better-sustainable-finance-0>.

88 BlackRock. 2024. "Alternatives: Private Equity." Corporate website. Accessed August 9, 2024. <https://www.blackrock.com/institutions/en-us/strategies/alternatives/private-equity>

89 "Press Release: Over 500 Women's Rights Organizations and Feminists Demand End of UN Women's Partnership with BlackRock, Inc. - WEDO." 2022. WEDO. August 9, 2022. <https://wedo.org/press-release-over-500-womens-rights-organizations-and-feminists-demand-end-of-un-womens-partnership-with-blackrock-inc/>.

90 "BlackRock Must Take Bold Action to Lower Global Emissions." n.d. BlackRock's Big Problem. <https://blackrocksbigproblem.com/>.

91 Brush, Silla, and Bill Allison. 2022. "BlackRock (BLK) Spends Record on Political Campaigns as ESG Fight Intensifies." **Bloomberg.com**. Bloomberg. November 4, 2022. <https://www.bloomberg.com/news/articles/2022-11-04/blackrock-spends-record-amount-on-us-political-campaigns-amid-esg-fallout?embedded-checkout=true>.

92 "BlackRock Agrees to Acquire Global Infrastructure Partners ("GIP")." n.d. BlackRock. <https://www.blackrock.com/corporate/newsroom/press-releases/article/corporate-one/press-releases/blackRock-agrees-to-acquire-global-infrastructure-partners>.

93 Hamlin, Jessica. 2024. "On Blackrock's Expansion into Everything." Pitchbook. January 18, 2024. <https://pitchbook.com/news/articles/blackrock-infrastructure-acquisition-asset-managers>.

94 Sanders, Bernard. "Blackrock Merger Letter." Sanders.Senate.Gov. February 20, 2024. https://www.sanders.senate.gov/wp-content/uploads/BlackRock-Merger-Letter_2.20.pdf

95 Brush, Silla. 2024. "BlackRock Buys Infrastructure Firm GIP for \$12.5 Billion in Alternatives Push." **Bloomberg.com**. Bloomberg. January 12, 2024. <http://www.bloomberg.com/news/articles/2024-01-12/blackrock-buys-in-frastructure-firm-gip-for-12-5-billion-in-alternatives-push>.

96 "The Firm." n.d. Blackstone. Accessed July 2024. <https://www.blackstone.com/the-firm/#:~:text=Blackstone%20is%20the%20world>.

97 Lim, Dawn, and Sabrina Willmer. 2022. "Blackstone Swears off Oil-Patch Investing as Private Equity's Retreat Widens." **Bloomberg.com**. Bloomberg. February 22, 2022. <https://www.bloomberg.com/news/articles/2022-02-22/blackstone-swears-off-oil-patch-investing-as-private-equity-s-retreat-widens?embedded-checkout=true>.

98 US Environmental Protection Agency, Facility Level Information on GreenHouse gasses Tool (FLIGHT). Accessed August 7, 2024. <https://bit.ly/4dAEGKO>

99 Prull, Daniel, and Noah Ver Beek. 2023. "Out of Control: The Deadly Impact of Coal Plant Pollution," Sierra Club, February 2023, at p. 4, <https://coal.sierraclub.org/sites/nat-coal/files/Out%20of%20Control%20coal%20mortality%20report%20FINAL.pdf>.

100 “Climate-Related Financial Disclosures Aligned with TCFD Recommendations 2023 REPORT.” n.d. Accessed July
 2024. <https://www.blackstone.com/wp-content/uploads/sites/2/2024/06/2023-BX-TCFD-Report.pdf>.

101 Brookfield Corporation. 2024. “Brookfield Corporation Reports Strong Second Quarter Results,” Press Release,
 August 8, 2024, <https://bn.brookfield.com/press-releases/brookfield-corporation-reports-strong-second-quarter-results>

102 “Brookfield to Acquire 62% of Oaktree Capital Management.” Brookfield Corporation. 2023. <https://bn.brookfield.com/press-releases/brookfield-acquire-62-oaktree-capital-management>.

103 In July 2022, then-Brookfield Asset Management Inc. (now known as “Brookfield Corporation”) rearranged its
 corporate structure, renaming itself and establishing the new Brookfield Asset Management Ltd. to open a
 strictly asset management line of business directly to public market investors. Bruce Flatt is the Chief Executive
 Officer of the two resulting public companies. Together, Brookfield Corporation (NYSE: BN) and Brookfield Asset
 Management (NYSE: BAM) own (75 percent and 25 percent, respectively) Brookfield Asset Management ULC, a
 company established to operate the asset management business. The sole asset of BAM is its 25 percent stake
 in the asset management company. We refer to these entities as well as their affiliates collectively as “Brook-
 field” unless the context requires otherwise. For more see: Brookfield Asset Management Ltd. 2023 Q1 Interim
 Report. At p. 10. Accessed November 28, 2023. Available at: <https://bam.brookfield.com/sites/brookfield-bam/files/BAM-IR-Master/Quarterly-Reports/2023/2023%20Brookfield%20Asset%20Management%20Ltd.%20-%20Q1%206-K%2040.pdf>

104 “Brookfield’s Net Zero Commitment.” n.d. Brookfield. <https://www.brookfield.com/responsibility/brookfields-net-zero-commitment>.

105 Brookfield Asset Management. “Brookfield 2023 Sustainability Report.” 2023. At p. 74. Accessed August 9, 2024.
https://www.brookfield.com/sites/default/files/2024-06/BAM_2023_Sustainability_Report.pdf

106 Ibid. p. 67

107 “Signatories – the Net Zero Asset Managers Initiative.” n.d. <https://www.netzeroassetmanagers.org/signatories/>.

108 “Brookfield Infrastructure Closes Strategic Acquisition of Inter Pipeline.” [Interpipeline.com](https://interpipeline.com/news-releases/brookfield-infrastructure-closes-strategic-acquisition-of-inter-pipeline/). October 28, 2021.
<https://interpipeline.com/news-releases/brookfield-infrastructure-closes-strategic-acquisition-of-inter-pipeline/>.

109 “Blackstone Sells about 40% Stake in Cheniere’s Limited Partnership.” Reuters. August 24, 2020. <https://www.reuters.com/article/us-cheniere-eng-stake-blackstone-group/blackstone-sells-about-40-stake-in-cheniereslimited-partnership-idUSKBN25KILZ/>.

110 Brookfield. “2023 Sustainability Report | Brookfield.” www.brookfield.com. <https://www.brookfield.com/responsibility/2023-sustainability-report>.

111 NGP Energy Capital Management, “Form ADV Part 2A Disclosure Brochure.” March 30, 2021. https://files.adviserinfo.sec.gov/IAPD/Content/Common/crd_iapd_Brochure.aspx?BRCHR_VRSN_ID=699522 ; The Carlyle
 Group Inc., “Form 10-K.” December 31, 2021. page 60. <https://www.sec.gov/ix?doc=/Archives/edgar/data/0001527166/000152716622000007/cg-20211231.htm> ; The Carlyle Group. “Form 10-Q”, June 30, 2024, see pp. 34 for
 investments in NGP by Carlyle. <https://www.sec.gov/Archives/edgar/data/1527166/000152716624000067/cg-20240630.htm>

112 Pitchbook data, accessed August 9, 2024.

113 The Carlyle Group. 2024. “Carlyle Sets Net Zero by 2050 and Near-Term Climate Goals for Meaningful, Immediate
 Action with a Focus on Real Emissions Reductions,” February. 1, 2022, <https://www.carlyle.com/media-room/news-release-archive/carlyle-sets-net-zero-2050-and-near-term-climate-goals>

114 Lehnert, Anais, and Anais Lehnert. 2023. “Private Equity Lags on Fossil Fuel Policies - Reclaim Finance.” Reclaim
 Finance. July 26, 2023. <https://reclaimfinance.org/site/en/2023/07/26/private-equity-lags-on-fossil-fuel-policies/>.

115 The Carlyle Group. 2022. “The Industry’s First-Ever Partnership to Standardize ESG Reporting”, March 10, 2022,
<https://www.carlyle.com/global-insights/private-equity-industrys-esg-data-convergence-project>

116 Wilson, Tom, Lukanyo Mnyanda, and Shotaro Tani. 2024. “Buyout Firm Carlyle to Build Mediterranean Oil and
 Gas Group.” Financial Times. June 19, 2024. <https://www.ft.com/content/ea64b6e1-48f1-448f-b0f4-bb4c-1774cf8c>.

117 Carlyle Group. 2021. “Task Force on Climate-related Financial Disclosures Report,” 2021, page 9, https://www.carlyle.com/sites/default/files/2021_Carlyle_TCFD-Report_01.12.pdf.; Carlyle Group. “2023 ESG Report.” June
 29, 2023. <https://www.carlyle.com/esg/esg-report-2023>.

118 The Carlyle Group. “Form 10-Q”, June 30, 2024, see pp. 6-7 for total revenues (\$1,758.1 million) and net income
 (\$248.1 million) and p. 89 for investment income from NGP (\$50.5 million), all for the six months ended June 30,
 2024. <https://www.sec.gov/Archives/edgar/data/1527166/000152716624000067/cg-20240630.htm>

119 “About Us - EIG Partners.” EIG Partners. August 5, 2024. <https://eigpartners.com/about-us/>.

120 Ibid.

121 Oakley, Miriam. 2023. “EIG to Acquire Ocyan for US\$390 Million - EIG Partners.” EIG Partners. December 28, 2023.
<https://eigpartners.com/eig-to-acquire-ocyan-for-us390-million/> ; Tsvetana Paraskova. 2024. “EIG Consider-
 ing 20 Potential Deals in Brazil’s Energy Sector.” [OilPrice.com](https://oilprice.com/Latest-Energy-News/World-News/EIG-Considering-20-Potential-Deals-in-Brazils-Energy-Sector.html). April 10, 2024. <https://oilprice.com/Latest-Energy-News/World-News/EIG-Considering-20-Potential-Deals-in-Brazils-Energy-Sector.html>.

122 “2023 ESG Report.” EIG. Accessed August 7, 2024. <https://eigpartners.com/wp-content/uploads/2023/09/EIG-2023-ESG-Report.pdf>.

123 “Our Team | EnCap Investments.” **Encapinvestments.com**. EnCap Investments. 2014. <https://www.encapinvestments.com/team>. Assets under management amount is from Pitchbook data, accessed August 9, 2024.

124 “ESG | EnCap Flatrock Midstream.” **Efmidstream.com**. EnCap Flatrock Midstream. 2024. <https://www.efmidstream.com/esg>.

125 “About Our Company | EnCap Investments.” 2024. **Encapinvestments.com**. EnCap Investments. 2024. <https://www.encapinvestments.com/about>.

126 “FTC Approves Final Order Requiring EnCap to Sell off EP Energy Corp’s. Entire Utah Oil Business.” Federal Trade Commission. September 14, 2022. <https://www.ftc.gov/news-events/news/press-releases/2022/09/ftc-proves-final-order-requiring-encap-sell-ep-energy-corps-entire-utah-oil-business>.

127 “Crescent Energy Closes \$690 Million Acquisition of EP Energy Uinta Assets | Hart Energy.” **ww.hartenergy.com**. May 22, 2023. <https://www.hartenergy.com/exclusives/crescent-energy-closes-690-million-acquisition-ep-energy-uinta-assets-199505>.

128 Kaye, Danielle. 2024. “FTC Probes XCL Deal as Oil and Gas Antitrust Scrutiny Grows.” @BLaw. March 7, 2024. <https://news.bloomberglaw.com/antitrust/ftc-reviews-xcl-deal-in-utah-amid-oil-and-gas-sector-scrutiny>.

129 “Our Legacy.” Bridgepoint ECP. 2014. Accessed July 2024. <https://www.ecpgp.com/about/our-legacy>; “Equity.” Bridgepoint ECP. 2024. Accessed July 2024. <https://www.ecpgp.com/equity>.

130 “Mine Operations - Ramaco Resources.” Ramaco Resources. November 6, 2023. <https://ramacoresources.com/met-operations/>

131 Americans for Financial Reform Education Fund. 2022. “Private Equity Ownership of US Power Plants: A Hidden Climate Threat.” May 2022. <https://ourfinancialsecurity.org/2022/05/report-private-equity-ownership-of-u-s-power-plants-a-hidden-climate-threat/>

132 “Calpine | Our Fleet.” n.d. **www.calpine.com**. <https://www.calpine.com/Operations/Power-Operations/Our-Fleet>.

133 This emissions estimate was calculated by applying average capacity factors for gas-fired power plant in the United States from EIA data and EPA eGRID emissions factors for gas-fired power plants.

134 Corporate Toxics Information Project, “Greenhouse 100 Polluters Index (2023 Report, Based on 2021 Data),” Political Economy Research Institute at the University of Massachusetts, 2023, <https://peri.umass.edu/greenhouse-100-polluters-index-current>

135 Lahey, Susan. 2024. “Energy Capital Partners Raises \$6.7 Billion for Energy Transition Infrastructure Buyout Fund.” ESG Today. May 29, 2024. <https://www.esgtoday.com/energy-capital-partners-raises-6-7-billion-for-energy-transition-infrastructure-fund/>.

136 “Energy Capital Partners to Acquire Atlantica for \$2.56 Bln.” **Reuters.com**. Reuters. May 28, 2024. <https://www.reuters.com/markets/deals/energy-capital-partners-acquire-atlantica-25-bln-2024-05-28/>; “Our Assets» Atlantica.” 2021. Atlantica. January 12, 2021. Accessed July 2024. <https://www.atlantica.com/web/en/company-overview/our-assets/>.

137 Howland, Ethan. 2024. “FERC Rejects \$1.1B Bridgepoint-Energy Capital Partners Private Equity Deal on Competition Concerns.” Utility Dive. March 4, 2024. <https://www.utilitydive.com/news/ferc-bridgepoint-energy-capital-partners-ecp/709135/>. FERC later approved the deal in August of 2024. <https://www.powerfinancerisk.com/article/2dlg0r0xr9adzl7wqpxj4/news/m-a/ecp-bridgepoint-deal-gets-final-ferc-approval>

138 “History.” **Eqtgroup.com**. August 7, 2024. Accessed July 2024; “EQT AB (Publ) Year-End Report 2023.” **Eqtgroup.com**. January 18, 2024. <https://eqtgroup.com/news/2024/eqt-ab-publ-year-end-report-2023/>. <https://eqtgroup.com/about/history/#:~:text=Inspired%20by%20the%20Wallenberg%20family;AUM%20from%20Pitchbook%20data,accessed%20August%209,%202024.>

139 “Our Projects.” n.d. Statera Energy. <https://stateraenergy.co.uk/projects>.

140 “EQT Net Zero Guidelines EQT Net Zero Guidelines.” Accessed July 2024. https://cdn.sanity.io/files/30p7so6x/eqt-web-prod/20b55e68b24689ccd15c4851d0e704c29e1e4121.pdf?dl=EQT%20Net%20Zero%20Guidelines_vExt.pdf

141 EQT Net Zero Guidelines. June 2023. See “Fossil Fuel Principles” at p.5. Available in the Sustainability section of EQT’s website, at: https://cdn.sanity.io/files/30p7so6x/eqt-web-prod/20b55e68b24689ccd15c4851d0e704c29e1e4121.pdf?dl=EQT%20Net%20Zero%20Guidelines_vExt.pdf

142 “Global Infrastructure Partners Announces Total \$2.1 Billion Final Closing of Its Inaugural Emerging Markets Fund - Global Infrastructure Partners.” Global Infrastructure Partners. March 11, 2024. <https://www.global-infra.com/news/global-infrastructure-partners-announces-total-2-1-billion-final-closing-of-its-inaugural-emerging-markets-fund/>; AUM from Pitchbook data, accessed August 9, 2024.

143 “NextDecade Announces Framework Agreements with Global Infrastructure Partners and TotalEnergies to Support the Development of the Rio Grande LNG Project.” **Businesswire.com**. Business Wire. June 14, 2023. <https://www.businesswire.com/news/home/20230613938306/en/NextDecade-Announces-Framework-Agreements-with-Global-Infrastructure-Partners-and-TotalEnergies-to-Support-the-Development-of-the-Rio-Grande-LNG-Project>.

144 Rainforest Action Network and Sierra Club. “Rio Grande Valley at Risk from Fracked-Gas Export Terminals 2022 Update.” **Ran.org**. Rainforest Action Network. October 2022. https://www.ran.org/wp-content/uploads/2022/10/RGV_LNG_2022_FINAL_WEB.pdf.

145 Ibid.

146 Ibid.

147 Parr, Matt. 2024. “First Meeting with Global Infrastructure Partners on Controversial Rio Grande LNG.” Private

Equity Stakeholder Project PESP. June 27, 2024. <https://pestakeholder.org/news/first-meeting-with-global-infrastructure-partners-on-controversial-rio-grande-Ing/>.

148 "Home - I Squared." I Squared. July 30, 2024. [https://isquaredcapital.com/#~:text=Founded%20in%202012%2C%20I%20Squared](https://isquaredcapital.com/#~:text=Founded%20in%202012%2C%20I%20Squared.). Accessed July 2024. Total AUM from Pitchbook data, accessed August 9, 2024.

149 "Strategies - I Squared." I Squared. June 25, 2024. <https://isquaredcapital.com/strategies/>. Accessed July 2024.

150 Wahba, Sadek. 2024. "Council Post: COP28 Agreement Highlights Need for 'All of the Above' Climate Strategy." Forbes. January 9, 2024. <https://www.forbes.com/sites/forbesfinancecouncil/2024/01/09/cop28-agreement-highlights-need-for-all-of-the-above-climate-strategy/>.

151 "Our Distinct Ownership | IFM Investors." Ifminvestors.com. 2023. <https://www.ifminvestors.com/about-us/our-heritage/our-distinct-ownership/>. Accessed July 2024. Total AUM as of August 2024 based on Pitchbook data, accessed August 9, 2024.

152 "Sustainable Business Report | IFM Investors | IFM Investors." Ifminvestors.com. February 20, 2024. <https://www.ifminvestors.com/news-and-insights/thought-leadership/2023-ifm-investors-sustainable-business-report/>. ; "IFM Investors Sets 2030 Interim Emission Reduction Target to Help Achieve Net Zero by 2050 | IFM Investors." Ifminvestors.com. September 6, 2021. <https://www.ifminvestors.com/en-au/news-and-insights/media-centre/ifm-investors-sets-2030-interim-emission-reduction-target-to-help-achieve-net-zero-by-2050/>.

153 "IFM Investors Sets 2030 Interim Emission Reduction Target to Help Achieve Net Zero by 2050 | IFM Investors." 2021. September 6, 2021. <https://www.ifminvestors.com/en-au/news-and-insights/media-centre/ifm-investors-sets-2030-interim-emission-reduction-target-to-help-achieve-net-zero-by-2050/>.

154 "US Regulator Releases Report Blaming Freeport LNG Blast on Inadequate Processes." Reuters. November 16, 2022. <https://www.reuters.com/business/energy/freeport-Ing-provides-no-timeline-texas-export-plant-restart-2022-11-15/>.

155 Ferc, Phmsa, and Uscg. n.d. "Freeport LNG Incident and Regulatory Response." 2023. https://www.phmsa.dot.gov/sites/phmsa.dot.gov/files/2023-02/PHMSA-FERC-USCG%20Feb%2011%202023%20Freeport%20Information%20Session%20Presentation%20%28002%29_0.pdf

156 Liao, Ruth, Anna Shiryaevskaya, and Stephen Stapczynski. 2024. "Freeport LNG Cancels at Least 10 Cargoes after Hurricane Beryl Outage." Bloomberg.com. Bloomberg. July 18, 2024. <https://www.bloomberg.com/news/articles/2024-07-18/freeport-Ing-cancels-at-least-10-cargoes-after-hurricane-beryl-outage?embedded-checkout=true>.

157 "Contact | Kayne Anderson." Kayne Anderson. Kayne Anderson. March 25, 2024. <https://www.kayneanderson.com/contact/>; Total AUM from Pitchbook data, accessed August 9, 2024.

158 "About Us | Kayne Anderson." Kayne Anderson. Kayne Anderson. July 19, 2024. <https://kayneanderson.com/about/>.

159 "Albert Rabil | Kayne Anderson." Kayne Anderson. Kayne Anderson. June 13, 2024. Accessed July 2024. <https://kayneanderson.com/people/albert-rabil-iii/?team=board-of-directors>.

160 Zibel, Alan and Nichole Heil. 2023. "PRIVATE PROFITS, PUBLIC RISKS How Wall Street Buyout Firms Are Funding Oil and Gas Drilling on Public Lands and Threatening to Leave Taxpayers with a \$380 Million Cleanup Bill." Private Equity Stakeholder Project and Public Citizen. August 2023. https://pestakeholder.org/wp-content/uploads/2023/08/PESP_PublicCitizen_Report_PrivateProfits-PublicRisks_2023.pdf.

161 Ibid.

162 Ibid.

163 "Terra Energy Partners Receives \$300MM Equity Commitment from Kayne Private Energy | Kayne Anderson." Kayne Anderson. Kayne Anderson. 2015. <https://kayneanderson.com/news/terra-energy-partners-receives-300mm-equity-commitment-from-kayne-private-energy/>.

164 Khan, Shariq, and David French. 2022. "Private Equity-Backed Gas Producer Terra Explores \$2.5 Bln Sale -Sources." Reuters. May 20, 2022. <https://www.reuters.com/markets/us/private-equity-backed-gas-producer-terra-explores-25-bln-sale-sources-2022-05-20/>.

165 Portfolio Investments | Page 2 | Kayne Anderson. n.d. Kayne Anderson. <https://www.kayneanderson.com/investments/page/2/?investment-type=energy-private-equity>. Accessed July 2024.

166 Jacobius, Arleen. 2024. "KKR Reports \$601 Billion in AUM, up 16% Year-Over-Year, with Flagships Now Minority of Fundraising." Pionline.com. Pensions&Investments. August 1, 2024. <https://www.pionline.com/money-managers/kkr-reports-601-billion-aum-16-year-over-year-flagships-now-minority-fundraising>.

167 "KKR." Accessed July 2024. <https://www.kkr.com/>.

168 "KKR Climate Action Report Aligned With The Recommendations Of The Task Force On Climate-Related Financial Disclosures (TCFD)." November 2021. <https://www.kkr.com/content/dam/kkr/sustainability/pdf/climate-action-report-tcfd-november-2021.pdf>.

169 Duong, Dustin, Alyssa Moore, Alex Hurley, and Oscar Valdés Viera. 2024. "93 Million: The Carbon Emissions Kkr Didn't Disclose Exposing The Private Equity Firm's Fossil Fuel Footprint." April 2024. Private Equity Climate Risks. <https://www.peclimaterisks.org/wp-content/uploads/2024/06/KKR-Carbon-Emissions-Report-PECR.pdf>.

170 "Working Together 2023 Sustainability Report." KKR. 2023. <https://www.kkr.com/content/dam/kkr/sustainability/pdf/2023-sustainability-report.pdf>.

171 KKR & Co, "Form 10K," December 31, 2021. pg. 17. <https://www.sec.gov/ix?doc=/Archives/edgar/data/1404912/000140491222000004/kkr-20211231.htm>.

172 Crescent Energy. "Redefining Smart Energy Investing." Accessed August 11, 2022. <https://www.crescentenergy->

co.com/

- 173 Duong, Dustin, Alyssa Moore, Alex Hurley, and Oscar Valdés Viera. 2024. "93 Million: The Carbon Emissions Kkr Didn't Disclose Exposing The Private Equity Firm's Fossil Fuel Footprint." April 2024. Private Equity Climate Risks. <https://www.peclimaterisks.org/wp-content/uploads/2024/06/KKR-Carbon-Emissions-Report-PECR.pdf>; "Working Together 2023 Sustainability Report." KKR. 2023. <https://www.kkr.com/content/dam/kkr/sustainability/pdf/2023-sustainability-report.pdf>.
- 174 Rastello, Sandrine. 2020. "Canadian pipeline segment faces delay amid indigenous protests." Bloomberg. February 22, 2020. <https://www.bloomberg.com/news/articles/2020-02-22/canadian-pipeline-segment-faces-delay-amidindigenous-protests>
- 175 Simmons, Matt. 2023. "The complicated truth about pipelines crossing Wet'suwet'en territory." The Narwhal. October 5, 2022. Accessed May 30, 2023. <https://thenarwhal.ca/coastal-gaslink-map-wetsuweten/>
- 176 Simmons, Matt. 2023. "The complicated truth about pipelines crossing Wet'suwet'en territory." The Narwhal. October 5, 2022. Accessed May 30, 2023. <https://thenarwhal.ca/coastal-gaslink-map-wetsuweten/>; Submission By Gidimt'en land Defenders, Wet'suwet'en Nation to the Office of the United Nations High Commissioner for Human Rights. letter titled "Militarization Of Wet'suwet'en lands And Canada's Ongoing Violations." February 7, 2022. Accessed July 31, 2023. <https://static1.squarespace.com/static/5c51ebf73e2d0957ca117eb5/t/620058664c6ee459921ddd70/1644189799141/Expert+Mechanism+on+the+Rights+of+Indigenous+Peoples+Wet'suwet'en+Submission+Jan+2022.pdf>.
- 177 Sutton, Benjamin. 2023. "Climate Protesters Call for Removal of MoMA's Board Chair over Ties to Fossil Fuel Industry." The Art Newspaper - International Art News and Events. The Art Newspaper - International art news and events. September 15, 2023. <https://www.theartnewspaper.com/2023/09/15/museum-modern-art-protesters-climate-change-fossil-fuel-marie-josee-henry-kravis-kkr>.
- 178 "History | Macquarie Group." Macquarie.com. 2015. <https://www.macquarie.com/us/en/about/history.html>. Accessed July 2024; "Macquarie Asset Management | Macquarie Group." Macquarie.com. 2023. <https://www.macquarie.com/au/en/about/company/macquarie-asset-management.html#footnote-1>. Total AUM from Pitchbook data, accessed August 9, 2024.
- 179 "Largest Infrastructure Fund Managers | Infrastructure Investor 100." Infrastructure Investor. November 1, 2023. <https://www.infrastructureinvestor.com/infrastructure-investor-100/>.
- 180 HES International. "Infrastructure Funds Managed by Macquarie Infrastructure and Real Assets and Goldman Sachs Finalise the Acquisition of HES International from Riverstone and the Carlyle Group." HES International. HES International. March 15, 2019. <https://www.hesinternational.eu/en/news/infrastructure-funds-finalise-the-acquisition-of-hes-international>.
- 181 HES International. "HES International Terminals | HES International." HES International. HES International. 2014. <https://www.hesinternational.eu/en/terminals>.
- 182 The assets involved in this calculation include a number of oil, gas, coal, and biomass terminals and storage facilities. For a complete emissions methodology, please see: <https://docs.google.com/document/d/1E5Z0txiovgVA3KhYvAUfrcduxqipl7asgyrCnuxpYg0/edit?usp=sharing>
- 183 Schmitt, Will. 2024. "Green Investment in Texas Shows How Funds Are Navigating Anti-ESG Laws." Ft.com. Financial Times. January 7, 2024. <https://www.ft.com/content/286fe73e-d12f-47bc-b2a4-0e5c6c5c334c>.
- 184 Ibid.
- 185 Falconer, Kirk. "Energy Investor Quantum Nabs Bulk of Fund VIII's \$3.5bn Target." Buyouts. Buyouts. May 20, 2024. <https://www.buyoutsinsider.com/energy-investor-quantum-nabs-bulk-of-fund-viiis-3-5bn-target/>.
- 186 "About Quantum - Quantum." Quantum. May 9, 2023. <https://www.quantumcap.com/about-quantum/>; Total AUM from Pitchbook data, accessed August 9, 2024.
- 187 "Investing in a Brighter Future 2023 Environmental, Social & Governance Report." 2023. https://www.quantumcap.com/wp-content/uploads/2023/11/2023_Quantum_Final_ESG_Report.pdf.
- 188 EPA. "Greenhouse Gas Equivalencies Calculator." www.epa.gov. August 28, 2015. Accessed July 2024. <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results>.
- 189 OIC Agenda and Minutes. Audio. Oregon.gov. July 19, 2023. <https://www.oregon.gov/treasury/invested-for-oregon/Documents/Invested-for-OR-47OIC-Agenda-and-Minutes/Audio/2023/OIC-Audio-07192023.mp3>. (42:34-43:00).
- 190 Quantum Energy Partners Holds Final Closing of QEP VII at USD5.575bn. Private Equity Wire. August 8, 2018. [https://www.privateequitywire.co.uk/quantum-energy-partners-holds-final-closing-qep-vii-575bn/#:~:text=Quantum%20Energy%20Partners%20\(Quantum\)%20has,General%20Partner%20and%20its%20affiliates..](https://www.privateequitywire.co.uk/quantum-energy-partners-holds-final-closing-qep-vii-575bn/#:~:text=Quantum%20Energy%20Partners%20(Quantum)%20has,General%20Partner%20and%20its%20affiliates..)
- 191 Quantum Energy Partners "Investing in a Brighter Future 2023 Environmental, Social & Governance Report." 2023. https://www.quantumcap.com/wp-content/uploads/2023/11/2023_Quantum_Final_ESG_Report.pdf.
- 192 Ibid.
- 193 Ibid.
- 194 "Portfolio." Quantum. Accessed July 2024. <https://www.quantumcap.com/portfolios/>.
- 195 Eisenfeld, Josh, Dakota Raynes, and Andrew Klooster. 2024. "CERTIFIED DISASTER: How Project Canary and Gas Certification Are Misleading Markets & Governments." Earthworks. March 29, 2024. Pg. 10. <https://earthworks.org/resources/certified-disaster/>.
- 196 Ibid. pg. 29.
- 197 "Stonepeak | a Leading International Alternative Investment Firm." Stonepeak. September 14, 2021. Accessed August 9, 2024. <https://stonepeak.com/>.

198 “Who We Are.” 2022. **Seapeak.com**. 2022. Accessed July 2024. <https://www.seapeak.com/who-we-are/>.

199 White, Natasha, and Stephen Stapczynski. 2024. “How American Pension Funds Help Fund Vladimir Putin’s Gas Gambit.” **Bloomberg.com**. Bloomberg. July 19, 2024. <https://www.bloomberg.com/news/articles/2024-07-19/how-american-pension-funds-help-fund-vladimir-putin-s-gas-gambit?srnd=all>.

200 Ibid.

201 Ibid.

202 “TPG | Leading Global Private Investment Firm.” n.d. **ww.tpg.com**. Accessed August 9, 2024. <https://www.tpg.com/>.

203 Renewable natural gas (RNG) is a methane gas, which is the main component of fossil gas, but it is sourced from decaying feedstocks. Nearly all RNG comes from landfills, sewage treatment plants, or livestock manure ponds from large industrial farms. As microbes break down waste, they produce gasses that contain methane, which can be captured, processed and transported into a pipeline. Feinstein, Laura and Eric de Place. 2021. “The Four Fatal Flaws of Renewable Natural Gas,” Sightline Institute, March 9, 2021, <https://www.sightline.org/2021/03/09/the-four-fatal-flaws-of-renewable-natural-gas/>; Ruane, Kat. 2024. “The Big Oil and Big Ag Ponzi Scheme: Factory Farm Biogas.” Food & Water Watch. January 9, 2024. <https://www.foodandwaterwatch.org/2024/01/09/the-big-oil-and-big-ag-ponzi-scheme-factory-farm-biogas/>; Grubert, Emily. 2020. “At Scale, Renewable Natural Gas Systems Could Be Climate Intensive: The Influence of Methane Feedstock and Leakage Rates.” Environmental Research Letters 15 (8): 084041. August 11, 2020. <https://doi.org/10.1088/1748-9326/ab9335>.

204 TPG. “ENVIRONMENTAL SOCIAL and GOVERNANCE PERFORMANCE TPG’S ANNUAL ESG REVIEW.” 2023. <https://www.tpg.com/static/46c4f6370454f98743b928b0f4e90b80/2023-TPG-Annual-ESG-Review-FINAL.pdf>.

205 Ibid.

206 TPG Rise Climate, “The Rise Fund,” Accessed on August 12, 2022, <https://therisefund.com>; TPG Capital, “TPG’s Annual ESG Review: Environmental, Social, and Governance Performance,” 2022, https://cms.tpg.com/wp-content/uploads/2022/08/TPG-ESG-Report-2022_FINAL.pdf

207 “Firm Overview - Warburg Pincus.” **Warburgpincus.com**. November 24, 2019. Accessed August 9, 2024. <https://warburgpincus.com/firm/>.

208 “Responsible Sustainable Actionable Our Climate Strategy 28 TCFD Report 32 Climate Strategy.” 2023. https://sustainability.warburgpincus.com/wp-content/uploads/2023/08/Warburg-Pincus_2023-Sustainability-Report_vF.pdf.

209 Warburg Plans \$15 Billion Buyout Fund That Shuns Fossil Fuels,” Bloomberg Law, March 10, 2021, https://news.bloomberglaw.com/esg/warburg-plans-15-billion-buyout-fund-that-shuns-fossil-fuels?utm_source=rss&utm_medium=CTNW&utm_campaign=00000178-1d87-d55c-af79-1de789d40003

210 Citizen Energy. 2021. “Citizen Energy Expands Mid-Continent Footprint with Gas-Rich Bolt-On Acquisition,” BusinessWire. October 11, 2021, <https://www.businesswire.com/news/home/20211011005686/en/Citizen-Energy-Expands-Mid-Continent-Footprint-with-Gas-Rich-Bolt-On-Acquisition>

211 Citizen Energy. 2022. “Citizen Energy Continues Mid-Continent Success with Accretive Consolidation,” BusinessWire. June 29, 2022. <https://www.businesswire.com/news/home/20220629005976/en/Citizen-Energy-Continues-MidContinent-Success-with-Accretive-Consolidation>

212 Marshall, Nancy. 2022. “Warburg Pincus and The Heritage Group Invest in ClimeCo to Expand Global Decarbonization Platform,” Climeco. April 5, 2022, <https://climeco.com/warburg-pincus-and-the-heritage-group-invest-in-climeco-to-expand-global-decarbonization-platform/>

213 “Veteran Renewable Natural Gas Management Team Forms Viridi Energy with Equity Commitment from Warburg Pincus,” PR Newswire, June 2, 2022, <https://www.prnewswire.com/news-releases/veteran-renewable-natural-gas-management-team-forms-viridi-energy-with-equity-commitment-from-warburg-pincus-301560125.html>; Grubert, Emily. 2020. “At Scale, Renewable Natural Gas Systems Could Be Climate Intensive: The Influence of Methane Feedstock and Leakage Rates.” Environmental Research Letters 15 (8): 084041. August 11, 2020. <https://doi.org/10.1088/1748-9326/ab9335>.

214 Hodgson, Camilla and Billy Nauman. 2022. “Carbon offsets: a license to pollute or a path to net zero emissions?” Financial Times. August 30, 2022. <https://www.ft.com/content/cfaa16bf-ce5d-4543-ac9c-9d9234e10e9d>

215 Cushing, B., Arkush, D., Martin, A., and Kostyack, J. 2022. “Comment to the US Securities and Exchange Commission: Offsets Disclosures in Climate Risk Disclosure Rule,” Sierra Club, Public Citizen, Americans for Financial Reform Education Fund, Kostyack Strategies. February 2022. <https://www.sierraclub.org/sites/www.sierraclub.org/files/blog/Offsets%20Disclosures%20in%20Climate%20Risk%20Disclosure%20Rule.pdf> (See Appendix A)

216 Renewable natural gas (RNG) is a methane gas, which is chemically identical to fossil gas, but it is sourced from decaying feedstocks. Nearly all RNG comes from landfills, sewage treatment plants, or livestock manure ponds from large industrial farms. As microbes break down waste, they produce gasses that contain methane, which can be captured, processed and transported into a pipeline. Feinstein, Laura and Eric de Place. 2021. “The Four Fatal Flaws of Renewable Natural Gas,” Sightline Institute. March 9, 2021. <https://www.sightline.org/2021/03/09/the-four-fatal-flaws-of-renewable-natural-gas/>; Ruane, Kat. 2024. “The Big Oil and Big Ag Ponzi Scheme: Factory Farm Biogas.” Food & Water Watch. January 9, 2024. <https://www.foodandwaterwatch.org/2024/01/09/the-big-oil-and-big-ag-ponzi-scheme-factory-farm-biogas/>

217 According to the International Energy Agency May 2021 “Net Zero by 2050” report, the least efficient coal plants need to be phased out by 2030 and the remaining coal plants still in use by 2040 need to be retrofitted

if we are to achieve net zero by 2050, https://iea.blob.core.windows.net/assets/7ebafc81-74ed-412b-9c60-5cc32c8396e4/NetZeroBy2050-ARoadmapfortheGlobalEnergySector-SummaryforPolicyMakers_CORR.pdf; The United Nations Intergovernmental Panel of Climate Change echo this pathway and indicate that it is necessary for OECD countries to phase out of existing coal investments by 2030, with all coal investments in other countries following suit by 2040, if we are to stay under the 1.5 degrees Celsius warming scenario. Countries should also end all new fossil fuel exploration and production and shift towards renewable energy – see the UN “Secretary-General’s statement on the IPCC Working Group 1 Report on the Physical Science Basis of the Sixth Assessment.” August 9, 2021. <https://www.un.org/sg/en/content/secretary-generals-statement-the-ipcc-working-group-1-report-the-physical-science-basis-of-the-sixth-assessment#:~:text=There%20must%20be%20no%20new,fuel%20subsidies%20into%20renewable%20energy.>

218 UN Principles for Responsible Investment, ERM, and iCI Working Group. 2022. “Greenhouse Gas Accounting and Reporting For the Private Equity Sector.” May 2022. <https://www.unpri.org/download?ac=16265>

219 Interfaith Center on Corporate Accountability. 2022. “Statement of Investor Expectations for Job Standards & Community Impacts in the Just Transition.” February 2022. <https://www.iccr.org/statement-investor-expectations-job-standards-community-impacts-just-transition>

220 Prull, Daniel, and Noah Beek. 2023. “Out of Control: the Deadly Impact of Coal Pollution ACKNOWLEDGEMENTS.” February 2023. <https://coal.sierraclub.org/sites/nat-coal/files/Out%20of%20Control%20coal%20mortality%20report%20FINAL.pdf>.

221 Mobius, Ariel, and Jesse Kroll. 2021. “How Do Greenhouse Gases Trap Heat in the Atmosphere?” MIT Climate Portal. MIT. February 19, 2021. <https://climate.mit.edu/ask-mit/how-do-greenhouse-gases-trap-heat-atmosphere>.

222 “April 2024 Was Earth’s Warmest on Record | National Oceanic and Atmospheric Administration.” 2024. [www.noaa.gov](https://www.noaa.gov/news/april-2024-was-earths-warmest-on-record). May 14, 2024. <https://www.noaa.gov/news/april-2024-was-earths-warmest-on-record>.

223 National Centers for Environmental Information. 2024. “Billion-Dollar Weather and Climate Disasters | National Centers for Environmental Information (NCEI).” www.ncei.noaa.gov. <https://www.ncei.noaa.gov/access/billions/>.

224 Guterres, António. Secretary-General’s special address on climate action “A Moment of Truth.” June 5, 2024. Available <https://www.un.org/sg/en/content/sg/speeches/2024-06-05/secretary-generals-special-address-climate-action-moment-of-truth%2%A0>

225 In compliance with IEA Net Zero 2050 1.5 degrees Celsius scenario analysis. By this, we mean asset managers should not expand beyond their current fossil fuel portfolios through new acquisitions, new construction, or add-ons by existing or newly acquired portfolio companies.

226 Howell, Andrew, Dominic Watson, Andrew Baxter, and Gabriel Malek. 2021. Review of The Burning Question: How to Fix Flaring. [Edf.org](https://business.edf.org/wp-content/blogs.dir/90/files/ESG-by-EDF-Flaring-Report-Book-V2-Reduced.pdf). Environmental Defense Fund. October 21, 2021. <https://business.edf.org/wp-content/blogs.dir/90/files/ESG-by-EDF-Flaring-Report-Book-V2-Reduced.pdf>; Oliveria Bredariol, Tomás de. 2023. Review of Gas Flaring. [lea.org](https://www.iea.org/energy-system/fossil-fuels/gas-flaring). International Energy Agency. 2023. <https://www.iea.org/energy-system/fossil-fuels/gas-flaring>.

227 Environmental Defense Fund. 2021. “Methane: A crucial opportunity in the climate fight.” Accessed August 16, 2022. <https://www.edf.org/climate/methane-crucial-opportunity-climate-fight>.

228 In 2020, Alliance Bernstein, CalSTRS, and Legal and General Investment Management endorsed ending routine flaring in Texas by 2025, while BlackRock has called for nearly eliminating flaring by 2025. Source: Crowley, K. 2020. “Investment Giants Urge Texas To End Most Natural Gas Flaring.” Bloomberg. September 4, 2020, <https://www.bloomberg.com/news/articles/2020-09-04/investment-giants-urge-texas-to-end-most-flaring-of-natural-gas>; Watson, D., LaMair, E., “Investor Guidance on EPA Proposed Standards for Oil and Natural Gas Methane Emissions,” Environmental Defense Fund, December 2, 2021, <https://business.edf.org/files/Investor-Guide-to-Commenting-on-EPA-Methane-Rule-Proposal.pdf>. In 2020, ExxonMobil reported reducing its own routine flaring at a pace that is consistent with eliminating flaring by 2025, while confirming that ending routine flaring is “within everyone’s reach.” Source: Ratner, B., “BP, Shell and investment giants call for Texas zero flaring regulations. Will others follow?,” Environmental Defense Fund, September 10, 2020, <https://blogs.edf.org/energyexchange/2020/09/10/bp-shell-and-investment-giants-call-for-texas-zero-flaring-regulations-will-others-follow/>

229 Bain & Company, The Private Equity Market in 2020: Escape from the Abyss, March 2021 <https://www.bain.com/insights/the-private-equity-market-in-2020/>

230 Carrington, D., “Climate limit of 1.5C close to being broken, scientists warn,” The Guardian, May 9, 2022, <https://www.theguardian.com/environment/2022/may/09/climate-limit-of-1-5-c-close-to-being-broken-scientists-warn>; World Meteorological Organization, “Global Annual to Decadal Climate Update,” 2022, https://hadleyservier.metoffice.gov.uk/wmolc/WMO_GADCU_2022-2026.pdf

231 Welsby, D., Price, J., Pye, S., Ekins, P., “Unextractable fossil fuels in a 1.5°C world,” Nature (597), September 9, 2021, 230-234, <https://www.nature.com/articles/s41586-021-03821-8>; Carrington, D., “How much of the world’s oil needs to stay in the ground?” The Guardian, September 8, 2021, <https://www.theguardian.com/environment/2021/sep/08/climate-crisis-fossil-fuels-ground>

232 Tong, D., Zhang, Q., et al., “Committed emissions from existing energy infrastructure jeopardize 1.5°C climate target,” Nature (572), August 15, 2019, 373-377, <https://www.nature.com/articles/s41586-019-1364-3>; Carrington, D., “Shut down fossil fuel production sites early to avoid climate chaos, says study,” The Guardian, May 17, 2022, <https://www.theguardian.com/environment/2022/may/17/shut-down-fossil-fuel-production-sites-early-to-avoid-climate-chaos-says-study>.

233 United Nations, “Secretary-General’s statement on the IPCC Working Group 1 Report on the Physical Science Basis of the Sixth Assessment”, August 9, 2021, <https://www.un.org/sg/en/content/secretary-generals-statement-the-ipcc-working-group-1-report-the-physical-science-basis-of-the-sixth-assessment#:~:text=There%20must%20be%20no%20new,fuel%20subsidies%20into%20renewable%20energy.>

234 According to the International Energy Agency’s “Net Zero by 2050” report, the least efficient coal plants need to be phased out by 2030 and the remaining coal plants still in use by 2040 need to be retrofitted if we are to stay under the 1.5°C warming scenario. https://iea.blob.core.windows.net/assets/7ebafc81-74ed-412b-9c60-5cc32c8396e4/NetZeroBy2050-ARoadmapfortheGlobalEnergySector-SummaryforPolicyMakers_CORR.pdf

235 UN Principles for Responsible Investment, ERM, and iCI Working Group, “Greenhouse Gas Accounting and Reporting For the Private Equity Sector,” May 2022, <https://www.unpri.org/download?ac=16265>

236 Krukowska, Eva, “Carbon Offsets Have an Integrity Problem. COP26 May Help Fix It,” Bloomberg, Nov. 16, 2021, <https://www.bloomberg.com/news/articles/2021-11-17/carbon-offsets-have-an-integrity-problem-cop26-may-help-fix-it>; New Climate Institute and Carbon Market Watch, “Corporate Climate Responsibility Monitor 2022,” Feb. 2022, <https://newclimate.org/sites/default/files/2022/02/CorporateClimateResponsibilityMonitor2022.pdf>; White, Natasha and Rathi, Akshat, “Green Groups Want Offsets Disclosed as Part of the SEC’s Climate Rule,” Bloomberg, Feb. 14, 2022, <https://www.bloomberg.com/news/articles/2022-02-14/green-groups-want-offsets-disclosed-as-part-of-sec-s-climate-rule>.

237 Berk, Norah, and Lungungu, Prince, “REDD-Minus: The Rhetoric and Reality of the Mai Ndombe REDD+ Programme,” London: Rainforest Foundation UK, 2020, <https://www.rainforestfoundationuk.org/media.ashx/redd-minus.pdf>; Jennifer Devine, “Counterinsurgency Ecotourism in Guatemala’s Maya Biosphere Reserve.” Environment and Planning D: Society and Space 32, no. 6 (January): 984–1001, 2014, available at <https://doi.org/10.1068/d13043p>; Milne, Sarah, Sango Mahanty, Phuc To, Wolfram Dressler, Peter Kanowski, and Maylee Thavat, “Learning From ‘Actually Existing’ REDD+: A Synthesis of Ethnographic Findings,” Conservation and Society 17, no. 1 (2019): 84–95, 2019, available at <https://www.environmentandsociety.org/mml/learning-actually-existing-redd-synthesis-ethnographic-findings>.

238 The call for disclosure of offsets applies across investment portfolios, not just the private equity firm’s own corporate operations. The integrity risks of reliance on offsets are described here: Cushing, B., Arkush, D., Martin, A., and Kostyack, J., “Comment to the US Securities and Exchange Commission: Offsets Disclosures in Climate Risk Disclosure Rule,” Sierra Club, Public Citizen, Americans for Financial Reform Education Fund, Kostyack Strategies, February 2022, <https://www.sierraclub.org/sites/www.sierraclub.org/files/blog/Offsets%20Disclosures%20in%20Climate%20Risk%20Disclosure%20Rule.pdf>

239 Jacobsen, M., “The health and climate impacts of carbon capture and direct air capture,” Energy & Environmental Science, 2019 (12). <https://web.stanford.edu/group/efmh/jacobson/Articles/Other/19-CCS-DAC.pdf>; Climate Justice Alliance, Grassroots Global Justice Alliance, Institute for Policy Studies Climate Policy Program, New York Lawyers for the Public Interest, Indigenous Environmental Network, and Michigan Environmental Justice Coalition letter to the White House’s Council on Environmental Quality, 2022, https://docs.google.com/document/d/1m8j83i6sa-o_gZ_hORcb8xcOFok5m9Ft5rFeOfASGE/edit.

240 Network for Greening the Financial System, “A call for action: Climate change as a source of financial risk,” April 2019, https://www.ngfs.net/sites/default/files/medias/documents/ngfs_first_comprehensive_report_-_17042019_0.pdf; Network for Greening the Financial System, “Scenarios Portal”, Accessed August 16, 2022, <https://www.ngfs.net/ngfs-scenarios-portal/>

241 United Nations, “United Nations Declaration on the Rights of Indigenous Peoples, September 2007, https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf

242 United Nations Principles of Responsible Investment, “Deforestation as systemic risk: An opportunity for investors collective action,” Accessed May 18, 2022, <https://www.unpri.org/sustainable-land-use/deforestation-as-a-systemic-risk-an-opportunity-for-investors-collective-action/7711.article>.

243 Rainforest Action Network, “Principles For Paris-Aligned Financial Institutions: Climate Impact, Fossil Fuels, And Deforestation,” September 16, 2020, https://www.ran.org/wp-content/uploads/2020/09/RAN_Principles_for_Paris-Aligned_Financial_Institutions.pdf

244 The Paris Agreement notes “the importance of ensuring the integrity of all ecosystems, including oceans, and the protection of biodiversity, recognized by some cultures as Mother Earth.” https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf

245 Rainforest Action Network, “Principles For Paris-Aligned Financial Institutions: Climate Impact, Fossil Fuels, And Deforestation,” September 16, 2020, https://www.ran.org/wp-content/uploads/2020/09/RAN_Principles_for_Paris-Aligned_Financial_Institutions.pdf

246 Global Canopy, “Deforestation-Free Finance,” Accessed May 18, 2022, <https://guidance.globalcanopy.org/>

247 According to the International Labour Organization, a ‘just transition’ means ‘greening the economy in a way that is as fair and inclusive as possible to everyone concerned, creating decent work opportunities and leaving no one behind. A Just Transition involves maximizing the social and economic opportunities of climate action, while minimizing and carefully managing any challenges – including through effective social dialogue among all groups impacted, and respect for fundamental labour principles and rights.’” Source: International Labour Organization, “Frequently Asked Questions on Just Transition,” https://www.ilo.org/global/topics/green-jobs/WCMS_824102/lang--en/index.htm, Accessed May 17, 2022.

248 These demands are based on the UNPRI’s Investor Expectations on Corporate Climate Lobbying found here:

249 https://www.unpri.org/Uploads/i/k/t/Investor-Expectations-on-Corporate-Climate-Lobbying_en-GB.pdf
 The Climate Demands And Scorecard For Private Equity were developed by the Sunrise Project, Private Equity
 Stakeholder Project, and Americans for Financial Reform Education Fund. The demands are endorsed by Action
 Center on Race and the Economy, Climate Finance Action, Friends of the Earth, Food and Water Watch, Green-
 peace, Natural Resources Defense Council, Public Citizen, Sierra Club, and Stand.earth.

250 See footnotes 28-30 at p. 10.

251 For examples see: Yang, Lin (2014), , "An Inventory of Composite Measures of Human Progress," UNDP Human
 Development Report Office; United Nations Development Programme (1990), "Human Development Report
 1990: Concept and Measurement of Human Development," [http://www.hdr.undp.org/en/reports/global/
 hdr1990](http://www.hdr.undp.org/en/reports/global/hdr1990).

252 Total emission of assets within the scope of this report. See "Emissions Estimates" below.

253 Yang (2014).

254 Because the geometric mean requires the product of the indicators, in every instance where we either do not
 have data or we have a value of zero that could be dependent on lack of information for that indicator (like
 emissions), using the geometric mean will yield a total score of zero. But such zero would be attributed to the
 lack of information, not progress towards mitigating climate change.

255 Carlyle. 2023. "The EBITDA of ESG 2023 ESG Report." p. 61. [https://www.carlyle.com/sites/default/files/2023-06/
 Carlyle-ESG-Report-2023.pdf](https://www.carlyle.com/sites/default/files/2023-06/Carlyle-ESG-Report-2023.pdf).

256 **ibid.pp** 46, 67.

257 Initiative climate international. 2022. "Greenhouse Gas Accounting and Reporting for the Private Equity Sec-
 tor." May, 9 2022. Accessed March 14, 2023. [https://www.unpri.org/private-equity/greenhouse-gas-account-
 ing-and-reporting-for-the-private-equity-sector/9937.article](https://www.unpri.org/private-equity/greenhouse-gas-accounting-and-reporting-for-the-private-equity-sector/9937.article)

258 Americans for Financial Reform Education Fund, Public Citizen, the Sierra Club, the Ocean Conservancy, and the
 Sunrise Project. "The Enhancement and Standardization of Climate-Related Disclosure for Investors." Comment
 on the proposed rule by the Securities and Exchange Commission. 87 FR 21334, Docket ID: SEC-2022-06342,
 File No. S7-10-22. June 16, 2022. At pp. 139-141. [https://ourfinancialsecurity.org/wp-content/uploads/2022/06/
 SEC_Technical-Comment_June-16.pdf](https://ourfinancialsecurity.org/wp-content/uploads/2022/06/SEC_Technical-Comment_June-16.pdf)

259 Rocky Mountain Institute. 2023. "Oil Climate Index Plus Gas." Last updated April 2023. Accessed June 2023.
<https://ociplus.rmi.org/>

260 Carbon Tracker Initiative. "About Us." <https://carbontracker.org/>

261 Intergovernmental Panel on Climate Change. "Emission Factor Database." [https://www.ipcc-nggip.iges.or.jp/
 EFDB/main.php](https://www.ipcc-nggip.iges.or.jp/EFDB/main.php)

262 Rystad Energy. "About Us." Accessed April 2022-March 2023. <https://www.rystadenergy.com/>

263 Global Energy Monitor. "Estimating Carbon Dioxide Emissions from Coal Mines." Global Energy Monitor. Ac-
 cessed August 7, 2024. https://www.gem.wiki/Estimating_carbon_dioxide_emissions_from_coal_mines

264 Global Energy Monitor. "Estimating Methane Emissions from Coal Mines." Global Energy Monitor. Accessed Au-
 gust 7, 2024. [https://www.gem.wiki/Estimating_methane_emissions_from_coal_mines\[1\]](https://www.gem.wiki/Estimating_methane_emissions_from_coal_mines[1]).

265 Swanson, Christina and Amanda Levin. 2020. "SAILING TO NOWHERE: LIQUEFIED NATURAL GAS IS NOT AN
 EFFECTIVE CLIMATE STRATEGY". Natural Resources Defense Council. December 2020. Accessed November 29,
 2023. <https://www.nrdc.org/sites/default/files/sailing-nowhere-liquefied-natural-gas-report.pdf>

266 US Energy Information Administration. "Electricity Power Monthly." eia.gov. Accessed August 2022. [https://
 www.eia.gov/electricity/monthly/](https://www.eia.gov/electricity/monthly/)

