

CORPORATE FINANCE ASSOCIATES



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## Market Observations



## Market Summary

### **Energy Market**

The global energy market is estimated to reach \$151.4 billion by 2030, growing at a CAGR of 8.4%, during the period 2021-30, as per a report published by Global Newswire. The concerns over climate change and pollution have increased the demand for sustainable energy. The global energy sector was responsible for 40.0% of methane emissions in 2022, as per a recent report published by International Energy Agency (IEA). With emission levels reaching new records, the IEA emphasized the urgency for oil and gas companies to reduce their methane leaks in late 2022. The IEA also stated that nearly 80.0% of potential emissions reductions from the oil and gas industry can be achieved with no net costs, and an investment of \$100.0 billion by 2030 could achieve significant emission reductions. While solar energy usage is increasing, high initial costs and lack of resources in emerging economies may limit renewable energy market expansion. Investing in renewable energy has proven to be beneficial for many companies despite the high costs associated with it. Gold Fields is one such example as it has invested in a solar power plant near its South Deep mine in Johannesburg. This plant is expected to provide 24.0% of the mine's electricity and help reduce the company's carbon footprint while also saving money on power, as per the report published by Reuters.

### **Public Company Valuations**

The CFA Select Fossil Index went down by 6.2% in the first quarter of 2023, and the 12 months return on the Index increased by 1.6%. The CFA Select Renewables Index went up by 4.1% in the first quarter of 2023, and the 12 months return on the Index decreased by 1.7%. Our index for each of the subsectors of Renewables increased in the first quarter of 2023. However, our index for each of the subsectors of Fossil decreased in the first quarter of 2023 except Oil & Gas Refining & Marketing, which increased by 2.4%. Oil & Gas Midstream had the highest median revenue & EBITDA multiple with 3.7x and 11.5x, respectively. Renewable Energy Generation had median revenue and EBITDA multiple of 5.8x and 15.7x, respectively, while Renewable Marketing.

### Mergers and Acquisitions

In 2022, the energy sector witnessed a decline in M&A activity globally due to challenges such as supply chain uncertainties, high commodity prices, soaring interest rates, and growing recessionary concerns. During late 2022, companies in this sector were divesting or spinning off carbon-intensive assets and focusing on grid services and electrification. Enel and Total Energies are examples of companies that have spun off non-renewable assets in the second half of 2022. In 2023, the energy sector is expected to prioritize small and mid-sized deals over larger ones. The trend towards portfolio rebalancing is also expected to accelerate, as companies seek to expand into new areas of business or build a new engine of growth.

The public Fossil Fuel market and public Renewables market showed volatility in Q1 2023...

# **Fossil Fuels Industry Trends**

#### **Methane Reduction Push**

Methane is a potent greenhouse gas that contributes to climate change, and the energy sector is a significant contributor to its production. In 2022, despite the lower cost of reducing methane emissions caused by the surge in energy prices, the levels of methane emissions were significantly high. Currently, the energy sector accounts for approximately 40.0% of the total methane emissions, as per International Energy Agency (IEA). Reductions in methane emissions can considerably slow down the pace of climate change. Methane emissions can be reduced significantly with available technologies and at a low cost. For example, continuous monitoring devices scan facilities enable operators to rapidly detect and respond to leaks. Similarly, mobile mini-LNG production equipment reduces flaring, and automated air/fuel ratio reduces methane emissions from combustion processes. Agencies like IEA are also urging governments, businesses, and other stakeholders to implement policies and regulations aimed at reducing methane emissions, such as prohibiting all non-emergency flaring and venting of methane from oil and gas operations, which could significantly reduce methane emissions.

### Direct Air Capture (DAC)

Direct Air Capture technologies are becoming an increasingly popular solution for mitigating climate change, especially in the fossil fuel industry. DAC involves extracting carbon dioxide (CO2) from the atmosphere and storing it permanently in deep geological formations or using it for other purposes, such as food processing or producing synthetic fuels, in line with net-zero emissions. Occidental, one of the biggest oil companies, is planning to construct DAC plants on 100,000 leased acres in the historic King Ranch of



the US, with the aim of filtering millions of tons of CO2 from the air and storing it underground, as per a report published by The Verge. In this way, the company can receive credits for each ton of CO2 they capture and sequester. Captured CO2 can also be used for enhanced oil recovery, where it is injected into oil wells to extract previously unreachable oil, making it carbon neutral or negative. Currently, there are 135 large DAC plants worldwide, each of which captures a million tons of carbon annually, but it is believed that they can only partially solve the issue of carbon capture, according to a report published by Fast Company. The development of DAC technology offers hope for a more sustainable future by providing a new way to mitigate climate change, even in the fossil fuel industry.

### Volatile Crude Oil Prices

In March 2023, oil prices surged as Credit Suisse's rescue eased concerns of a banking crisis that could have led to reduced fuel demand and lower economic growth. As worries about a recession have lessened, the outlook for oil demand has improved. China's economy is predicted to recover from strict lockdowns, accounting for 40.0% of the increase in global oil demand this year, according to Reuters. However, increased crude oil use will not result in a return to 2022 price levels. BP, one of the world's largest crude oil producers, plans to cut emissions but increase its investments in fossil fuels this year. The International Energy Agency (IEA) has warned that oil consumption is set for a record year, with inadequate supply due to a slowdown in US shale growth, Russia's invasion of Ukraine, and insufficient investment in production. A CNBC report predicts a 2 million barrels per day increase in global oil demand, with China accounting for half of the growth while Russia's limited supply may create price pressure.



## **Renewable Energy Industry Trends**

#### Energy Storage Optimization through AI

Energy storage is a critical component of renewable energy sources like solar and wind power. The global energy storage market was valued at \$14.9 billion in 2022 and is expected to reach \$17.7 billion by 2023, as per a Persistence Market Research report. The energy storage market is fueled by technological breakthroughs and increasing demand for electric vehicles and renewable energy sources. The demand for batteries is increasing due to their application in electric vehicles. Additionally, in the commercial, industrial, and residential sectors, energy storage systems, including batteries, pumped-storage hydroelectricity, thermal energy storage, and flywheel energy storage, serve as backup power sources. In the past, most grid-scale storage projects were designed for a single purpose, such as supporting the power grid's frequency or reducing energy consumption during specific hours of the day. The scope has widened, and AI has successfully enabled this transformation. AI is being used to forecast energy prices and analyze energy storage systems data. For instance, by monitoring factors such as temperature, humidity, and usage patterns, AI algorithms can adjust the charging and discharging of batteries in real time, reducing costs and increasing the reliability of renewable energy storage systems.

#### **Renewable Energy Grid Integration**

The integration of renewable energy into the grid infrastructures helps in reducing carbon emissions, increasing energy security, and providing access to electricity in remote areas. Integrating renewable energy sources such as solar, wind, and hydro into power grids is a key aspect of grid integration. In 2023, Fluence, a joint venture between Siemens and AES, integrated renewable energy sources into the power grid in Portugal by utilizing a battery-based energy storage system and software. Despite the growing



demand for grid integration, policies, and programs to support this transition are still in their early stages and face numerous challenges. According to research published by Business Wire, limited grid capacity can result in significant delays of up to 15 years for some renewable energy projects to integrate. To tackle this issue, several organizations such as The International Renewable Energy Agency (IRENA), The U.S. Department of Energy's Grid Modernization Initiative, and The International Energy Agency (IEA) are working on research, policies, and programs to support renewable energy integration and grid modernization.

### Decarbonization as a Service (DaaS)

Decarbonization as a Service (DaaS) seeks to accelerate the transition to a low-carbon economy. The need for decarbonization has become increasingly important due to climate change and rising CO2 emissions. Several countries are ramping up their use of wind, solar, geothermal, and hydro energy to generate electricity, with some, like Paraguay, Norway, and Costa Rica, achieving high renewable energy shares through hydropower. Similarly, companies like PureCycle, which is a Florida-based plastic recycling firm, use a low-energy, low-carbon purification process to recycle polypropylene. However, the success of DaaS depends on coordination among stakeholders, including technology providers, investors, and customers. To address this challenge, industry players are exploring new business models, like power purchase agreements and energy-as-a-service contracts.

## **Significant News**

### ExxonMobil Boosts Fuel Supply with \$2 Billion Beaumont Refinery Expansion

ExxonMobil, March 29, 2023

"ExxonMobil announced the successful startup of its Beaumont refinery expansion project, which adds 250,000 barrels per day of capacity to one of the largest refining and petrochemical complexes along the U.S. Gulf Coast. The added volume in Beaumont increases its total processing capacity to more than 630,000 barrels per day, making it one of the largest refineries in the United States."

Read More >

### Dow and X-energy Advance Efforts to Deploy First Advanced Small Modular Nuclear Reactor at Industrial Site Under DOE's Advanced Reactor Demonstration Program X-Energy, March 01, 2023

"Dow (NYSE: DOW), the world's leading materials science company, and X-Energy Reactor Company, LLC ("X-energy"), a leading developer of advanced nuclear reactors and fuel technology for clean energy generation, announced their entry into a joint development agreement ("JDA") to demonstrate the first grid-scale advanced nuclear reactor for an industrial site in North America. Dow intends to work with X-energy to install their Xe-100 high-temperature gas-cooled reactor ("HTGR") plant at one of Dow's U.S. Gulf Coast sites, providing the site with safe, reliable, low-carbon power and steam within this decade."

Read More >

### Bechtel to Begin Work on \$13B Texas LNG Project

Constructiondive, March 01, 2023

"A major liquified natural gas project in Texas is moving ahead after years of planning. Phase 1 is designed to include two natural gas liquefaction trains, two liquefied natural gas storage tanks, and associated facilities at the Sabine Lake near the Houston site, according to the release. The project's Phase 1 is expected to create an estimated 5,000 highly skilled jobs during construction. It will join a portfolio of large projects that Bechtel has commenced."

Read More >

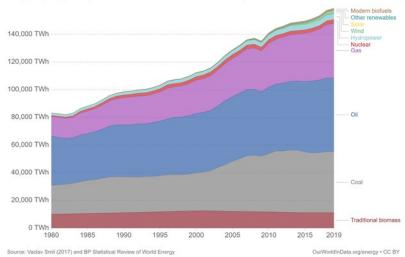


### **Industry Barometers**

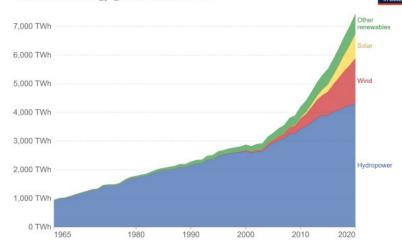
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#### Global direct primary energy consumption

Direct primary energy consumption does not take account of inefficiencies in fossil fuel production.

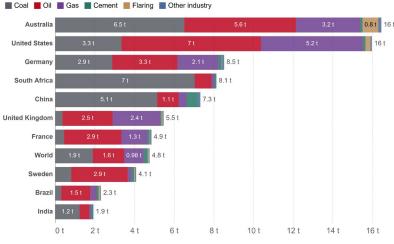


Renewable energy generation, World



Source: BP Statistical Review of Global Energy Our/WorldInData.org/renewable-energy • CC BY Note: 'Other renewables' refers to renewable sources including geothermal, biomass, waste, wave and tidal. Traditional biomass is not included.

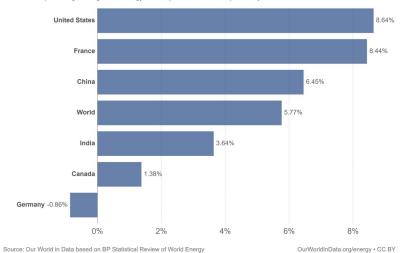




Source: Our World in Data based on the Global Carbon Project

OurWorldInData.org/co2-and-other-greenhouse-gas-emissions • CC BY





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### **M&A Metrics**

### **Fossil Fuel Industry**

M&A activity in the Fossil Fuel industry increased in the first quarter of 2022. The number of M&A transactions increased from 55 in Q4 2022 to 67 in Q1 2023. The number of sub-\$50 million transactions increased from 36 in Q4 2022 to 47 in Q1 2023. The number of transactions above \$100 million increased from 14 in Q4 2022 to 17 in Q1 2023. The total number of M&A transactions increased by 9.8% year on year from 61 in Q1 2022 to 67 in Q1 2023.



#### M&A Deal Summary Table | Count by Deal Size over Time

Transaction Value	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Not Disclosed	15	22	19	20	28	26	30	32	16	18	24	31
Under \$10 MM	13	14	15	14	10	15	14	3	12	10	4	12
\$10 - \$25 MM	5	1	11	3	3	7	5	0	2	2	4	4
\$25 - \$50 MM	2	2	7	4	4	6	4	2	0	5	4	0
\$50 - \$100 MM	2	4	7	4	3	5	7	5	6	3	5	3
\$100 - \$500 MM	4	7	15	14	13	10	11	11	11	15	10	10
\$500 MM+	2	7	15	12	16	10	7	8	13	5	4	7
TotalTransactions	43	57	89	71	77	79	78	61	60	58	55	67



### **M&A** Metrics

### **Renewable Industry**

M&A activity in the Renewable industry decreased in the first quarter of 2023. The number of M&A transactions decreased from 195 in Q4 2022 to 147 in Q1 2023. The number of sub-\$50 million transactions decreased from 167 in Q4 2022 to 131 in Q1 2023. The number of transactions above \$100 million decreased from 20 in Q4 2022 to 13 in Q1 2023. The total number of M&A transactions decreased 24.2% year on year from 194 in Q1 2022 to 147 in Q1 2023.



#### M&A Deal Summary Table | Count by Deal Size over Time

Transaction Value	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023
Not Disclosed	68	87	117	155	119	151	164	121	123	137	126	107
Under \$10 MM	26	19	24	26	36	34	37	23	23	19	24	11
\$10 - \$25 MM	7	18	12	7	16	11	18	11	7	15	7	4
\$25 - \$50 MM	7	6	11	11	14	9	19	13	5	8	10	9
\$50 - \$100 MM	4	11	10	16	11	12	11	10	10	12	8	3
\$100 - \$500 MM	5	12	21	19	15	23	20	13	16	21	11	10
\$500 MM+	3	7	9	10	6	6	13	3	9	11	9	3
TotalTransactions	120	160	204	244	217	246	282	194	193	223	195	147



## **Industry Metrics Fossil Fuels**

### Industry Financial Data and Ratios

#### NAICs 211120 - Crude Petroleum Extraction

Financial Metric	Last12 Mo	2022	2021
Current Ratio	3.19	3.38	3
Gross Profit Margin	76.13%	78.25%	77.65%
Net Profit Margin	30.62%	31.22%	14.34%
Accounts Receivable Days	124.12	115.16	83.67
Accounts Payable Days	224.95	212.26	206.2
Debt-to-Equity Ratio	1.12	1.2	1.4
Return on Equity	39.98%	35.84%	21.38%
Sales per Employee			
Profit per Employee			
Sales Growth	35.95%	41.33%	42.12%
Profit Growth	69.47%	69.47%	79.22%

#### NAICs 213112 - Support Activities for Oil and Gas Operations

		•	
Financial Metric	Last12 Mo	2022	2021
Current Ratio	3.21	3.24	3.1
Gross Profit Margin	61.76%	61.59%	65.67%
Net Profit Margin	13.25%	13.38%	9.13%
Accounts Receivable Days	78.74	80.58	77.6
Accounts Payable Days	86.93	96.08	105.78
Debt-to-Equity Ratio	2.21	2.1	2.18
Return on Equity	50.80%	50.11%	38.29%
Sales per Employee			
Profit per Employee			
Sales Growth	43.28%	42.53%	20.78%
Profit Growth	69.05%	67.19%	32.09%

Source: Profit Cents

#### NAICs 213111 - Drilling Oil and Gas Wells

Financial Metric	Last12 Mo	2022	2021
Current Ratio	2.69	2.65	2.23
Gross Profit Margin	76.78%	77.71%	74.62%
Net Profit Margin	27.30%	24.60%	9.90%
Accounts Receivable Days	95.49	89.8	96.24
Accounts Payable Days	154.18	149.98	200.22
Debt-to-Equity Ratio	1.39	1.66	2.01
Return on Equity	48.49%	44.68%	31.52%
Sales per Employee			
Profit per Employee			
Sales Growth	42.57%	43.38%	36.68%
Profit Growth	26.95%	26.95%	54.74%

#### NAICs 424720 - Petroleum & Petroleum Products Merchant Wholesalers

Last12Mo	2022	2021
2.21	2.13	2.51
8.95%	8.61%	10.54%
2.42%	2.18%	1.87%
21.82	21.6	21.31
19.55	18.74	17.48
3.15	3	2.41
49.35%	45.92%	34.27%
		\$1,356,800
		\$59,554
61.65%	59.61%	37.44%
53.87%	45.44%	28.89%
	2.21 8.95% 2.42% 21.82 19.55 3.15 49.35%   61.65%	2.21 2.13   8.95% 8.61%   2.42% 2.18%   21.82 21.6   19.55 18.74   3.15 3   49.35% 45.92%       61.65% 59.61%



## **Industry Metrics**

### Industry Financial Data and Ratios

#### NAICs 324110 - Petroleum Refineries

Last12 Mo	2022	2021
0.78	0.9	1.48
46.30%	31.50%	58.86%
7.30%	4.77%	17.94%
33.03	28.71	24.6
63.95	46.2	36.38
1.28	1.78	2.23
47.19%	30.56%	43.82%
		18.65%
		-9.64%
	0.78 46.30% 7.30% 33.03 63.95 1.28 47.19% 	0.78     0.9       46.30%     31.50%       7.30%     4.77%       33.03     28.71       63.95     46.2       1.28     1.78       47.19%     30.56%

#### NAICs 221114 - Solar Electric Power Generation

Financial Metric	Last12 Mo	2022	2021
Current Ratio	2.33	2.23	3.18
Gross Profit Margin	67.61%	69.74%	76.03%
Net Profit Margin	13.23%	12.11%	14.22%
Accounts Receivable Days	69.75	66.42	60.54
Accounts Payable Days	73.84	75.33	68.98
Debt-to-Equity Ratio	1.63	1.57	1.88
Return on Equity	18.89%	19.66%	22.00%
Sales per Employee			
Profit per Employee			
Sales Growth	31.02%	29.82%	20.30%
Profit Growth	43.41%	43.41%	22.08%

Source: Profit Cents

#### NAICs 486110 - Pipeline Transportation of Crude Oil

Financial Metric	Last12Mo	2022	2021
Current Ratio	1.04	1.47	2.15
Gross Profit Margin	95.32%	93.26%	75.80%
Net Profit Margin	30.07%	29.68%	16.85%
Accounts Receivable Days	71.53	71.53	56.56
Accounts Payable Days			3.14
Debt-to-Equity Ratio	0.71	0.64	3.04
Return on Equity	7.81%	7.36%	43.28%
Sales per Employee			
Profit per Employee			
Sales Growth			5.36%
Profit Growth			10.52%

#### NAICs 221115 - Wind Electric Power Generation

Financial Metric	Last12 Mo	2022	2021
Current Ratio	2.21	3.68	2.69
Gross Profit Margin	51.05%	59.07%	74.66%
Net Profit Margin	2.85%	7.25%	5.69%
Accounts Receivable Days	47.03	45.24	35.21
Accounts Payable Days	29.69	31.93	25.83
Debt-to-Equity Ratio	2.25	1.93	1.56
Return on Equity	-3.40%	1.79%	7.53%
Sales per Employee			
Profit per Employee			
Sales Growth			15.62%
Profit Growth			-49.67%



# **Transaction Highlights**



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## **Notable Transactions**



In March 2023, **Crescent Point Energy Corp** entered into a definitive purchase and sale agreement to acquire the business and assets related to **Gold Creek & Karr Montney Assets** from **Spartan Delta Corp** for CAD1.7 billion (US\$1.2 billion) in cash, subject to customary adjustments. The acquisition will be funded through Crescent Point Energy Corp's existing credit facilities from The Bank of Nova Scotia and Royal Bank of Canada. The acquisition enables Crescent Point Energy Corp to enhance its business portfolio. The Gold Creek & Karr Montney assets are located in Alberta, Canada.

In March 2023, **JERA Co Inc** entered into a definitive agreement to acquire **Parkwind NV** from Virya Energy NV for EUR1.55 billion (US\$1.67 billion) in cash. The acquisition complements JERA Co Inc's wind offshore business. Parkwind NV is located in Leuven, Flemish Region, Belgium, and develops, finances, builds and operates wind farms. It currently employs 130 professionals.

In February 2023, **Baytex Energy Corp** entered into a definitive agreement to acquire **Ranger Oil Corp** for US\$1.9 billion in cash and stock with an undisclosed amount in assumed liabilities. The transaction will be funded through Baytex Energy Corp's US\$1.8 billion debt commitments, US\$750 million senior unsecured notes, and available cash on hand. The acquisition expands the business offering of both companies. Ranger Oil Corp is located in Houston, Texas, United States and engages in the onshore development and production of crude oil and natural gas.



BAYTEX

In February 2023, **IRG Acquisition Holdings LLC** signed an agreement to acquire business and assets related to the 1365MW Unregulated Renewables portfolio from **American Electric Power Co Inc** for US\$1.5 billion with an undisclosed amount in liabilities assumed. The transaction includes the acquisition of portfolio which consists of 14 projects representing 1.2 GW of wind capacity and 165 MW of solar. The acquisition enhances the capabilities of IRG Acquisition Holdings. The acquired business and assets are located in United States and operate as 1365MW Wind and solar portfolio.





### Select M&A Transactions

Date	Target Name	Acquirer Name	Enterprise Value(MM)	Revenue	EBITDA
03/31/23	Kiryat Gat Power Plant	Kenon Holdings Ltd.	163	NA	NA
03/28/23	Spartan Delta Corp. /Gold Creek & Karr Montney Assets/	Crescent Point Energy Corp.	1,241	NA	NA
03/22/23	Parkwind NV	JERA Co., Inc.	1,669	NA	NA
02/28/23	Energie Steiermark AG	Province of Styria	2,014	1,916	NA
02/28/23	Ranger Oil Corp.	Baytex Energy Corp.	2,487	1,145	922
02/23/23	Petroleo Brasileiro SA /Norte Capixaba Cluster Assets /	Seacrest Petróleo SPE Norte Capixaba Ltda.	544	NA	NA
02/22/23	American Electric Power Co., Inc. /1365mw Unreg Renew portf/	IRG Acquisition Holdings LLC	1,500	NA	NA
02/21/23	Chesapeake Energy Corp. /Northern Eagle Ford Assets/	INEOS Upstream Holdings Ltd.	1,400	NA	NA
02/13/23	Galp Energia SGPS SA /Upstream Assets/	SOMOIL Sociedade Petrolifera Angolana SARL	830	NA	NA
02/10/23	Odin Energy P/S	Cloudberry Clean Energy ASA	269	NA	NA
01/31/23	Samson Solar Energy LLC /200mw Samson I Solar Energy Center/	WEC Energy Group, Inc.	313	NA	NA
01/23/23	Fengate Asset Management Ltd /60 MW Solar Portfolio/	Innergex Renewable Energy, Inc.	164	NA	NA
01/20/23	Ridgeback Resources, Inc.	Saturn Oil & Gas, Inc.	389	NA	NA
01/18/23	Meenakshi Energy Ltd.	Vedanta Ltd.	176	NA	NA
01/18/23	Chesapeake Energy Corp. /Eagle Ford Assets/	Warburg Pincus LLC; Kayne Anderson Capital Advisors LP (Private Equity); WildFire Energy LLC	1,425	NA	NA
01/12/23	Esso Thailand Public Co. Ltd.	Bangchak Corp. Public Co. Ltd.	2,605	7,499	418
01/04/23	81 5 MW Four Power Plants	CPV Group LP	172	NA	NA
(\$ in millions)	Source: Factset				





# **Public Companies**



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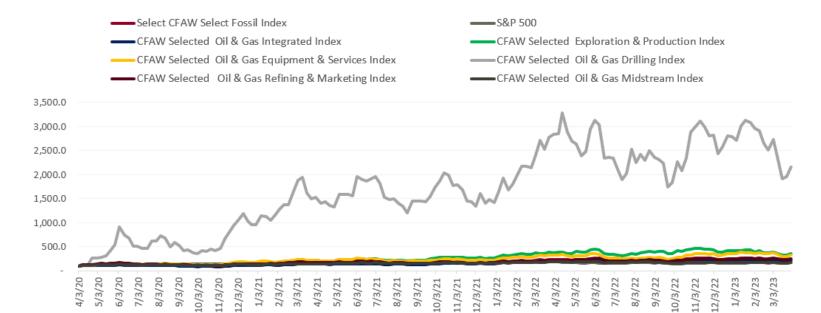
## **Industry Performance Fossil Fuels**

### CFAW Select Fossil Fuel Index



#### CFAW Select Fossil Index | Median Revenue Multiples





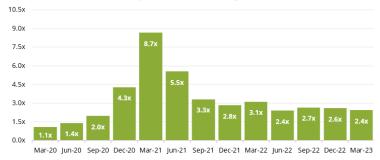


# Industry Performance Renewable Energy

### CFAW Select Renewable Energy Index



CFAW Select Renewables Index | Median Revenue Multiples

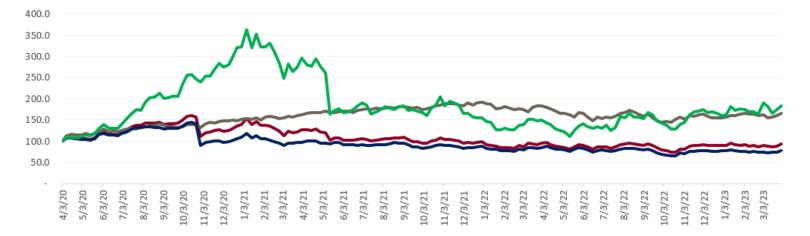


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CFAW Selected Renewable Energy Generation Index

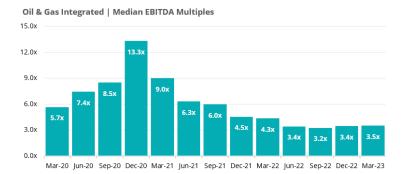




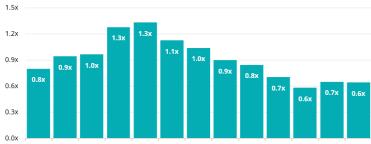




### Oil and Gas Integrated



Oil & Gas Integrated | Median Revenue Multiples



Mar-20 Jun-20 Sep-20 Dec-20 Mar-21 Jun-21 Sep-21 Dec-21 Mar-22 Jun-22 Sep-22 Dec-22 Mar-23

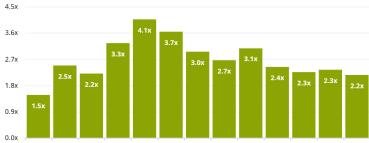
Company	Share	Shares	Market	Enterprise	Revenues	EBITDA _	Enterprise	Value /
\$USD in Millions	Price	O/S	Сар	Value	(LTM)	(LTM)	Revenues	EBITDA
TotalEnergies SE Sponsored ADR	\$59.05	2,490	\$147,050	\$161,001	\$263,310	\$62,774	0.6x	2.6x
Exxon Mobil Corporation	\$109.66	4,071	\$446,424	\$471,102	\$400,438	\$89,517	1.2x	5.3x
Chevron Corporation	\$163.16	1,907	\$311,093	\$320,891	\$236,368	\$57,337	1.4x	5.6x
BP p.l.c. Sponsored ADR	\$37.94	2,944	\$111,689	\$154,691	\$241,392	\$55,833	0.6x	2.8x
Shell Plc	\$28.54	6,843	\$195,326	\$244,896	\$369,625	\$70,053	0.7x	3.5x
Eni S.p.A. Sponsored ADR	\$28.00	1,786	\$50,001	\$63,715	\$138,394	\$32,371	0.5x	2.0x
Mean				\$220,065	\$300,442	\$56,809	0.7x	3.7x
Median				\$161,001	\$263,310	\$57,337	0.6x	3.5x



#### **Exploration and Production**



Exploration & Production | Median Revenue Multiples



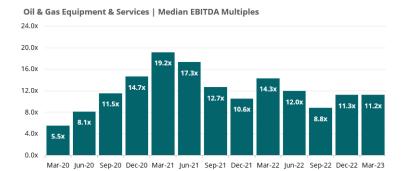
Mar-20 Jun-20 Sep-20 Dec-20 Mar-21 Jun-21 Sep-21 Dec-21 Mar-22 Jun-22 Sep-22 Dec-22 Mar-23

<b>Company</b> \$USD in Millions	Share	Shares	Shares Market O/S Cap	Enterprise Value	Revenues	EBITDA	Enterprise Value /	
	Price	O/S			(LTM)	(LTM)	Revenues	EBITDA
Hess Corporation	\$132.34	306	\$40,520	\$47,825	\$11,909	\$6,211	4.0x	7.7x
Marathon Oil Corporation	\$23.96	630	\$15,087	\$20,826	\$7,540	\$5,316	2.8x	3.9x
APA Corporation	\$36.06	311	\$11,213	\$17,643	\$11,075	\$6,639	1.6x	2.7x
Pioneer Natural Resources Company	\$204.24	235	\$47,997	\$52,559	\$24,384	\$12,887	2.2x	4.1x
ConocoPhillips	\$99.21	1,219	\$120,915	\$128,860	\$78,582	\$33,485	1.6x	3.8x
Devon Energy Corporation	\$50.61	654	\$33,099	\$38,492	\$19,827	\$10,838	1.9x	3.6x
EOG Resources, Inc.	\$114.63	588	\$67,371	\$67,357	\$29,610	\$17,843	2.3x	3.8x
Coterra Energy Inc.	\$24.54	768	\$18,853	\$20,780	\$9,514	\$7,377	2.2x	2.8x
Mean				\$49,293	\$24,055	\$12,575	2.3x	4.0x
Median				\$43,158	\$15,868	\$9,108	2.2x	3.8x

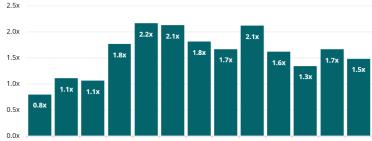


CORPORATE FINANCE ASSOCIATES

### Oil and Gas Equipment Services



Oil & Gas Equipment & Services | Median Revenue Multiples



Mar-20 Jun-20 Sep-20 Dec-20 Mar-21 Jun-21 Sep-21 Dec-21 Mar-22 Jun-22 Sep-22 Dec-22 Mar-23

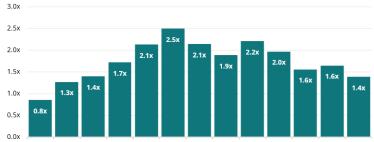
Company	Share	Shares	Market	Enterprise	Revenues	EBITDA	Enterprise	Value /
\$USD in Millions	Price	O/S	Сар	Value	(LTM)	(LTM)	Revenues	EBITDA
NOV Inc.	\$18.51	393	\$7,271	\$8,606	\$7,234	\$556	1.2x	15.5x
Oil States International, Inc.	\$8.33	64	\$532	\$670	\$738	\$63	0.9x	10.6x
Schlumberger N.V.	\$49.10	1,420	\$69,731	\$80,302	\$28,178	\$6,149	2.8x	13.1x
Baker Hughes Company Class A	\$28.86	1,012	\$29,217	\$32,477	\$22,037	\$3,056	1.5x	10.6x
Halliburton Company	\$31.64	904	\$28,605	\$35,722	\$20,297	\$3,943	1.8x	9.1x
Tenaris S.A. Sponsored ADR	\$28.42	590	\$16,775	\$16,242	\$11,763	\$3,648	1.4x	4.5x
ChampionX Corporation	\$27.13	199	\$5,389	\$5,792	\$3,888	\$672	1.5x	8.6x
TechnipFMC plc	\$13.65	442	\$6,036	\$7,307	\$6,694	\$613	1.1x	11.9x
Cactus, Inc. Class A	\$41.23	64	\$2,644	\$2,473	\$688	\$209	3.6x	11.8x
Core Laboratories NV	\$22.05	47	\$1,028	\$1,240	\$490	\$58	2.5x	21.4x
Mean				\$19,083	\$10,201	\$1,897	1.8x	11.7x
Median				\$7,957	\$6,964	\$642	1.5x	11.2x



### Oil and Gas Drilling



Oil & Gas Drilling | Median Revenue Multiples



Mar-20 Jun-20 Sep-20 Dec-20 Mar-21 Jun-21 Sep-21 Dec-21 Mar-22 Jun-22 Sep-22 Dec-22 Mar-23

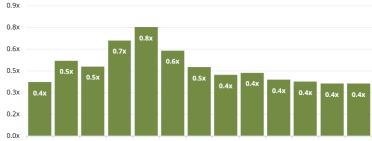
Company	Share Shares		Market	Enterprise	Revenues	EBITDA	Enterprise Value /	
\$USD in Millions	Price	O/S	Сар	Value	(LTM)	(LTM)	Revenues	EBITDA
Helmerich & Payne, Inc.	\$35.75	104	\$3,735	\$3,888	\$2,369	\$602	1.6x	6.5x
Patterson-UTI Energy, Inc.	\$11.70	214	\$2,500	\$3,218	\$2,648	\$684	1.2x	4.7x
Nabors Industries Ltd.	\$121.91	9	\$1,153	\$4,074	\$2,654	\$709	1.5x	5.7x
Precision Drilling Corporation	\$51.42	14	\$697	\$1,531	\$1,242	\$239	1.2x	6.4x
Transocean Ltd.	\$6.36	726	\$4,619	\$11,446	\$2,575	\$831	4.4x	13.8x
Shelf Drilling Ltd.	\$2.40	194	\$466	\$1,843	\$630	\$221	2.9x	8.3x
Vantage Drilling International	\$15.65	13	\$207	\$296	\$252	\$15	1.2x	20.0x
Major Drilling Group International Inc.	\$7.85	83	\$651	\$588	\$566	\$124	1.0x	4.7x
Mean				\$3,360	\$1,617	\$428	1.9x	8.8x
Median				\$2,530	\$1,806	\$421	1.4x	6.4x



### Oil & Gas Refining & Marketing



#### Oil & Gas Refining & Marketing | Median Revenue Multiples

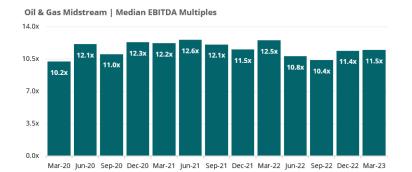


Mar-20 Jun-20 Sep-20 Dec-20 Mar-21 Jun-21 Sep-21 Dec-21 Mar-22 Jun-22 Sep-22 Dec-22 Mar-23

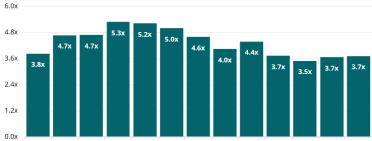
Company	Share	Share Shares Ma		Market Enterprise		EBITDA	Enterprise Value /	
\$USD in Millions	Price	O/S	Сар	Value	(LTM)	(LTM)	Revenues	EBITDA
Phillips 66	\$101.38	464	\$47,031	\$63,727	\$170,118	\$11,725	0.4x	5.4x
Valero Energy Corporation	\$139.60	371	\$51,813	\$61,580	\$176,686	\$19,443	0.3x	3.2x
Cosan S.A. Sponsored ADR	\$11.82	467	\$5,516	\$18,673	\$7,694	\$1,644	2.4x	11.4x
HF Sinclair Corporation	\$48.38	196	\$9,492	\$12,321	\$38,210	\$4,800	0.3x	2.6x
Valvoline, Inc.	\$34.94	172	\$6,007	\$8,102	\$711	\$240	11.4x	33.7x
Sunoco LP	\$43.89	84	\$3,689	\$7,727	\$25,729	\$879	0.3x	8.8x
World Fuel Services Corporation	\$25.55	62	\$1,585	\$2,338	\$58,979	\$321	0.0x	7.3x
Sinopec Shanghai Petrochemical Co. Ltd. Sponsored ADR Class H	\$19.11	35	\$668	\$1,566	\$13,070	\$274	0.1x	5.7x
CVR Energy, Inc.	\$32.78	101	\$3,295	\$4,684	\$10,896	\$1,317	0.4x	3.6x
NGL Energy Partners LP	\$2.90	131	\$381	\$4,551	\$9,179	\$710	0.5x	6.4x
Mean				\$18,527	\$51,127	\$4,135	1.6x	8.8x
Median				\$7,914	\$19,400	\$1,098	0.4x	6.1x



#### Oil & Gas Midstream



Oil & Gas Midstream | Median Revenue Multiples



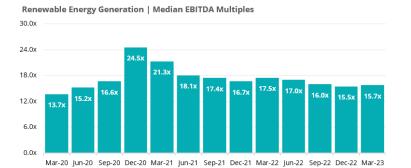
Mar-20 Jun-20 Sep-20 Dec-20 Mar-21 Jun-21 Sep-21 Dec-21 Mar-22 Jun-22 Sep-22 Dec-22 Mar-23

Share	Shares	Market	Enterprise	Revenues	EBITDA	Enterprise '	Value /
Price	O/S	Сар	Value	(LTM)	(LTM)	Revenues	EBITDA
\$38.15	2,025	\$77,250	\$144,384	\$41,053	\$9,744	3.5x	14.8x
\$25.90	2,171	\$56,224	\$85,373	\$57,968	\$8,259	1.5x	10.3x
\$38.91	1,000	\$38,910	\$84,292	\$10,947	\$6,211	7.7x	13.6x
\$17.51	2,241	\$39,244	\$71,668	\$18,288	\$5,818	3.9x	12.3x
\$29.86	1,219	\$36,386	\$61,906	\$11,352	\$5,387	5.5x	11.5x
\$34.45	1,001	\$34,486	\$56,163	\$11,137	\$5,631	5.0x	10.0x
\$63.54	447	\$28,416	\$41,920	\$22,871	\$3,660	1.8x	11.5x
\$12.47	3,095	\$38,590	\$101,606	\$89,876	\$12,164	1.1x	8.4x
\$32.40	550	\$17,831	\$27,729	\$8,919	\$2,318	3.1x	12.0x
\$54.26	203	\$11,031	\$16,177	\$3,356	\$1,420	4.8x	11.4x
			\$69,122	\$27,577	\$6,061	3.8x	11.6x
			\$66,787	\$14,820	\$5,725	3.7x	11.5x
	Price \$38.15 \$25.90 \$38.91 \$17.51 \$29.86 \$34.45 \$63.54 \$63.54 \$12.47 \$32.40	Price     O/S       \$38.15     2,025       \$25.90     2,171       \$38.91     1,000       \$17.51     2,241       \$29.86     1,219       \$34.45     1,001       \$63.54     447       \$12.47     3,095       \$32.40     550	Price     O/S     Cap       \$38.15     2,025     \$77,250       \$25.90     2,171     \$56,224       \$38.91     1,000     \$38,910       \$38.91     1,000     \$38,910       \$17.51     2,241     \$39,244       \$29.86     1,219     \$36,386       \$34.45     1,001     \$34,486       \$63.54     447     \$28,416       \$12.47     3,095     \$38,590       \$32.40     550     \$17,831	Price     O/S     Cap     Value       \$38.15     2,025     \$77,250     \$144,384       \$25.90     2,171     \$56,224     \$85,373       \$38.91     1,000     \$38,910     \$84,292       \$17.51     2,241     \$39,244     \$71,668       \$29.86     1,219     \$36,386     \$61,906       \$34.45     1,001     \$34,486     \$56,163       \$63.54     447     \$28,416     \$41,920       \$12.47     3,095     \$38,590     \$101,606       \$32.40     550     \$17,831     \$27,729       \$54.26     203     \$11,031     \$16,177	Price     O/S     Cap     Value     (LTM)       \$38.15     2,025     \$77,250     \$144,384     \$41,053       \$25.90     2,171     \$56,224     \$85,373     \$57,968       \$38.91     1,000     \$38,910     \$84,292     \$10,947       \$17.51     2,241     \$39,244     \$71,668     \$18,288       \$25.96     1,219     \$36,386     \$61,906     \$11,352       \$34.45     1,001     \$34,486     \$56,163     \$11,137       \$63.54     447     \$28,416     \$41,920     \$22,871       \$12.47     3,095     \$38,590     \$101,606     \$89,876       \$32.40     550     \$17,831     \$27,729     \$8,919       \$54.26     203     \$11,031     \$16,177     \$3,356	Price     O/S     Cap     Value     (LTM)     (LTM)       \$38.15     2,025     \$77,250     \$144,384     \$41,053     \$9,744       \$25.90     2,171     \$56,224     \$85,373     \$57,968     \$8,259       \$38.91     1,000     \$38,910     \$84,292     \$10,947     \$6,211       \$17.51     2,241     \$39,244     \$71,668     \$18,288     \$5,818       \$29.86     1,219     \$36,386     \$61,906     \$11,352     \$5,387       \$34.45     1,001     \$34,486     \$56,163     \$11,137     \$5,631       \$63.54     447     \$28,416     \$41,920     \$22,871     \$3,660       \$12.47     3,095     \$38,590     \$101,606     \$89,876     \$12,164       \$32.40     550     \$17,831     \$27,729     \$8,919     \$2,318       \$54.26     203     \$11,031     \$16,177     \$3,356     \$1,420       \$69,122     \$27,577     \$6,061     \$60,122     \$27,577     \$6,061	PriceO/SCapValue(LTM)(LTM)Revenues\$38.152,025\$77,250\$144,384\$41,053\$97,443.5x\$25.902,171\$56,224\$85,373\$57,968\$88,2591.5x\$38.911,000\$38,910\$84,292\$10,947\$6,2117.7x\$17.512,241\$39,244\$71,668\$18,288\$5,8183.9x\$29.861,219\$36,386\$61,906\$11,352\$5,3875.5x\$34.451,001\$34,486\$56,163\$111,137\$5,6315.0x\$63.54447\$28,416\$41,920\$22,871\$3,6601.8x\$12.473,095\$38,590\$101,606\$89,876\$12,1641.1x\$32.40550\$17,831\$27,729\$8,919\$2,3183.1x\$54.26203\$11,031\$16,177\$3,356\$1,4204.8x\$69,122\$27,577\$6,061 <b>3.8x</b>

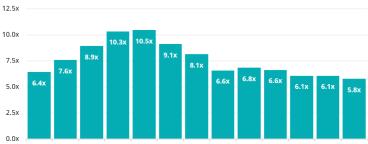


## Public Comparables Renewable Energy

#### **Renewable Energy Generation**



Renewable Energy Generation | Median Revenue Multiples



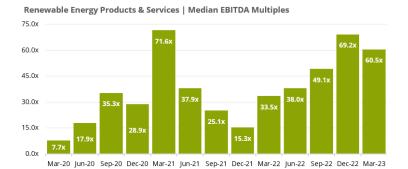
Mar-20 Jun-20 Sep-20 Dec-20 Mar-21 Jun-21 Sep-21 Dec-21 Mar-22 Jun-22 Sep-22 Dec-22 Mar-23

Company	Share	Shares	Market	Enterprise	Revenues	EBITDA	Enterprise	Value /
\$USD in Millions	Price	O/S	Сар	Value	(LTM)	(LTM)	Revenues	EBITDA
Brookfield Renewable Partners LP	\$31.51	275	\$8,677	\$55,005	\$4,656	\$2,979	11.8x	18.5x
NextEra Energy, Inc.	\$77.08	2,021	\$155,769	\$233,362	\$26,596	\$13,989	8.8x	16.7x
Iberdrola SA Sponsored ADR	\$49.91	1,612	\$80,438	\$138,872	\$56,699	\$13,401	2.4x	10.4x
Orsted Unsponsored ADR	\$28.36	1,261	\$35,769	\$43,500	\$17,813	\$2,345	2.4x	18.5x
TransAlta Renewables, Inc.	\$9.20	267	\$2,455	\$3,007	\$430	\$191	7.0x	15.7x
Northland Power Inc.	\$24.96	245	\$6,125	\$10,829	\$1,881	\$1,279	5.8x	8.5x
Innergex Renewable Energy Inc.	\$10.90	204	\$2,225	\$6,716	\$669	\$449	10.0x	14.9x
CropEnergies AG	\$12.28	87	\$1,071	\$828	\$1,555	\$327	0.5x	2.5x
Clean Energy Fuels Corp.	\$4.36	223	\$971	\$915	\$420	\$6	2.2x	156.4x
Mean				\$54,782	\$11,436	\$3,528	5.7x	29.1x
Median				\$10,829	\$2,761	\$864	5.8x	15.7x

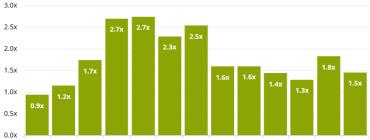


## Public Comparables Renewable Energy

### **Renewable Energy Products & Services**



Renewable Energy Products & Services | Median Revenue Multiples



Mar-20 Jun-20 Sep-20 Dec-20 Mar-21 Jun-21 Sep-21 Dec-21 Mar-22 Jun-22 Sep-22 Dec-22 Mar-23

Company	Share	Share Shares M		Enterprise	Revenues	EBITDA	Enterprise Value /	
\$USD in Millions	Price	O/S	Сар	Value	(LTM)	(LTM)	Revenues	EBITDA
Canadian Solar Inc.	\$39.81	65	\$2,573	\$4,978	\$6,804	\$512	0.7x	9.7x
Sunrun Inc.	\$20.15	214	\$4,320	\$13,704	\$2,321	(\$203)	5.9x	NM
First Solar, Inc.	\$217.50	107	\$23,187	\$20,840	\$2,619	\$119	8.0x	175.8x
SolarEdge Technologies, Inc.	\$303.95	56	\$17,066	\$16,777	\$3,110	\$339	5.4x	49.4x
SunPower Corporation	\$13.84	175	\$2,420	\$2,461	\$1,741	\$34	1.4x	71.5x
Vestas Wind Systems A/S Unsponsored ADR	\$9.61	3,030	\$29,115	\$29,272	\$15,224	(\$540)	1.9x	NM
Siemens Gamesa Renewable Energy, S.A. Unsponsored ADR	\$3.46	3,406	\$11,784	\$15,407	\$10,557	(\$505)	1.5x	NM
JinkoSolar Holding Co., Ltd. Sponsored ADR	\$51.02	50	\$2,566	\$8,045	\$10,628	NA	0.8x	NM
Nordex SE	\$14.57	212	\$3,088	\$3,057	\$5,984	(\$409)	0.5x	NM
Mean				\$12,727	\$6,554	(\$82)	2.9x	76.6x
Median				\$13,704	\$5,984	(\$84)	1.5x	60.5x

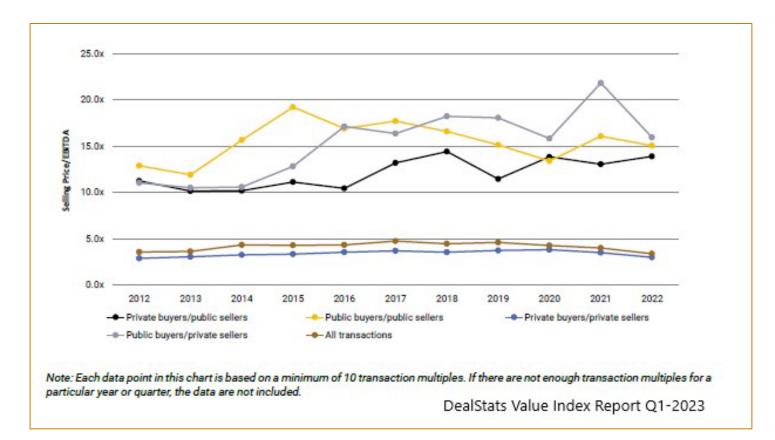


## Public Vs. Private Comparables

### Valuation Premiums Can Be Considerable

Regardless of industry, publicly traded companies often trade at premium valuations to privately held companies. This is reflected in M&A transactions and can lead to unrealistic value expectations for some business owners. The chart below illustrates this variance and shows that the variance has been both long term and growing.

Transactions between private buyer and private seller tend to be small by comparison and thus do not benefit from a "size" premium that is associated with transactions in general. While this chart does not breakout private equity transactions, our analysis indicates those transactions usually fall between public and private and move closer to public as size increases.



### **CFA** Overview



### About CFA

### Who We Are / What We Do

Corporate Finance Associates (CFA) is an independent international investment banking firm serving middle-market businesses. For over 65 years Corporate Finance Associates has been advocating on behalf of business owners who are guiding a company through either a sale, merger, acquisition or recapitalization. Combining the knowledge and leverage of a larger bank with the customer focused detail of a boutique firm, from inception to completion, our senior principals provide hands-on expertise to each of our clients.

This Energy Industry Practice Group was established to draw on the experience of CFA advisors, many of whom as former business owners and CEOs, have first-hand knowledge and have completed many transactions in this industry. Working with your local CFA representative, you can be sure that the collective wealth of knowledge is available to every CFA client.



#### Sell-Side Advisory

Whether as a divestiture strategy or a recapitalization strategy selling all or part of a business requires equal parts creative thinking, critical analysis, expert advice, sound planning and flawless execution. Having the right team of investment banking professionals working for you is critical to ensure success.



#### **Financial Advisory**

Now that you have made the decision to raise capital for your business, choosing the right investment banker is critical. Whether you are buying out a partner, financing an acquisition or seeking growth capital, CFA is the right choice to help you achieve your financing goals



#### **Capital Markets**

Our commitment to remaining independent from any investment or lending affiliates ensures that we deliver unbiased guidance. It also promotes maximum competition among lending sources, helping to fully leverage value for our clients. Our role is to help you raise the type of capital that best fits your needs.



#### **Exit Planning**

Every business will ultimately undergo a transfer via sale or merger, a charitable donation, a transfer to a child or relative or even bankruptcy, liquidation or death. Every ownership transfer carries with it a unique set of consequences and the best consequences usually begin with a clearly defined exit plan.



#### **Buy-Side Advisory**

Growth through acquisition is a complex process. It involves strategy, planning, critical analysis, coordination and negotiation. When you want to take advantage of the fast growth offered by a consolidation or roll-up, CFA's broad reach, sources of financing and efficient closings can help you achieve your business growth goals.



#### **Business Valuation**

"What is my business worth" is a question we often hear from business owners contemplating a business sale, merger or recapitalization. Answering this question depends on many factors, including the business valuation methods that are employed in the calculation.



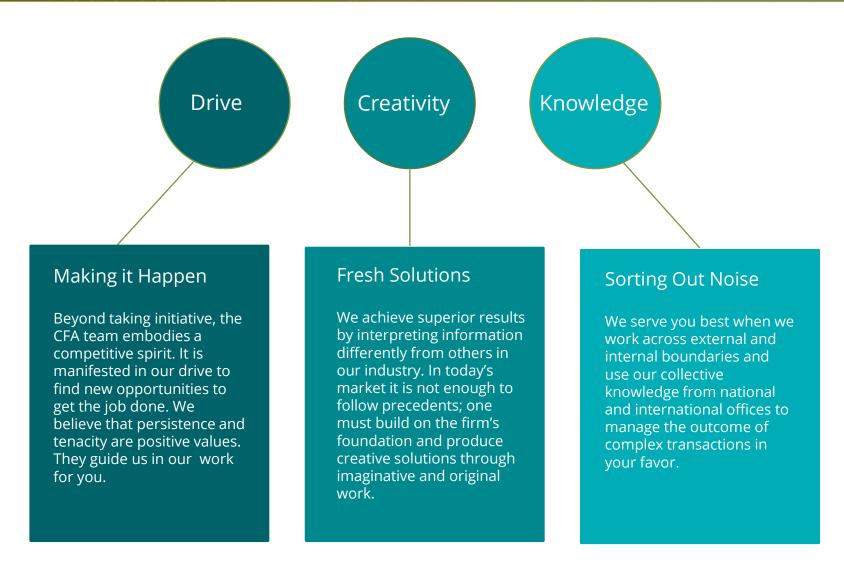
### Local Service, Global Reach

### Where We Are

With offices across the USA and in Austria, Belgium, Germany, Hong Kong, India, Ireland, Italy, Mexico, Netherlands, Poland, Spain, Switzerland and the United Kingdom providing middle-market companies with a wide range of M&A, financial advisory services and access to capital resources.



### **Delivering Results**



Founded in 1956 • 70 Managing Directors • 37 Offices Worldwide • Billions in M&A Transactions



## **Industry Practice Groups**

### Energy

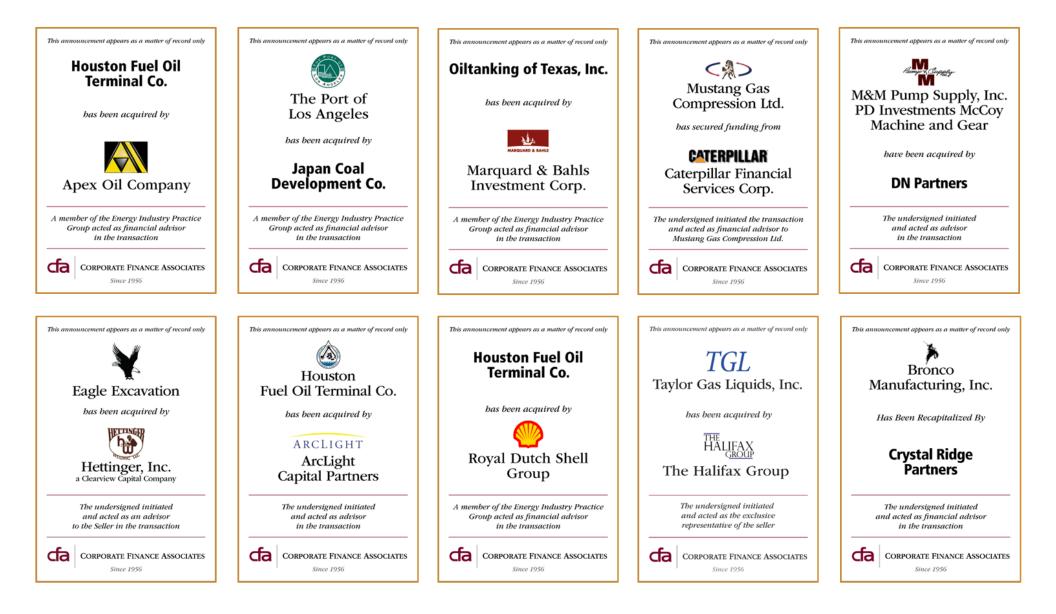


The Energy practice group is comprised of accomplished dealmakers with extensive experience in advising both public and private companies in the industry. These dealmakers offer expert service in acquisitions, divestitures, financing, and strategic planning to a wide range of companies operating in multiple subsectors including:

- Upstream
  - Exploration & Production Companies
  - Producing Properties and Mineral Interests
  - Drilling Contractors
  - Oil & Gas Service Companies
  - Equipment and Supply Manufacturers
  - Transport Services
  - Engineering and Construction Services
  - Geophysical and Geoscience Services
  - Consulting and Regulatory Advisory Services
- Midstream and Downstream
  - Pipeline Companies
  - Refiners
  - Storage and Terminals
  - Gatherers
  - Wholesale Distributors
- Renewable Energy
  - Solar, Wind and Geothermal
  - Alternative Fuels
  - Renewable Energy Services

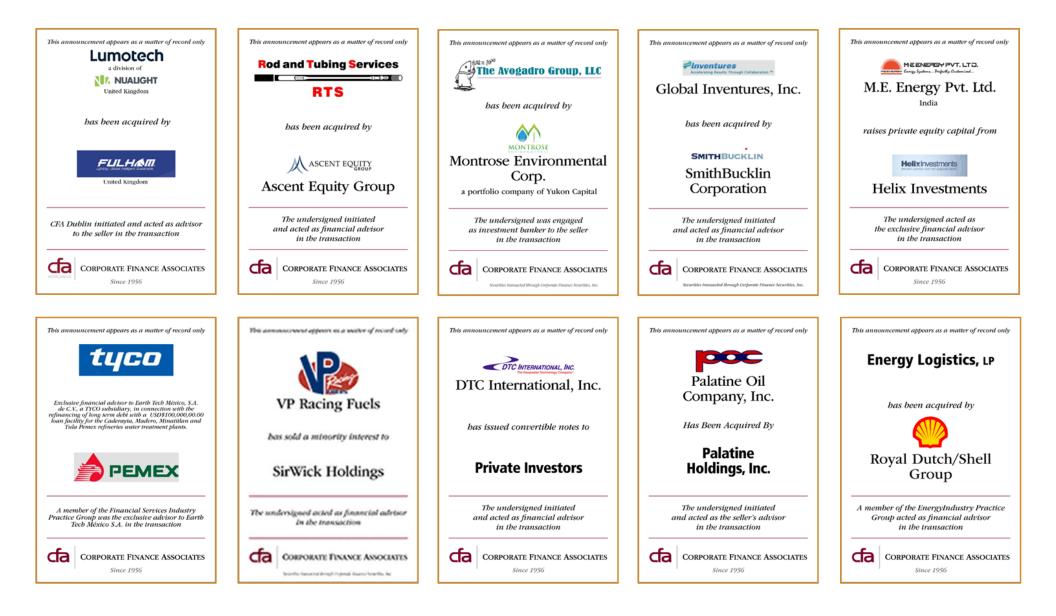


# Selected Energy Industry Transactions



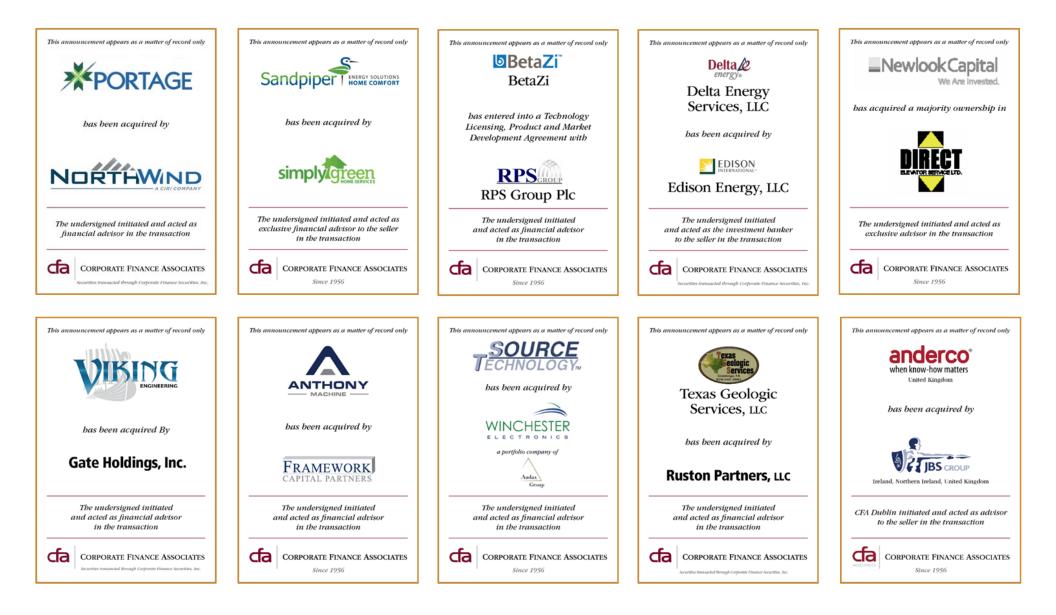


# Selected Energy Industry Transactions



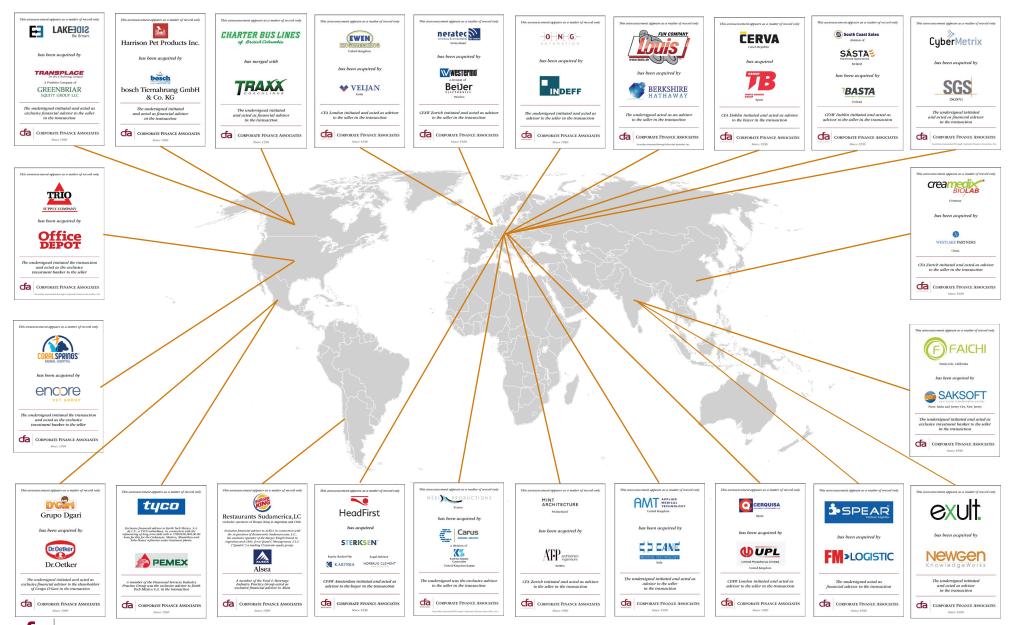


# Selected Energy Industry Transactions





## **Worldwide Transactions**



#### CORPORATE FINANCE ASSOCIATES

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WORLDWIDE

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