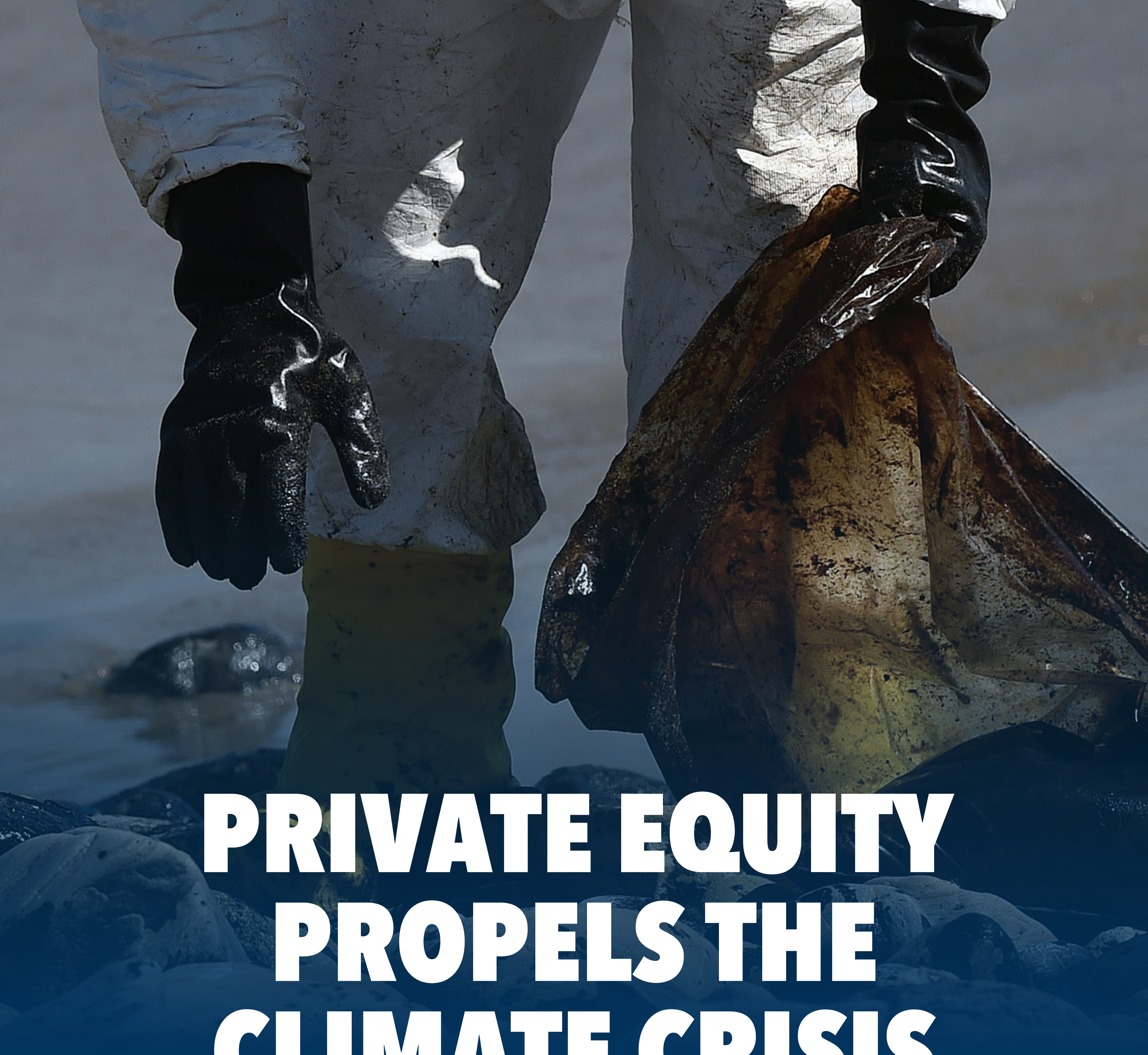

# PRIVATE EQUITY PROPELS THE CLIMATE CRISIS

The risks of a shadowy industry's massive exposure to oil, gas and coal

OCTOBER 2021

Private Equity Stakeholder Project

**OCTOBER 2021**

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**About Us**

The private equity industry is massive, hugely influential, and playing a role in more and more aspects of life in the US and around the world. The industry manages nearly $7.5 trillion in assets and owns companies that employ more than 11 million American workers, plus millions more around the world. The mission of the Private Equity Stakeholder Project is 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.

**On the Cover:**

Workers clean oil from the rocks and beach at Refugio State Beach in Goleta, California, May 22, 2015. Kayne Anderson owned Plains All American Pipeline, the oil company behind the crude spill on the California Coast, that resulted in a State of Emergency declaration by the governor. Plains vowed to do the "right thing" to clear up the mess, even as reports emerged of past leaks involving its pipelines. Plains made the pledge as it said nearly 8,000 gallons of oil had been scooped up, out of some 21,000 gallons believed to have flooded into the ocean near Santa Barbara, northwest of Los Angeles.

As of 2013, private equity firm Kayne Anderson noted that Plains All American was a portfolio company in their SEC filings (Source: SEC, Kayne Anderson Preliminary Prospectus Supplement, February 19, 2014).

# Contents

# Introduction

**Private equity firms have invested around**

**$1.1 TRILLION DOLLARS**

**into energy assets since 2010.[2]**

**That is double the market value of Exxon, Chevron, and Royal Dutch Shell combined.[3]**

The private equity industry has pumped hundreds of billions of dollars into fossil fuel companies—buying up offshore drilling in the Gulf of Mexico, propping up fracking operations, expanding infrastructure through pipelines and export terminals, spewing pollution from gas and coal power plants—with minimal public scrutiny.

Unlike the publicly-traded oil majors, the $7.4 trillion private equity industry[1] has investments in fossil fuel assets that are—by definition—private and exempted from most public disclosure rules. There are no comprehensive disclosures of their holdings, let alone of their environmental and community impacts.

An analysis of deals tracked by data provider Pitchbook showed that private equity firms have invested around $1.1 trillion dollars into energy assets since 2010.[2] That is double the market value of Exxon, Chevron, and Royal Dutch Shell combined.[3]

Private equity's energy investments are dominated by fossil fuel holdings that are contributing to the climate crisis through emissions of methane, carbon dioxide and other greenhouse gases (GHG). These investments and operations have significant and long-lasting impacts on the planet and its people, with communities of color shouldering a disproportionate share of the harms of fossil fuels including compromised health[4] and damage from extreme weather tied to climate change.[5]

Scientists convened by the United Nations warned in August that steep cuts in emissions are crucial, requiring immediate action to shift away from fossil fuels.[6] As publicly listed oil majors face growing pressure from shareholders[7] and courts[8] to cut emissions, many are seeking to demonstrate progress by selling fossil fuel assets. However, private equity firms have repeatedly stepped up as buyers of those assets, negating progress on climate impacts.[9]

Thus, investors may find fossil fuel assets shifting from their portfolios' public market investments over to the private markets, where fossil fuel extraction and operations continue in the shadows. Simultaneously, fundraising by private equity firms has accelerated, with $460 billion in commitments in the first half of 2021, giving firms plentiful capital to deploy.[10]

This report explores the energy holdings for ten of the world's largest alternative asset managers which combined manage $3 trillion in assets:[11] Ares Management, Apollo Global Management, The Blackstone Group, Brookfield Asset Management/Oaktree Capital, The Carlyle Group/NGP Energy Capital, CVC Capital, KKR, Kayne Anderson, TPG Capital and Warburg Pincus.[12]

The private equity industry must take responsibility for its role in the climate crisis. Firms should disclose all energy holdings and impacts, a plan to swiftly transition to clean energy, and ensure investment practices align with a 1.5 degree Celsius scenario. Investors, regulators and policymakers must compel private equity firms to provide full transparency on their fossil fuel holdings and impacts and act now to ensure a livable future for all.

**Fundraising by private equity firms has accelerated, with**

**$460 BILLION**

**in commitments in the first half of 2021, giving firms plentiful capital to deploy.[10]**

**$3 TRILLION**

**in total assets combined for the 10 managers[11]**

# Fossil Fuel Investments Eclipse Clean Energy

The ten private equity firms examined in this report collectively own over 300 portfolio companies across the energy sector, with the vast majority related to oil, gas and coal.[13] Eighty percent of the energy assets held by these ten private equity firms reviewed in this report are in fossil fuels, while only 20 percent are in renewables (see Figure 1).

Fossil fuels continue to dominate energy investments by private equity despite the efforts of individual firms touting their Environmental, Social, Governance (ESG) investment strategies and appetite for renewables and the private equity industry trade group highlighting sustainable investments.[14]

A review of acquisitions by these firms year by year over the past decade illustrates the persistent focus on fossil fuel assets, as seen in the figure below. In 2020, the economic and fuel demand disruptions from the COVID-19 pandemic resulted in fewer fossil fuel deals for the ten firms examined, the smallest number of deals since 2011. By comparison, the number of acquisitions of renewable firms was higher than prior years – but was still behind the number of fossil fuel deals. So far in 2021, private equity managers continue to pursue new fossil fuel acquisitions to add to their existing oil and gas portfolios, in addition to renewable deals, which means their negative environmental impacts will be ongoing (see Figure 2).

FIGURE 1

**PRIVATE EQUITY ENERGY PORTFOLIO ASSET BREAKDOWN**

**Renewable vs Fossil Fuel**

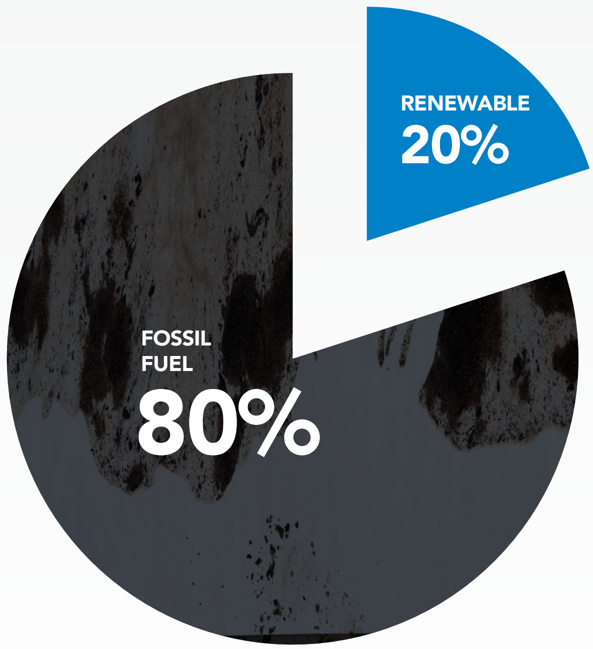
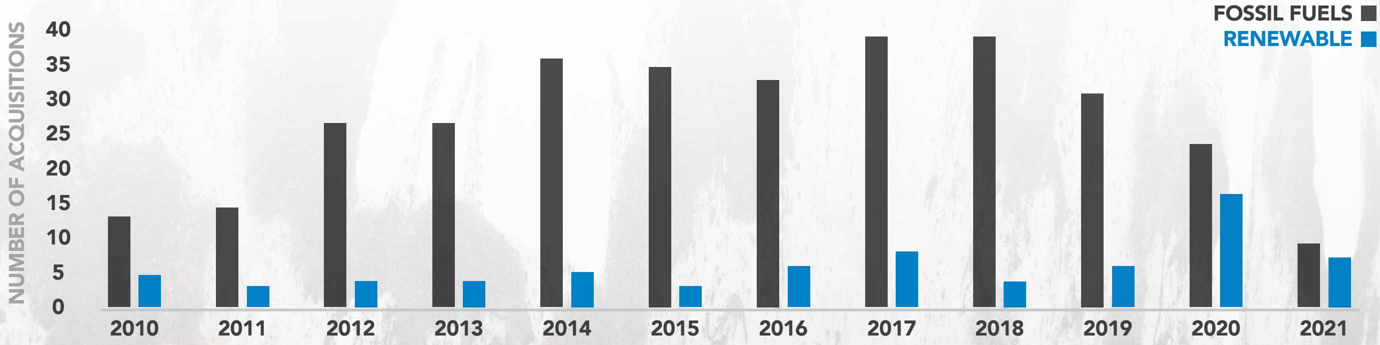



FIGURE 2

**PRIVATE EQUITY'S FOSSIL FUEL VS. RENEWABALE PORTFOLIO ASSETS (2010-2020)**



Beyond the number of deals executed, another measure of private equity's interest in fossil fuels is in the amount of capital deployed. In line with the lack of transparency across the industry, private equity firms do not consistently disclose the size of transactions. Based on the deal information available for the acquisitions examined in this report, over the past decade the average fossil fuel deal was around $880 million, compared to the average for renewable deals of around $397 million.[15] In other words, on average, fossil fuel deals pursued by these ten firms were more than double the size of renewable deals.

Larger deals are heavily weighted toward fossil fuels; the ten managers in this report secured 83 deals over $500 million for companies in the oil and gas industry. Transactions in renewable energy trend toward smaller deals, with only 15 surpassing $500 million.

The combination of pursuing vastly more fossil fuel companies and transactions that are substantially larger indicates that private equity has pumped considerably more capital into dirty energy. Even with the recent uptick in renewable deals in 2020, private equity has directed a far smaller amount of money into climate solutions.

# Fossil Fuel Holdings Pose Serious Risks, Provide Low Returns

Private equity firms' clients—institutional investors like pension funds—face risks from exposure to fossil fuels in their portfolios because of the mounting impacts of the climate crisis.[16] Institutional investors face the prospect of substantial losses through climate change risks including physical risks to assets from flooding, drought or fire; transition risks for investments in conventional energy with diminishing demand or stranded assets; and liability risk for failing to meet fiduciary obligations or duty of care by insufficiently accounting for climate change.[17]

Companies with extensive fossil fuel holdings are vulnerable in the transition to clean energy as fossil fuel consumption inevitably declines due to regulatory mandates and public demand.[18] Even the oil majors are acknowledging a permanent shift, with Royal Dutch Shell joining other oil majors in saying earlier this year that the world had reached peak oil production in 2019, and that going forward it expects annual declines.[19] Last September, British oil giant BP came to the same conclusion that oil demand peaked in 2019.[20]

Private equity's bets on energy have generally failed to deliver strong returns to investors over the past decade, despite hundreds of billions invested in the sector. Oil- and gas-focused funds have been among the lowest-yielding strategies for private capital over the past decade, lagging buyout firms by about five percentage points, according to a 2020 *Bloomberg* analysis of Preqin data.[21] An analysis of nearly 200 energy funds by *Cambridge Associates* also concluded in 2020 that returns trailed broader private equity returns.[22] The energy funds sponsored by many of the largest buyout firms, including Ares, Apollo, KKR and Carlyle, have posted negative returns.[23]

Private equity-backed oil and gas companies may be more susceptible to financial risks due to higher debt loads and volatility. In 2020, the disruptions to demand and price triggered by the pandemic resulted in an unusually high number of bankruptcies in the oil and gas sector, the majority of which were filed by companies owned by private equity firms—which also carried a higher debt burden.[24]

# Code Red for Communities of Color and the Climate

The climate crisis is accelerating with real time economic and social impacts, underscoring the urgency of immediate and meaningful action by corporations and governments. The summer of 2021 has clearly illustrated the crisis with a distressing number of events linked to climate change. A heat dome in the Pacific Northwest and Western Canada killed hundreds of people,[25] warped roadways[26] and left forecasters stunned.[27] At the same time, flooding in the Midwest overwhelmed infrastructure.[28] The parched Western U.S. is experiencing the worst drought conditions in two decades.[29] Intense wildfires on the West Coast sent smoke thousands of miles to contaminate air on the East Coast.[30] In Europe, catastrophic flooding killed hundreds in Germany and Belgium.[31]

The United Nations Intergovernmental Panel on Climate Change (IPCC) report published in August warned that sharp reductions in greenhouse gasses are urgently required. A 1.5 degree Celsius rise in global temperatures has become nearly unavoidable, due to decades of inaction and continued emissions from fossil fuel usage. The hazards unleashed by extreme weather and sea-level rise will accelerate in the coming decades, the report found, but even more devastating impacts could be ameliorated by an immediate shift away from fossil fuels.[32] UN Secretary General António Guterres said, "This report must sound a death knell for coal and fossil fuels, before they destroy our planet."[33]

The world's largest private equity firms contribute to the continued expansion of fossil fuel infrastructure and its associated harm towards marginalized communities. For instance, 64 percent of the total population living near the Blackstone Group's greenhouse gas (GHG) emitting


**The world's largest private equity firms contribute to the continued expansion of fossil fuel infrastructure and its associated harm towards marginalized communities.**

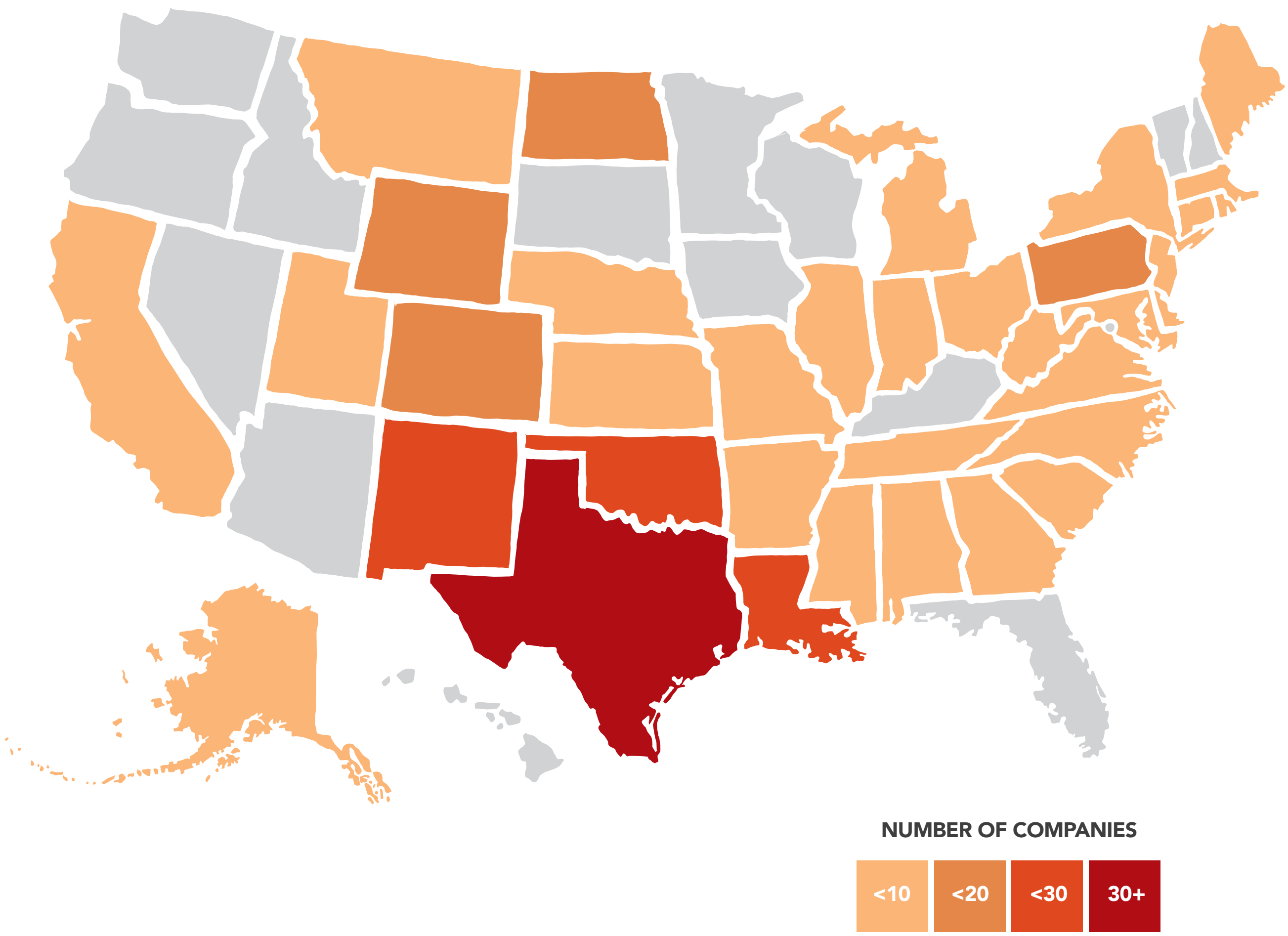
**64%** of the total population living near Blackstone Group's greenhouse gas (GHG) emitting facilities are communities of color.[34]

**60%** of the total population living near Ares Management's GHG emitting facilities are communities of color.[36]

*Climate change is fueling hurricanes like Ida. Jacqueline Smith waits with her mother Lucille Matthew for transportation after they were rescued from their flooded neighborhood in the aftermath of Hurricane Ida on August 30, 2021 in Laplace, Louisiana. Ida made landfall August 29, as a category 4 storm southwest of New Orleans. (Photo by Scott Olson/Getty Images)*

FIGURE 3

## PRIVATE EQUITY BACKED FOSSIL FUEL OPERATIONS BY STATE




facilities are people of color.[34] Similarly, 66 percent of the communities living around Arclight Capital's facilities are communities of color.[35] And 60 percent of the communities living around Ares Management's environmentally harmfully facilities are racially marginalized communities.[36]

Nationally, 17.6 million people live within one mile of an active oil or gas well[37] – that is more than the populations of New York City, Los Angeles, Chicago, and Houston combined. More than 6.1 million people live within three miles of an oil and gas refinery.[38]

A recent report by Greenpeace, the Movement for Black Lives, and the Gulf Coast Center for Law & Policy warned that the costs to human health from dangerous fossil fuel pollution fall most heavily on the disadvantaged, particularly Black, Brown, Indigenous, and poor communities.[39] The report found that, "Fossil fuels — coal, oil, and gas — lie at the heart of the crises we face, including public health, racial injustice, and climate change" based on a history of "Racist practices such as redlining and housing discrimination, longstanding social and racial inequalities, colonization, Indigenous genocide and removal" and political complicity with corporate irresponsibility.[40]

From our sample of about 125 private equity-owned companies with domestic fossil fuel operations, communities in Oklahoma, Louisiana, New Mexico, and Texas each contend with substantial fossil fuel exposure. Low income and minority communities in south Texas bear the brunt of private equity's environmental and public health harms,[41] with over 70 private equity owned companies primarily

## Nationally, 17.6 million people live within one mile of an active oil or gas well.[37]

**That is more than the populations of New York City, Los Angeles, Chicago, and Houston combined.**

**More than 6.1 million people live within three miles of an oil and gas refinery.[38]**

operating in the extraction and production hotbeds of the Permian Basin and the Eagle Ford Shale (see Figure 3).[42]

The majority of people living near gas flaring in these two drilling regions are people of color.[43] Latina women in the Eagle Ford shale face significantly higher risk of giving birth prematurely.[44] Other studies have found similar results in Colorado,[45] Pennsylvania,[46] and Oklahoma.[47] Moreover, fracking wastewater contains potentially harmful chemicals and metals and has been tied to contamination of surface and groundwater. A 2016 study published in the *American Journal of Public Health* found the that although fracking activity was slightly more prevalent in white communities, fracking wastewater wells were more frequent in communities of color.[48]

Together, the Permian Basin in Texas and New Mexico, the Eagle Ford Shale in Texas and the Bakken Shale in North Dakota and Montana account for 83 percent of the gas flaring activity in the country. Half a million people living in those basins reside within three miles of a flare, with 39 percent living close to more than 100 flares.[49]

As nations prepare for the UN Climate Change Conference (COP26) in November, public and private sector actors must make strong commitments to cut their own emissions.[50] The IPCC report's "code red for humanity" brings increased urgency.[51] Seeking to restore its global leadership, the United States aims to cut its emissions by half within a decade.[52]

Adding to the urgency, the International Energy Agency released a Net Zero by 2050 roadmap, declaring that the pathway to achieve net-zero emissions is "narrow but achievable" and requires "nothing short of a complete transformation of the global energy system." The narrow pathway calls for no new oil, gas or coal projects to be developed, and for all existing operations to focus on emissions reduction.[53]

Given their massive fossil fuel exposure, private equity firms have an urgent responsibility to address the significant role they play in propelling the climate crisis, and must start being transparent about the financial and social risks of their continued exposure to the fossil fuel sector.

# From Sunlight to Darkness – Private Equity Shifts Dirty Energy into the Shadows

Private equity firms continue to hold, build and buy more fossil fuel assets despite demands to urgently reduce emissions in order to forestall the worst of the climate crisis.

For example, Oaktree Capital has expanded its fossil fuel exposure, with at least three upstream acquisitions in 2020 including a $900 million commitment to FourPass Energy drilling company in Colorado,[54] a $700 million commitment to Banpu Kalnin Ventures to pursue upstream natural gas,[55] and a $1 billion deal with Diversified Energy & Gas to fund joint acquisitions to expand the company's footprint,[56] which in July 2021 acquired assets in Louisiana and Texas.[57]

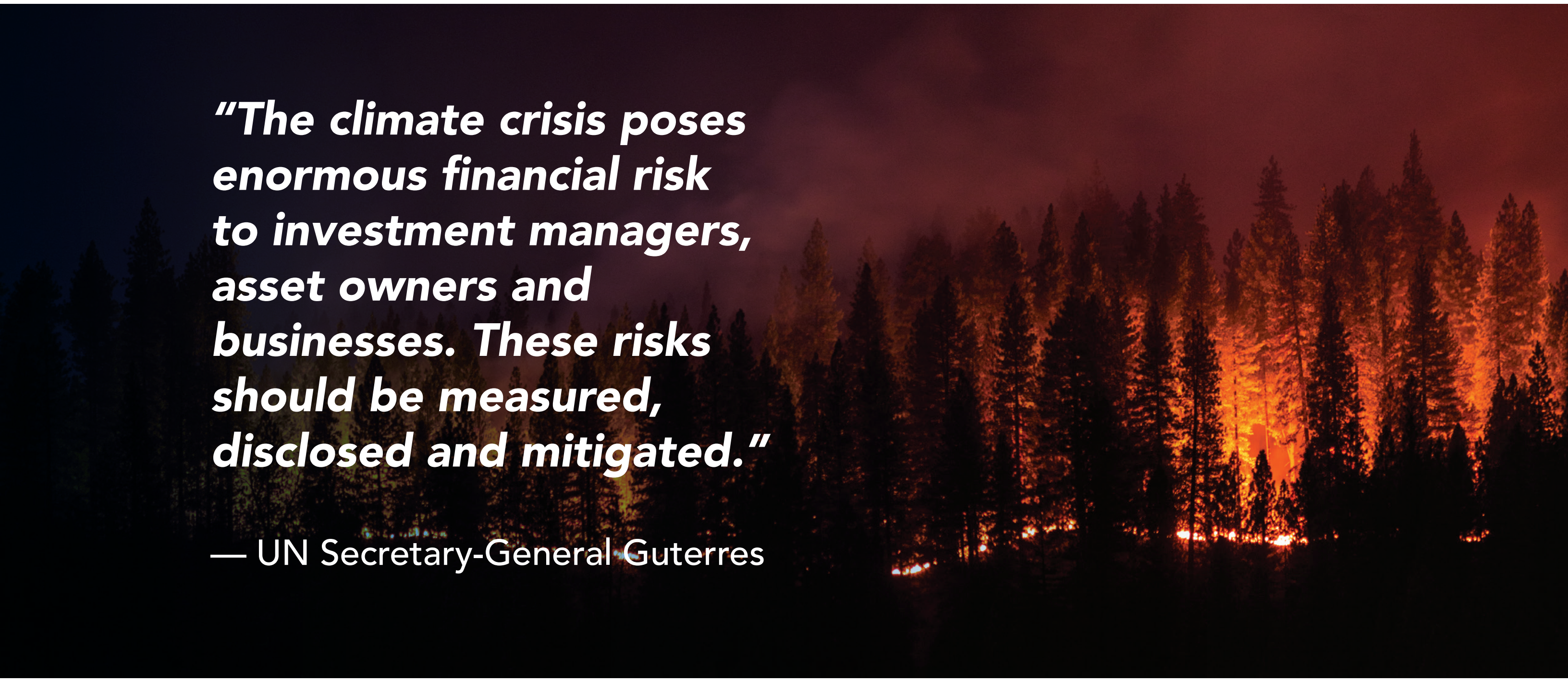
Blackstone recently acquired midstream pipeline company Tallgrass Energy, which is developing a new oil export terminal in Louisiana that would emit more than 500,000 tons of greenhouse gasses annually and would be built over a historic graveyard for enslaved people, according to the *Times-Picayune*.[58]

Private equity firms have also shown a sizeable appetite for acquiring assets from publicly-traded oil majors that are looking to shed segments of their operations in response to public pressure and to reduce exposure to climate risks.[59] For example, the Carlyle Group recently acquired Occidental Petroleum's oil fields in Colombia and was in talks to acquire the company's oil fields in Ghana as well.[60] KKR's Contango Oil & Gas expanded its fracking operations by buying up all of ConocoPhillips' drilling assets in Wyoming in July 2021.[61]

Private equity firms are also acquiring fossil fuel assets from some of the world's largest producers, Abu Dhabi and Saudi Arabia, which are planning to expand production.[62] The *Financial Times* recently reported that pressure on publicly listed oil companies "in short-term production could shift to private or state-owned companies which face much less scrutiny over their activities."[63] Examples of such transactions include:

- In 2021, Brookfield bid $6.8 billion for Inter Pipeline, a major petroleum transportation and natural gas liquids processing business operating in Western Canada.[64]
- Private energy specialist EIG led a consortium in a $12 billion deal to buy a 49 percent stake in Saudi Arabia's pipelines in June 2021.[65]
- Several private equity firms have inked deals with the Abu Dhabi National Oil Company as well, including a $10 billion deal in 2020 by a consortium that included Brookfield Asset Management.[66]
- KKR participated in a $4 billion deal with the Abu Dhabi National Oil Company to buy a 40 percent stake in its pipelines in 2019.[67]
- In 2016, Brookfield invested in Brazil's NTS 2,000-kilometer (1,243-mile) gas pipeline network. Earlier this year, it increased its stake to 100 percent ownership.[68] This network is responsible for approximately 50 percent of gas consumption in Brazil.[69]

# Stakeholders Must Act Now to Push Private Equity to Exit Fossil Fuels




The accelerating climate emergency calls for dramatic action to reduce fossil fuels now. The private equity industry's energy investments contribute substantially to climate change, and thus, these asset managers must provide transparency to the public and investors about their fossil fuel holdings, emissions, and impacts on communities.

Based on the IPCC Climate Report, UN Secretary-General Guterres said, "The climate crisis poses enormous financial risk to investment managers, asset owners and businesses. These risks should be measured, disclosed and mitigated." He noted that corporations must align their portfolios with the Paris Agreement and that, "The public and private sector must work together to ensure a just and rapid transformation to a net-zero global economy."[70]

To date, the private equity industry has not adequately addressed its role in propelling climate change, which underscores the importance of engagement by stakeholders to press the industry to pivot away from fossil fuels.

Institutional investors whose capital is at risk must demand that their private market partners use their capital responsibly through investing in adherence to a 1.5 degree future. Investors should insist that private equity managers:

- Develop and disclose a plan with clear incremental benchmarks to shift energy portfolios to be pollution free
- Commit to no expansion of fossil fuel development or operations, in alignment with the IEA Net Zero 2050 roadmap
- Provide a risk management strategy under a 1.5 degree warming scenario consistent with science-based emissions targets, as well as scenarios above 1.5 degrees
- Disclose all direct and indirect emissions (Scope 1, 2, and 3) as well as other climate impacts such as spills, accidents, explosions, citations for environmental violations

- Engage with impacted communities to develop a just transition program both for the workforce and for communities impacted by current fossil fuel holdings

- Provide transparency on political spending and how it aligns with the UN PRI's Investor Expectations on Corporate Climate Lobbying  including:

    - Corporate and executive political spending – lobbying and campaign contributions
    - Political spending by portfolio companies and their executives
    - Membership in trade associations and how those trade associations' lobbying positions align with the goals of the Paris Agreement

Regulators like the Securities Exchange Commission (SEC) that oversee the stability of markets for investors have an important role to play as well.  Under the current lax regulatory structure, private equity firms have produced subjective and vague reports of their efforts on environmental issues. For members of the public and investors, there is no way to discern which companies have greater climate impacts, which are engaged in greenwashing through misleading ESG policies, or which may be genuinely working to disclose and mitigate climate impacts and emissions.  The SEC is commencing a process to update climate disclosure requirements and received hundreds of comments in response to a request for public input in June 2021.[75]

"If we combine forces now, we can avert climate catastrophe," said UN Secretary-General Guterres, "There is no time for delay and no room for excuses."[76]

Investors, regulators and policymakers must enact policies obliging private equity firms to provide full transparency on their fossil fuel holdings and the impacts of those holdings on the environment and on communities. The private equity industry must take responsibility for its role in the climate crisis and detail the steps it will take to transition to clean energy and certify that investment practices align with a 1.5 degree scenario, to ensure a livable future for investors and impacted communities alike.


***"If we combine forces now, we can avert climate catastrophe. There is no time for delay and no room for excuses."***

— UN Secretary-General Guterres

# Fossil Fuel Holdings for Ten of the Largest Private Equity Managers

The energy holdings for some of the world's largest private equity managers are described and listed in the following pages: Ares Management, Apollo Global Management, The Blackstone Group, Brookfield Asset Management/Oaktree Capital, The Carlyle Group/NGP Energy Capital, CVC Capital, KKR, Kayne Anderson, TPG Capital and Warburg Pincus.

In total, the ten firms listed hold over 300 energy companies, representing hundreds of billions of dollars in investments, with conventional fossil fuel energy investments comprising the vast majority. The fossil fuel holdings are distributed across the supply chain including upstream operations (drilling, exploration and related services), midstream operations (pipelines, storage and transportation), or downstream operations (power generation, processing, distribution).

Investments in fossil fuel assets are not uniform across firms. Some of the ten firms we examined have far greater exposure while others hold a smaller number of oil, gas and coal-related companies. The table below shows a tally of energy companies currently held by each of the ten private equity managers.

The world of private equity extends far beyond these ten firms, and has experienced rapid growth, reaching $7.4 trillion in global assets under management in 2020.[77] The ten firms in this report represent some of the largest diversified alternative asset managers that invest across multiple sectors of the global economy through a variety of strategies, with a focus on those that have opted to pursue substantial fossil fuel investments.[78] All of these firms pursue multiple strategies including real estate, infrastructure, credit, growth and private equity. In the private equity space there are other specialty firms that focus on particular industries such as infrastructure and energy that also have extensive fossil fuel holdings, which will be the subject of future reports.

| Private Equity Firm | Fossil Fuel Companies Held | Renewable Companies Held | Total Number of Energy Companies |
|---|---|---|---|
| Carlyle/NGP | 68 | 14 | 82 |
| Brookfield/Oaktree | 40 | 23 | 63 |
| KKR | 28 | 6 | 34 |
| Blackstone | 25 | 5 | 30 |
| Warburg Pincus | 28 | 1 | 29 |
| Kayne Anderson | 23 | 2 | 25 |
| Ares | 16 | 3 | 19 |
| Apollo | 14 | 5 | 19 |
| TPG | 4 | 2 | 6 |
| CVC | 5 | 0 | 5 |

# The Carlyle Group/NGP Energy Capital

The Carlyle Group is one of the largest alternative asset managers with $276 billion in assets under management.[79]

Carlyle has significant energy investments within its own portfolio, and additionally has a controlling ownership stake in NGP Energy Capital that dates back more than a decade[80] and which provides Carlyle with additional exposure to fossil fuels. The Carlyle Group owns more than 35 energy companies while NGP has over 45. Combined, more than 80 percent of Carlyle and NGP's energy companies are in fossil fuel assets, with less than 20 percent in renewable assets.[81]

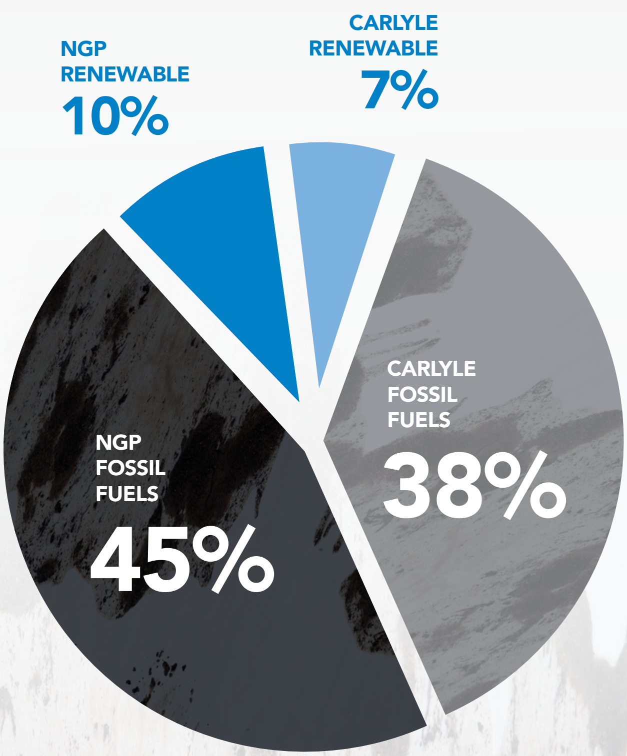
Carlyle has raised multiple energy-focused funds, most of which are posting modest single digit returns. A few are losing money, notably the 2011 Carlyle Energy Mezzanine Opportunity Fund I which posted a -23.6 percent internal rate of return (IRR) as of 4Q 2020[82] while its successor fund CEMOF II posted a 1 percent IRR as of 2Q 2021.[83] For NGP, its 2012 vintage NGP X posted a -2 percent return as of 4Q 2020[84] while the successors NGP XI from 2014 and NGP XII from 2017 posted low single-digit returns.[85]

Despite low returns, Carlyle has continued to acquire additional fossil fuel assets. For example, Carlyle recently acquired Occidental Petroleum's oil fields in Colombia and was in talks to acquire the company's oil fields in Ghana as well.[86]

Carlyle and NGP continue to pursue energy deals that may prove risky including in drilling royalties[87] and more oil exploration[88] in the troubled Permian Basin in Texas.[89]

*Carlyle owns Black Mountain Sand, which supplies frack-sand to shale drillers in Texas. (Photo credit: Callaghan O'Hare/Bloomberg via Getty Images)*

FIGURE 4
**CARLYLE AND NGP ENERGY ASSET COMPARISON**



## CARLYLE GROUP

| Company Name | Type | Year Acquired | General Geography |
|---|---|---|---|
| **AMP Solar Group** | Renewable | 2021 | Global |
| **Copia Power** | Renewable | 2021 | United States |
| **BNRG Renewables** | Renewable | 2020 | United States |
| **Cardinal Renewables** | Renewable | 2020 | United States |
| **Occidental Colombia** | Upstream | 2020 | Colombia |
| **Panda Liberty Power Project** | Downstream | 2020 | Pennsylvania |
| **Panda Patriot** | Downstream | 2020 | Pennsylvania |
| **AlphaStruxure** | Renewable | 2019 | Global |
| **Altus Midstream** | Midstream | 2019 | Texas; Gulf Coast |
| **Boru Energy** | Upstream | 2019 | Sub-Saharan Africa |
| **Compañía Española de Petróleos** | Upstream; Midstream; Downstream | 2019 | Global |
| **Stratum Reservoir** | Upstream; Midstream | 2019 | Global |
| **Diamondback Energy and Carlyle Joint Venture** | Upstream | 2018 | Texas |
| **EnerMech** | Upstream; Midstream; Downstream | 2018 | Global |
| **Lone Star Ports** | Downstream | 2018 | Texas |
| **Neptune Energy** | Upstream | 2018 | Global |
| **Revere Power** | Downstream | 2018 | Connecticut; Rhode Island; Maine |
| **Zephyr Wind Energy** | Renewable | 2018 | New York |
| **AFGlobal** | Upstream; Downstream | 2017 | Global |
| **Assala Energy** | Upstream | 2017 | Gabon |
| **Black Stone Minerals** | Upstream | 2017 | Texas |
| **COG Energy** | Upstream | 2017 | Colombia |
| **Cogentrix Energy Power** | Downstream | 2017 | Illinois |
| **EOG Resources** | Upstream | 2017 | United States |

| | | | |
|---|---|---|---|
| **Mazarine Energy** | Upstream | 2016 | Romania; Tunisia |
| **Black Sea Oil & Gas** | Upstream | 2015 | Romania; Black Sea |
| **DEE Piping Systems** | Upstream; Midstream; Downstream | 2015 | Global |
| **Hilcorp Energy** | Upstream | 2015 | Alabama; Alaska; Colorado; Louisiana; New Mexico; Ohio; Pennsylvania; Texas; Wyoming |
| **Magna Energy** | Upstream | 2015 | India |
| **Shell Tongyi Beijing Petroleum Chemical** | Downstream | 2015 | China |
| **Traxys Europe** | Upstream | 2014 | Global |
| **Discover Exploration** | Upstream | 2013 | Netherlands; Germany; Comoros |
| **Varo Energy** | Midstream; Downstream | 2013 | Europe |
| **Dynamic Industries** | Upstream | 2008 | Global |
| **Targe Energy** | Upstream; Coal | 2006 | Northern and Central Appalachia |
| **Stallion Oilfield Services** | Upstream | 2005 | United States |
| **Shenandoah Petroleum** | Upstream | NA | New Mexico; Texas |

## NGP ENERGY CAPITAL

| Company Name | Type | Year Acquired | General Geography |
|---|---|---|---|
| **Mesa Minerals Partners II** | Upstream | 2021 | Texas; Louisiana |
| **ChargePoint-Switchback II** | Renewable | 2021 | United States |
| **Persefoni** | Renewable | 2021 | United States |
| **AVAD Energy Partners II** | Upstream | 2020 | United States |
| **Eagle Mountain Energy Partners** | Upstream | 2020 | North Dakota |
| **Elk Range Royalties** | Upstream | 2020 | New Mexico; Texas; Colorado |
| **Form Energy** | Renewable | 2020 | United States |
| **Voltus** | Renewable | 2020 | United States |
| **Wing Resources** | Upstream | 2019 | Texas |
| **Black Mountain Sand** | Upstream; Midstream | 2018 | Texas; Oklahoma |

| | | | |
|---|---|---|---|
| **Iron Horse Midstream** | Midstream | 2018 | Oklahoma |
| **Mettle Midstream Partners** | Midstream | 2018 | North America |
| **Rebellion Energy** | Upstream | 2018 | Wyoming; Montana |
| **Trilogy Midstream** | Midstream | 2018 | North America |
| **Camino** | Upstream | 2017 | Oklahoma |
| **Hibernia Energy** | Upstream | 2017 | New Mexico; Texas |
| **Infinity Natural Resources** | Upstream | 2017 | Pennsylvania; Ohio; West Virginia |
| **Mallard Exploration** | Upstream | 2017 | Colorado |
| **Outrigger Energy** | Midstream | 2017 | Colorado; Wyoming; North Dakota |
| **Titus Oil & Gas** | Upstream | 2017 | New Mexico; Texas |
| **Aspen Energy Partners** | Upstream | 2016 | United States |
| **Conexus Energy** | Downstream | 2016 | NA |
| **Confluence Resources** | Upstream | 2016 | Colorado |
| **EnLink Midstream** | Midstream | 2016 | Oklahoma; Texas; Gulf Coast |
| **Tap Rock Resources** | Upstream | 2016 | New Mexico |
| **Teal Natural Resources** | Upstream | 2016 | Texas |
| **Colgate Energy** | Upstream | 2015 | New Mexico; Texas |
| **Wellsite Fishing & Rental Services** | Upstream | 2015 | United States |
| **Blackbeard Operating** | Upstream | 2014 | Texas; Oklahoma |
| **Meco IV, LLC** | Upstream | 2014 | New Mexico; Texas |
| **Steward Energy II** | Upstream | 2014 | New Mexico; Texas |
| **Zahroof Valves Inc** | Upstream | 2013 | Global |
| **Catapult Energy Services** | Upstream | 2013 | Oklahoma; Texas |
| **Bravo Natural Resources** | Upstream | 2013 | Oklahoma; Arkansas |
| **Petrus Resources** | Upstream | 2012 | Alberta, Canada |
| **GSE Systems** | Midstream; Downstream; Renewable | 2012 | United States |

| | | | |
|---|---|---|---|
| **Penn Power Group** | Engines for oil/gas industry | 2012 | Pennsylvania; New York; New Jersey |
| **UltraLife** | Downstream; Renewable | 2012 | Global |
| **Living Earth** | Renewable | 2011 | Texas; Tennessee |
| **Community Energy** | Renewable | 2010 | Northeast; Mid-Atlantic; Midwest United States |
| **CH4 Energy** | Upstream | 2007 | Texas |
| **CalTex Resources** | Upstream | 2005 | Western Canada |
| **World Energy Partners** | Upstream | NA | Wyoming; Montana; Nebraska; Oklahoma |
| **Proterra** | Renewable | NA | United States |
| **Spring Valley Acquisition Corp** | Renewable | NA | United States |

# Brookfield Asset Management/ Oaktree Capital Management

Brookfield Asset Management is one of the largest alternative asset managers in the world, with over $600 billion in assets under management.[90] In 2019 Brookfield acquired a majority stake in Oaktree Capital, which operates as an independent business managing $156 billion of those assets under management.[91]

Brookfield is raising a Global Transition Fund, which is seeking $12.5 billion in commitments. Brookfield said the fund will focus on investments "that accelerate the global transition to a net-zero carbon economy."[92]

On the same day Brookfield announced it had raised an initial $7 billion for its Global Transition Fund,[93] Brookfield expanded its "budding oil and gas empire" in early 2021 with a $6.8 billion hostile bid for Inter Pipeline's oil sands infrastructure, winning shareholder approval in July.[94,95,96]

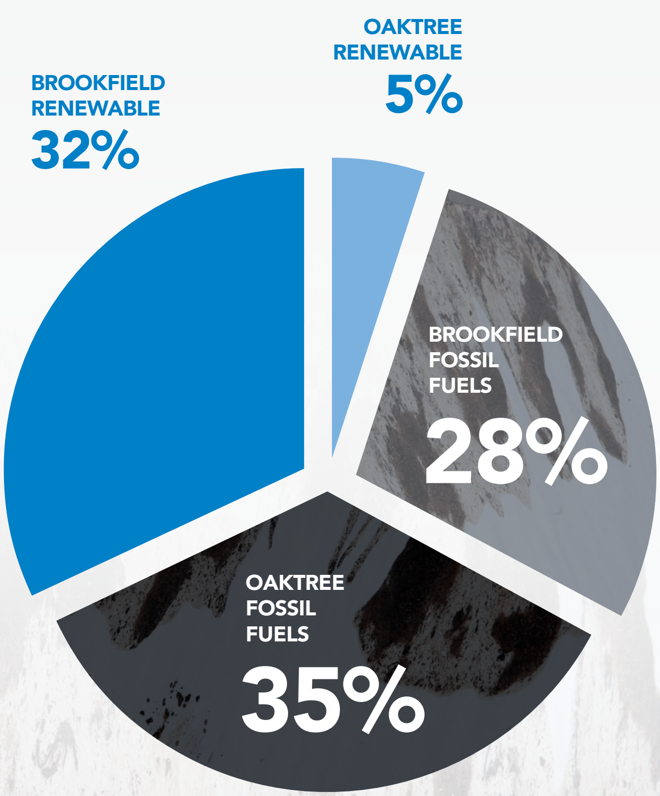
The current investment portfolios for Oaktree and Brookfield both hold substantial fossil fuel investments.

Oaktree owns 25 energy companies, while Brookfield owns an additional 40. Between the two firms, 63 percent of their energy companies are fossil fuel-based. While Brookfield has expanded the number of renewable holdings to a larger share of its overall energy portfolio, Oaktree continues to be mostly focused on fossil fuels (see Figure 5).

*Brookfield acquired Inter Pipeline in a $6.9 Billion deal in July 2021. Pictured here the Inter Pipeline Heartland Petrochemical Complex under construction in Alberta, Canada. (Photo credit: Jason Franson/ Bloomberg via Getty Images)*

FIGURE 5

**BROOKFIELD AND OAKTREE ENERGY ASSET COMPARISON**



Oaktree's fossil fuel exposure has grown further in 2020, with at least two upstream acquisitions including a $900 million commitment to FourPass Energy drilling company in Colorado,[97] and a $700 million commitment to Banpu Kalnin Ventures to pursue upstream natural gas.[98]

In 2020 also Oaktree Capital acquired $497 million in energy loans from Hancock Whitney, a regional bank in Houston. "The primary objective of this sale is to continue de-risking our loan portfolio by accelerating the disposition of assets that have been impacted by ongoing issues within the energy industry, and have now been further complicated by COVID-19," Hancock Whitney CEO John M. Hairston said in a statement. "While operating from a solid capital base, we decided to be opportunistic and sell these assets today, significantly de-risking our balance sheet."[99]

Brookfield's fossil fuel portfolio reports investment in 16,500 km (10,252 miles) of natural gas pipelines and 600 billion cubic feet in storage as well as utilities.[100]

Brookfield was part of a consortium of private equity firms that signed a $10 billion deal in 2020 with the Abu Dhabi National Oil Company that took at 49 percent stake in lease rights to 38 ADNOC pipelines for 20 years.[101]

In 2016, Brookfield invested in Brazil's NTS 2,000-kilometer (1,243-mile) gas pipeline network. Earlier this year, it increased its stake to 100 percent ownership.[102] This network is responsible for approximately 50 percent of gas consumption in Brazil.[103]

## BROOKFIELD PARTNERS

| Company Name | Type | Year Acquired | General Geography |
|---|---|---|---|
| **Inter Pipeline** | Midstream | 2021 | Canada |
| **Shepherds Flat Wind Farm** | Renewable | 2021 | Oregon |
| **Nova Transportadora do Sudeste (NTS)** | Midstream | 2016; 2021 | Brazil |
| **Abu Dhabi National Oil Co. (Pipeline Unit)** | Midstream | 2020 | United Arab Emirates |
| **Cheniere Energy** | Midstream; Downstream | 2020 | Oklahoma; Texas; Louisiana |
| **Emami Power** | Renewable | 2020 | India |
| **Exelon Generation** | Renewable | 2020 | United States |
| **Sidney A. Murray Hydroelectric Facility** | Renewable | 2020 | Louisiana |
| **Superior Plus** | Downstream | 2020 | United States; Canada |
| **TransAlta** | Midstream; Downstream; Renewable | 2020 | Canada; United States; Australia |
| **Cove Point Terminal** | Downstream | 2019 | Maryland |
| **East West Gas Pipeline** | Midstream | 2019 | India |

| | | | |
|---|---|---|---|
| **Los Ramones Pipelines** | Midstream | 2019 | Texas; Mexico |
| **X-Elio Energy** | Renewable | 2019 | Global |
| **NorthRiver Midstream** | Upstream | 2018 | Canada |
| **GLP-Brookfield Joint Solar Venture** | Renewable | 2018 | China |
| **CEE Group** | Renewable | 2017 | Europe |
| **First Hydro** | Renewable | 2017 | United Kingdom |
| **Gas Natural (Colombia)** | Energy Transmission; Gas | 2017 | Colombia |
| **Greenergy** | Downstream; Renewable | 2017 | Global |
| **TerraForm Global** | Renewable | 2017 | Global |
| **TerraForm Power** | Renewable | 2017 | United States; United Kingdom; Chile |
| **Isagen** | Renewable | 2016 | Colombia |
| **Pravara Renewable Energy** | Renewable | 2016 | India |
| **Control y Montajes Industriales** | Energy Transmission; Downstream | 2015 | Brazil |
| **Rockpoint Gas Storage** | Midstream | 2015 | Canada; California; Texas; Oklahoma |
| **Talen Energy** | Renewable | 2015 | Pennsylvania |
| **Energisa** | Renewable | 2014 | Brazil |
| **Safe Harbor Hydroelectric Project** | Renewable | 2014 | Pennsylvania |
| **Brookfield White Pine Hydro** | Renewable | 2013 | Maine; New Hampshire |
| **Malacha Hydro facility** | Renewable | 2013 | Maine; California |
| **Powell River Energy** | Renewable | 2001; 2013 | British Columbia, Canada |
| **Tapoco Hydroelectric Project** | Renewable | 2012 | Tennessee; North Carolina |
| **Western Wind Energy** | Renewable | 2012 | California; Arizona |
| **Ember Resources** | Coal; Upstream | 2011 | Canada |
| **Natural Gas Pipeline Company of America** | Midstream | 2010 | Texas; Louisiana; Illinois; Missouri; Arkansas |
| **Dalrymple Bay Coal Terminal** | Coal | 2009 | Australia |

| | | | |
|---|---|---|---|
| **CWC Energy Services** | Upstream | 2007 | Texas; New Mexico; Colorado; Wyoming; North Dakota; Canada |

## OAKTREE CAPITAL

| Company Name | Type | Year Acquired | General Geography |
|---|---|---|---|
| **ABN Amro's $1.5B Energy Loan Portfolio** | Energy Loans; Fossil Fuels | 2021 | North America |
| **FourPass Energy** | Upstream | 2020 | United States |
| **Universal Plant Services** | Upstream; Midstream; Downstream; Renewable; Energy Generation | 2020 | North America |
| **Diversified Gas and Oil** | Upstream; Midstream | 2020 | Pennsylvania; Texas; Louisiana |
| **Hancock Whitney's $497M Oil and Gas Loan Portfolio** | Energy Loans; Fossil Fuels | 2020 | United States |
| **Banpu Kalnin Ventures** | Upstream | 2020 | Texas; Pennsylvania |
| **NuStar Energy LP** | Energy Loans; Fossil Fuels | 2020 | United States |
| **Bluewaters Power Station** | Energy Loans; Coal | 2020 | Australia |
| **Vedanta Resources** | Energy Loans; Fossil Fuels | 2020 | India; South Africa |
| **Hartree Partners** | Midstream; Downstream; Renewable | 2019 | Global |
| **Proserv** | Upstream, Equipment | 2018 | Global |
| **Belltown Power** | Renewable | 2017 | Scotland, Cumbria, United Kingdom |
| **DDH1 Drilling** | Upstream | 2017 | Australia |
| **Shoals Technologies Group** | Renewable | 2017 | Global |
| **MaxGen Energy Services** | Renewable | 2016 | United States |
| **Moontower Resources** | Upstream | 2016 | Texas |
| **Palmilla Energy** | Midstream | 2016 | Louisiana; Texas |
| **Linden Cogen Holdings** | Energy Generation; Gas | 2015 | New Jersey; New York |

| | | | |
|---|---|---|---|
| **Salem Harbor Station/Footprint Power** | Energy Generation; Gas | 2015 | Massachusetts |
| **PST Tankers** | Midstream | 2013 | Global |
| **Torm** | Midstream | 2013 | Global |
| **Floatel International** | Upstream | 2012 | Global |
| **Caerus Oil and Gas** | Upstream; Midstream | 2009 | Colorado; Utah |
| **Battalion Oil** | Upstream | NA | Texas |


# KKR

KKR is one of the largest alternative asset managers, with $428 billion in assets under management.[104] KKR has invested in fossil fuels including upstream, midstream and downstream assets and currently owns around three dozen energy companies.

Around 82 percent of KKR's energy portfolio companies are in fossil fuels, with around 18 percent in renewable energy.

KKR has continued to expand its fossil fuel investments and recently redoubled on fracking by merging its Independence Energy with Contango Oil & Gas to create a consolidation-focused oil and gas company across Texas, Oklahoma and Wyoming.[105] Within weeks of the deal closing, the new Contango expanded with a purchase of additional drilling assets in Wyoming that were unloaded by ConocoPhillips.[106]

In April, KKR acquired a 20 percent stake in Sempra's North American liquid natural gas (LNG) infrastructure for $3.4 billion, proceeds that will help fund expansion of infrastructure such as export terminals.[107]

*Protesters in solidarity with the Wet'suwet'en Nation outside the Canadian Consulate in NYC in 2018 in opposition to the Coastal Gaslink pipeline now owned by private equity firm KKR (Photo credit: Erik McGregor/LightRocket via Getty Images)*

KKR-owned Venado Oil & Gas operates its wells in south Texas' Eagle Ford shale area, where research found that poor and minority neighborhoods bear a disproportionate exposure to fracking wastewater disposal wells.[108]

KKR is invested in the Coastal Gaslink Pipeline in Canada, where the Wet'suwet'en hereditary chiefs' opposition has resulted in protests, delays and blockades.[109] Indigenous communities oppose the 400-mile pipeline construction through their unceded territories. The pipeline is over budget and behind schedule.[110]

The energy-focused funds KKR has raised have underperformed, with the 2010 Natural Resources Fund posting a -25.4 percent IRR and the 2013 Energy Income and Growth Fund posting a -2.2 percent IRR as of June 30, 2021.[111]

## KKR

| Company Name | Type | Year Acquired | General Geography |
|---|---|---|---|
| **Sempra Infrastructure Partners** | Midstream; Downstream | 2021 | North America Pacific and Gulf Coast |
| **Contango Oil & Gas** | Upstream; Midstream | 2021 | Texas; Colorado; Wyoming; Mississippi; Kansas; Oklahoma; Louisiana; Gulf of Mexico |

| | | | |
|---|---|---|---|
| **Coastal Gaslink Pipeline** | Midstream | 2020 | Canada |
| **Shapoorji Pallonji Group** | Renewable | 2020 | Global |
| **Abu Dhabi National Oil Co. (Pipeline Unit)** | Midstream | 2019 | United Arab Emirates |
| **India Grid Trust** | Services; Energy Generation | 2019 | India |
| **NextEra Energy Partners** | Upstream; Midstream; Renewable | 2019 | United States |
| **Spur Energy Partners** | Upstream | 2019 | New Mexico |
| **Western Natural Resources** | Upstream | 2019 | North Dakota |
| **Discovery Midstream Partners** | Midstream | 2018 | Texas; Louisiana; Colorado |
| **Proserv** | Upstream, Equipment | 2018 | Global |
| **Joulon** | Services; Upstream | 2016 | Global |
| **Marverde Infraestructura** | Services; Midstream | 2016 | Mexico |
| **Venado Oil & Gas** | Upstream | 2016 | Texas |
| **Sirti** | Renewable | 2016 | Global |
| **Enzen Global Solutions** | Renewable | 2015 | Global |
| **Monterra Energy** | Midstream | 2015 | Mexico |
| **Trans European Oil & Gas** | Upstream | 2015 | Europe |
| **X-Elio Energy** | Renewable | 2015 | Global |
| **Fleur de Lis Energy** | Upstream | 2014 | Colorado; Texas; Mississippi |
| **OEG Offshore** | Midstream | 2014 | Global |
| **Veresen Midstream** | Midstream | 2014 | Canada |
| **Haymaker Minerals & Royalties** | Upstream | 2013 | United States |
| **Recurrent Energy** | Renewable | 2013 | United States; Canada |
| **Torq Energy Logistics** | Midstream | 2013 | Canada |
| **Acteon Group** | Upstream | 2012 | Global |
| **Comstock Resources** | Upstream | 2012 | Texas; Louisiana |
| **Westbrick Energy** | Upstream | 2012 | Canada |

| | | | |
|---|---|---|---|
| **Carrizo Oil & Gas** | Upstream | 2011 | Texas |
| **Fortune Creek Gas Gathering and Processing** | Midstream | 2011 | Canada |
| **SunTap Energy II** | Renewable | 2011 | Global |
| **Avantha Power** | Energy Generation; Coal; Gas | 2010 | India |
| **Colonial Pipeline** | Midstream | 2010 | Texas; Louisiana; Mississippi; Alabama; Georgia; South Carolina; North Carolina; Virginia; Maryland; Pennsylvania; New York; Tennessee |
| **Trinity River Energy** | Upstream | 2010 | Texas; Louisiana; Mississippi |

# The Blackstone Group

Blackstone is the world's largest alternative asset manager with $684 billion assets under management.[112] Among its peers, Blackstone has some of the most extensive energy exposure, buying and selling dozens of companies across the globe over the past decade with a majority concentrated in fossil fuel assets. Its holdings include onshore and deep-sea drilling, coal power plants, gas pipelines, LNG export terminals and pipelines.

Blackstone has sponsored three energy funds, with mixed results. The Blackstone Energy Fund II from 2015 posted a 2 percent return, while Energy Fund I from 2011 posted an 11 percent IRR as of June 30, 2021.[113] Blackstone also acquires fossil fuel assets through its flagship funds and credit funds and invests in publicly-traded oil and gas pipeline companies through its Harvest Fund Advisers unit.[114]

Around 83 percent of Blackstone's current energy companies are in fossil fuels, while around 17 percent are in renewables.

Among Blackstone's recent fossil fuel acquisitions is Tallgrass Energy, which owns over 9,000 miles of gas and crude pipelines that in recent months have dumped 41,000 gallons of oilfield wastewater[115] and spilled 181,000 gallons of produced water to contaminate North Dakota agricultural fields.[116]

Tallgrass is also developing a new oil export terminal in Louisiana that would emit more than 500,000 tons of greenhouse gasses annually and "in addition to its air pollution, would be built atop a 19th century cemetery for enslaved people and might interfere with Louisiana's $2 billion proposal to restore storm-buffering wetlands in Barataria Bay," the *Times Picayune* reported.[117]

Blackstone's fossil fuel investments have faced bankruptcies, hundreds of citations for violations of environmental regulations, community resistance and a large offshore drilling accident in the Gulf of Mexico.[118]

## BLACKSTONE GROUP

| Company Name | Type | Year Acquired | General Geography |
|---|---|---|---|
| **Aypa Power** | Renewable | 2020 | North America |
| **Tallgrass Energy** | Midstream | 2019 | Wyoming; Colorado; Kansas; Oklahoma; Gulf Coast |
| **Targa Badlands** | Midstream | 2019 | North Dakota |

| | | | |
|---|---|---|---|
| **Falcon Minerals** | Upstream | 2018 | Texas |
| **Mime Petroleum** | Upstream | 2018 | Norwegian Continental Shelf |
| **Ulterra Drilling Technologies** | Upstream; Drilling Services | 2018 | Global |
| **EagleClaw Midstream Ventures** | Midstream | 2017 | Texas |
| **Grand Prix NGL Pipeline** | Midstream | 2017 | Texas |
| **Rover Pipeline** | Midstream | 2017 | West Virginia; Ohio; Pennsylvania; Michigan; Canada |
| **Beacon Offshore Energy** | Upstream | 2016 | Gulf of Mexico |
| **Jetta Permian** | Upstream | 2014; 2016 | Texas; New Mexico |
| **Kindle Energy** | Energy Generation; Coal | 2014 | Ohio; Indiana; Texas; Louisiana |
| **Siccar Point Energy** | Upstream | 2014 | United Kingdom Continental Shelf; North Sea; Europe |
| **Vine Energy** | Upstream | 2014 | Haynesville Shale, LA |
| **Eletson Gas** | Midstream | 2013 | Global |
| **Fisterra Energy** | Midstream; Downstream | 2013 | Global |
| **Olympus Energy** | Upstream | 2012 | Marcellus, Utica, and Upper Devonian, Southern PA |
| **Alta Resources** | Upstream | 2011 | Arkansas; Pennsylvania |
| **Hindustan Power Projects** | Renewable | 2010 | India; Germany; Italy; United States; United Kingdom; Japan |
| **Transmission Developers** | Energy Transmission, Renewable | 2010 | New York |
| **Sithe Global Power** | Energy Generation; Coal; Renewable | 2005 | Phillipines; Uganda; Ontario, Canada |

## BLACKSTONE CREDIT

| Company Name | Type | Year Acquired | General Geography |
|---|---|---|---|
| **ClearGen** | Renewable | 2020 | United States |
| **Altus Power America** | Renewable | 2014; 2020 | United States |
| **Targa Badlands** | Midstream | 2019 | North Dakota |
| **Sequel Energy** | Upstream | 2016; 2019 | North America |

| | | | |
|---|---|---|---|
| **Ridgeback Resources** | Upstream | 2016 | Canada |
| **Rijnmond Energie** | Energy Generation; Gas | 2016 | Netherlands |
| **GEP Haynesville, LLC (Encana)** | Upstream | 2015 | Louisiana |
| **Twin Eagle** | Midstream | 2014 | North America |
| **3Bear Energy** | Midstream | 2013 | New Mexico |

# Warburg Pincus

Warburg Pincus is a large alternative asset manager with $64 billion in assets under management.[119]

The company has a long history of investing in fossil fuel assets, and its current portfolio holds around 30 energy companies of which only one is in the renewable sector, a commercial solar installer in India. Warburg Pincus has shown a particular appetite for upstream drilling and exploration assets, which comprise nearly 70 percent of its energy portfolio.

Warburg Pincus's 2014 $4 billion energy fund has seen disappointing returns, posting a -11.97 percent IRR as of 4Q 2020.[120] The firm sought to raise a subsequent energy fund, but abandoned the fundraising effort in early 2020.[121]

In mid-2020, Warburg Pincus began telling its investors its next flagship buyout fund would not pursue fossil fuel investments as part of a transition away from "companies that are dependent on hydrocarbon pricing in the core global fund," according to the *Wall Street Journal*.[122] However, the fossil free pledge is limited to the core buyout fund strategies, and Warburg Pincus indicated it could continue to seek oil and gas deals in other funds and remained "very committed" to its current oil and gas investments.[123]

One example of a recent fossil fuel acquisitions by Warburg Pincus is Delta Midstream, a company formed in the spring of 2020 that seeks to acquire, develop and operate midstream assets across North America.[124]

In December 2020, the Warburg Pincus and Kayne Anderson-backed Terra Energy acquired 41,000 acres of oil and gas properties in the Piceance Basin in Colorado.[125]

## WARBURG PINCUS

| Company Name | Type | Year Acquired | General Geography |
|---|---|---|---|
| **Delta Midstream** | Midstream | 2020 | North America |
| **Ossidiana Energy** | Upstream | 2019 | Oklahoma |
| **WildFire Energy** | Upstream | 2019 | United States |
| **Artis Exploration** | Upstream | 2018 | Canada |

| | | | |
|---|---|---|---|
| **Citizen Energy** | Upstream | 2018 | Arkansas; Louisiana; Oklahoma; Texas |
| **Ridge Runner Resources** | Upstream | 2018 | New Mexico; Texas |
| **Tall City Exploration** | Upstream | 2018 | Texas |
| **ATX Energy Partners** | Upstream | 2017 | Texas; North Dakota |
| **Chisholm Energy Holdings** | Upstream | 2017 | New Mexico; Texas |
| **CleanMax** | Renewable | 2017 | India |
| **Ensign Natural Resources** | Upstream | 2017 | Texas |
| **Stronghold Energy II Holdings** | Upstream | 2017 | Texas |
| **Apex International Energy Management** | Upstream | 2016 | Egypt |
| **MainSail Energy** | Upstream | 2016 | Canada |
| **RimRock Oil & Gas** | Upstream | 2016 | North Dakota |
| **Terra Energy Partners** | Upstream | 2016 | Colorado |
| **Trident Energy Management** | Upstream | 2016 | Equatorial Guinea; Brazil |
| **Navitas Midstream Partners** | Downstream | 2014 | Texas |
| **Zenith Energy Management** | Midstream | 2014 | Ireland; Netherlands; United States |
| **Delonex Energy UK** | Upstream | 2013 | Chad; Ethiopia; Kenya |
| **Hawkwood Energy** | Upstream | 2012 | Texas |
| **Sand Hill Petroleum** | Upstream | 2012 | Hungary; Romania |
| **Black Swan Energy** | Upstream | 2011 | Canada |
| **Diliigent Power** | Downstream; Coal | 2011 | India |
| **Monolith Materials** | Downstream | 2011 | Nebraska |
| **Velvet Energy** | Upstream | 2011 | Canada |
| **IMC** | Downstream | 2010 | India |
| **ACB** | Downstream; Coal | 2006 | India |
| **CAGR Gas** | Downstream | NA | China |

# Kayne Anderson Capital Advisors

Kayne Anderson owned Plains All American Pipeline, the oil company behind a crude spill on the California Coast in 2015, that resulted in a State of Emergency declaration by the governor. (Photo credit: MARK RALSTON/AFP via Getty Images)

Kayne Anderson is a large alternative asset manager with $30 billion in assets under management and describes itself as a leader in infrastructure and energy investing.[126]

The company's current private equity energy portfolio consists of around two dozen companies. Although Kayne Anderson touts the opportunities in energy from renewable investments,[127] the vast majority are in oil and gas exploration and production and a few are in midstream. Just two acquisitions from the past couple years are in renewable energy.

The firm's energy funds have been weak performers. The 2019 Kayne Anderson Energy Fund VIII delivered a -31.4 percent return as of September 2020.[128] The predecessor, Fund VII from 2016 posted a -19.3 percent IRR as of March 2021.[129]

Despite the underperformance, Kayne Anderson continues to pursue fossil fuel deals. In July 2021, Kayne Anderson sealed a $400 million investment in Kraken Resources II to pursue large, oil-weighted acquisitions with an initial focus in the Williston Basin in the Dakotas region.[130] In May 2021, Kayne Anderson merged three drilling companies and committed additional equity to form 89 Energy III, based in Oklahoma with assets across the central states.[131]

Other recent acquisitions that have expanded Kayne Anderson's fossil fuel exposure include Ensign Natural Resources in Texas,[132] Indianola Energy operating in North America, [133] and HRM Resources in Colorado.[134]

## KAYNE ANDERSON CAPITAL

| Company Name | Type | Year Acquired | General Geography |
|---|---|---|---|
| **89 Energy III** | Upstream | 2021 | Oklahoma |
| **Kraken Resources II** | Upstream | 2021 | United States |
| **PosiGen** | Renewable | 2021 | Louisiana; Connecticut; New Jersey |
| **112 MW Solar Project in Edgecombe County** | Renewable | 2019 | North Carolina |

| | | | |
|---|---|---|---|
| **Ensign Natural Resources** | Upstream | 2019 | Texas |
| **Indianola Energy** | Upstream | 2019 | North America |
| **WildFire Energy** | Upstream | 2019 | United States |
| **HRM Resources III** | Upstream | 2018 | Colorado; Wyoming |
| **Flywheel Energy (fka Valorem Energy)** | Upstream | 2017 | Arkansas |
| **Resource Rock Exploration II** | Upstream | 2017 | New Mexico; Texas |
| **Beacon E&P Company II** | Upstream | 2016 | Oklahoma |
| **Riverbend Permian II** | Upstream | 2016 | Texas |
| **Sabinal Energy** | Upstream | 2016 | Texas; New Mexico |
| **Monadnock Resources** | Upstream | 2015 | Texas |
| **Oak Ridge Natural Resources** | Upstream | 2015 | Wyoming; Texas; Arkansas; Louisiana |
| **Terra Energy Partners** | Upstream | 2015 | Colorado |
| **White's Energy Services** | Upstream; Midstream | 2015 | Pennsylvania; Oklahoma |
| **Renegade Well Services** | Upstream | 2014 | United States |
| **Treadstone Energy Partners** | Upstream | 2014 | Texas |
| **Plains All American Pipeline** | Midstream | 2013 | United States; Canada |
| **Haymaker Minerals & Royalties** | Upstream | 2013 | United States |
| **Panther Energy Company** | Upstream | 2013 | Louisiana; Wyoming; Oklahoma; Texas |
| **PT Petroleum** | Upstream | 2013 | Texas; Kansas |
| **Canyon Midstream Partners** | Midstream | 2012 | Oklahoma; Texas |
| **Kraken Oil & Gas** | Upstream | 2012 | Montana; North Dakota |

# Ares Management

Ares is a global alternative asset manager with $262 billion in assets under management.[135] Ares owns nearly 20 energy companies, the vast majority of which are fossil fuel-focused. Half of its energy portfolio was acquired in the past four years, and only a few of the portfolio companies are in renewable energy.

Ares' energy investments have not delivered strong returns, with the 2018 Ares Energy Opportunities Fund posting a -28 percent net IRR and the infrastructure-focused US Power Fund IV from 2010 eking out a 1.7 percent annualized return after 10 years.[136]

## ARES MANAGEMENT

| Company Name | Type | Year Acquired | General Geography |
|---|---|---|---|
| **FS Crude** | Midstream | 2020 | NA |
| **Salt Creek Midstream** | Midstream | 2017; 2020 | Texas |
| **Swell** | Energy Storage; Renewable | 2020 | United States |
| **Heelstone Renewable Energy** | Renewable | 2019 | North Carolina; Oregon; California |
| **Hill Top Energy Center** | Downstream | 2019 | Pennsylvania |
| **Infrastructure and Energy Alternatives** | Downstream; Renewable | 2019 | North America |
| **Admiral Permian Resources** | Upstream | 2018 | Texas |
| **BP Wind Energy** | Renewable | 2018 | Texas |
| **Paradigm Energy Partners** | Midstream | 2018 | North Dakota, Texas |
| **Development Capital Resources** | Upstream | 2017 | Texas |

| | | | |
|---|---|---|---|
| **Epic Midstream** | Midstream | 2017 | New Mexico; Texas |
| **Verdad Resources** | Upstream | 2017 | Colorado |
| **Birdsboro Power Plant** | Downstream | 2017 | Pennsylvania |
| **Linden Cogen Holdings** | Downstream | 2015 | New Jersey, New York |
| **St. Joseph Energy Center** | Downstream | 2015 | Indiana |
| **Blackbrush Oil & Gas** | Upstream | 2014 | Texas |
| **Oregon Clean Energy Center** | Downstream | 2014 | Ohio |
| **True Oil Company** | Upstream | 2013 | Texas |
| **Cureton Midstream** | Midstream | NA | Colorado |

# Apollo Global Management

Apollo Global Management is one of the largest private funds managers, with $471 billion in assets under management.[137] Apollo has raised a few funds dedicated to energy and natural resources that have produced modest to poor returns. The 2012 Apollo Natural Resources Fund posted a -2 percent IRR, while the 2016 successor ANRF II posted a 12 percent IRR in the second quarter.[138] A third fund, Apollo Natural Resources Partners III started raising funds in 2020 and is not yet posting returns.

Apollo also acquires energy investments through its flagship funds, and frequently uses its natural resources funds to invest alongside the flagship buyout fund.[139] The firm reports that it has "an extensive network of relationships across the energy, metals and mining, and agriculture sectors."[140]

Apollo currently owns at least 18 fossil fuel companies and in the last couple years has shown more interest in renewable energy acquisitions.

In 2020, shale driller Chisholm Oil & Gas, backed by Apollo and Ares, filed for bankruptcy.[141]

## APOLLO GLOBAL MANAGEMENT

| Company Name | Type | Year Acquired | General Geography |
|---|---|---|---|
| **Total Operations and Production Services** | Midstream | 2021 | New Mexico; Texas |
| **AS Graanul Invest** | Renewable | 2021 | Global |
| **Celeros Flow Technology** | Upstream; Renewable | 2020 | Global |
| **Spartan Energy Acquistion/Fisker** | Renewable | 2020 | North America |
| **US Wind** | Renewable | 2020 | Maryland |
| **Clearway Energy (NYS: CWEN.A)** | Renewable | 2019 | United States |
| **Freestone Midstream** | Midstream | 2018 | Wyoming |

| | | | |
|---|---|---|---|
| **GE Capital ($1 billion Equity portfolio)** | Upstream; Midstream; Renewable | 2018 | United States |
| **Northwoods Energy (fka Converse Energy)** | Upstream | 2018 | Wyoming |
| **Western LNG** | Downstream | 2018 | British Columbia, Canada |
| **Mainstream Renewable Power** | Renewable | 2017 | Chile |
| **Resource Energy Partners** | Upstream | 2016 | North Dakota |
| **Ridgeback Resources** | Upstream | 2016 | Canada |
| **American Petroleum Partners** | Upstream | 2015 | Ohio; Pennsylvania |
| **Caelus Energy** | Upstream | 2014 | Alaska |
| **Butch's (fka Express Energy Services)** | Upstream | 2014 | Texas; Appalachian Region |
| **Zenergy** | Upstream; Midstream | 2014 | Texas; Arkansas; Louisiana |
| **Momentum Minerals** | Upstream | 2013 | Texas; Oklahoma; North Dakota; New Mexico; Wyoming; Louisiana; Colorado; Ohio; Pennsylvania; West Virginia |
| **Talos Energy (NYS: TALO)** | Upstream | 2012 | Gulf Coast |

# TPG Capital

TPG Capital is a large privately-held alternative asset manager with over $96 billion in assets under management.[142] Founded in Texas, the company is headquartered in Fort Worth as well as in San Francisco, CA.

TPG invests across a range of industries and has a history of conventional energy investments acquired through its buyout funds as well as technology-focused or credit funds.

TPG has actively promoted its impact investing through the Rise Fund, which aims to raise $7 billion to invest in climate solutions and clean technologies.[143] The fund has acquired a couple of renewable energy companies, like Matrix Renewables and Fourth Partner Energy.[144]

TPG continues to own and operate a small portfolio of fossil fuel companies such as Rockall Energy with drilling operations in North Dakota, Louisiana and Mississippi.[145]

## TPG

| Company Name | Type | Year Acquired | General Geography |
|---|---|---|---|
| **Matrix Renewables** | Renewable | 2020 | Spain; Chile; Colombia; Mexico |
| **Fourth Partner Energy** | Renewable | 2018 | India |
| **Rockall Energy** | Upstream | 2018 | Gulf Coast, Alabama; Louisiana; Mississippi; North Dakota |
| **Advantek Waste Management Services** | Upstream | 2014 | Global |
| **PT Delta Dunia Makmur** | Coal | 2010 | Indonesia |
| **ChemEOR** | Upstream | NA | Global |

# CVC Capital

CVC Capital is one of the world's largest alternative asset managers with around $115 billion in assets under management.[146] It has a few fossil fuel investments in its current investment portfolio, including Neptune Energy, one of the largest exploration and production companies in Europe that also has operations in North America.[147]

## CVC CAPITAL

| Company Name | Type | Year Acquired | General Geography |
|---|---|---|---|
| **Messer Americas** | Upstream; Midstream; Downstream | 2019 | Americas |
| **Naturgy Energy Group** | Energy Transmission; Renewable; Gas | 2018 | Global |
| **Neptune Energy** | Upstream | 2018 | Europe; Africa; Asia Pacific |
| **CLH Group** | Midstream | 2017 | Spain; UK; Ireland; Oman |
| **PKP Energetyka** | Energy Transmission; Gas | 2015 | Poland |

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