



Industry Insights

Global Oil and Gas M&A Outlook

Q4 2022



Executive Summary

In this edition of our *Global Oil and Gas M&A Outlook*, we examine and evaluate current trends for commodities prices, leading sector indicators, valuation developments, mergers and acquisitions performed during the quarter, and developments on featured specialty subsectors.

Our top insights for this edition are detailed below:

- The industrial activity growth in China and emerging markets is pushing demand back on track after the price plunge during the latter part of Q4 2022.
- As inflation increases, OPEC extends production cuts, and Asian economies rebound, commodity prices are expected to experience a boost.
- M&A activity keeps tumbling as inflation persists and prices on industry assets swell. Growing demand for liquefied natural gas (LNG)-aided M&A activity in North America and Europe as both regions seek long-term contracts to contend with the Middle East giant.
- The midstream subsector benefited from higher throughputs and increased demand for storage and transportation services. Companies experienced higher profits due to increased efficiencies and cost-cutting measures while preparing for LNG transition.

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Explanatory Note:

EV/EBITDA: Enterprise Value/Earnings Before Interest, Taxes, Depreciation and Amortization

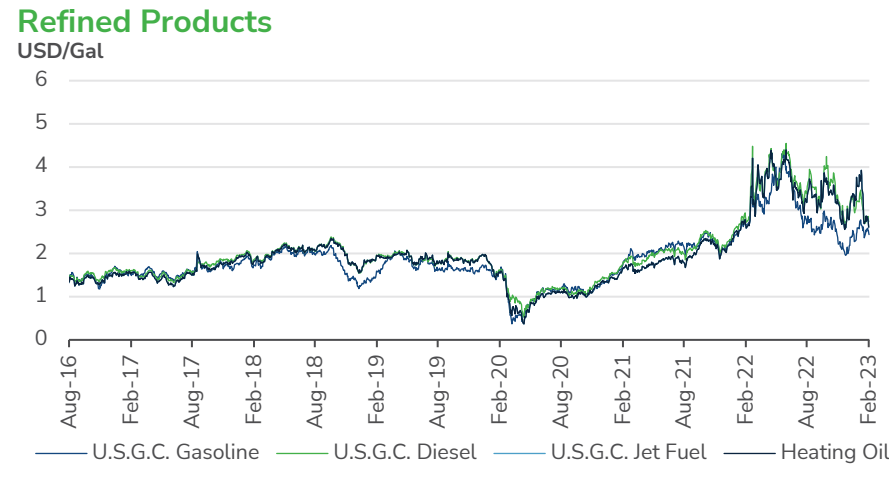
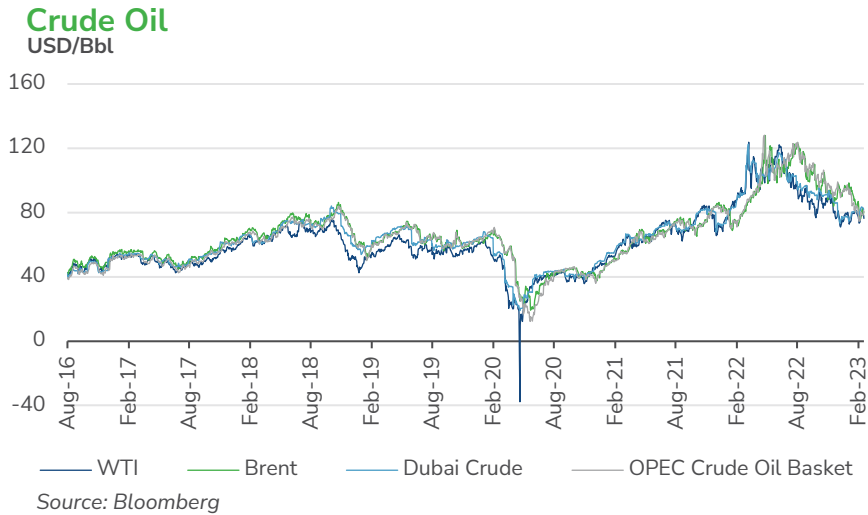
For the issuance of this report, Kroll prepared a set of peer groups, according to the eight most representative subindustries of the oil and gas sector, which, at the same time, are composed of the most relevant companies by market capitalization.

Deals displayed in the "Top 10 Deals Announced" table analysis include acquisitions of private companies that do not disclose some information, whilst other M&A analysis performed along the report considers all available information.



Commodity Prices

Hydrocarbon Prices



Source: Bloomberg

Definitions

Bbl: Barrel(s)

WTI: West Texas Intermediate

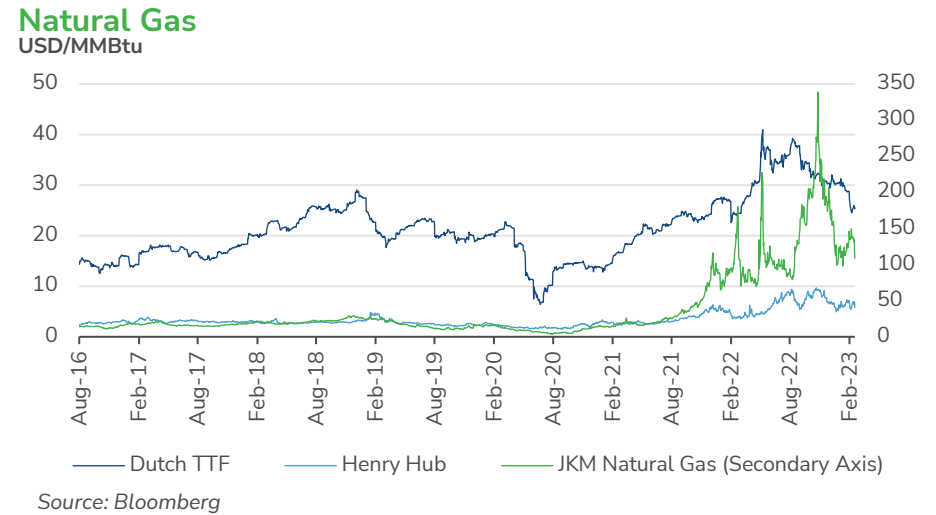
MMBtu: Million British Thermal Units

U.S.G.C.: United States Gulf Coast

TTF: Title Transfer Facility

Gal: U.S. Gallons = 3.78 Liters

JKM: Japan/Korea Marker



Key Considerations

- Oil and gas prices experienced a slight decrease during the end of 2022 as industrial activity slowed down and temperatures recorded were higher than expected. In January 2023, prices showed a slight recovery as the market tightened due to an increase in demand driven by growth in non-OECD while supply growth diminished as OPEC+ maintained production cuts.
- Europe is forecasted to end the storage withdrawal season ~55% full, which will translate into lower refilling prices compared to 2022. Crude prices might regain track by the end of Q1 2023 as industrial activity in emerging markets signals recovery and China lifts lockdown restrictions.



Commodity Prices

	Unit	Type	Source	Date					% Change		
				Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	ΔQoQ	ΔYoY	
Crude Oil											
WTI Crude Oil	USD/Bbl	Spot	Bloomberg	75.2	100.3	105.8	79.5	80.3	↑ 1.0%	↑ 6.8%	
Brent Crude Oil	USD/Bbl	Spot	Bloomberg	77.8	107.9	114.8	88.0	85.9	↓ -2.4%	↑ 10.4%	
Dubai Crude Oil	USD/Bbl	Spot	Bloomberg	73.2	110.9	113.2	90.9	77.2	↓ -15.1%	↑ 5.5%	
OPEC Crude Oil Basket	USD/Bbl	Spot	Bloomberg	78.0	107.7	115.6	92.3	81.3	↓ -11.9%	↑ 4.2%	

	Unit	Type	Source	Date					% Change	
				Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	ΔQoQ	ΔYoY
Gas										
Henry Hub Natural Gas	USD/MMBtu	Spot	Bloomberg	3.7	5.6	5.4	6.8	4.5	↓ -33.8%	↑ 21.6%
Dutch TTF Natural Gas	USD/MMBtu	Spot	Bloomberg	23.5	40.9	44.4	54.2	24.0	↓ -55.7%	↑ 2.1%
Japan Korea Natural Gas	USD/MMBtu	Spot	Bloomberg	30.5	35.4	38.7	38.7	29.5	↓ -23.8%	↓ -3.3%

Explanatory Note:

Data presented above indicates the rounded price of the selected commodities as of the last day of each quarter from Q4 2021 to Q4 2022. Percent Change column may present differences due to decimal rounding of the commodities' spot prices in the tables.

ΔQoQ: Quarter on Quarter Change

ΔYoY: Year on Year Change



Commodity Prices

	Unit	Type	Source	Date					% Change		
				Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	ΔQoQ	ΔYoY	
Refined Products											
U.S.G.C. Regular Gasoline	USD/Gal	Spot	Bloomberg	2.2	3.2	3.6	2.5	2.5	↑ 1.6%	↑ 15.5%	
U.S.G.C. Diesel	USD/Gal	Spot	Bloomberg	2.3	3.5	3.8	3.2	3.4	↑ 5.0%	↑ 46.1%	
U.S.G.C. Jet Fuel	USD/Gal	Spot	Bloomberg	2.2	3.6	3.7	3.2	3.4	↑ 5.9%	↑ 54.1%	
Heating Oil	USD/Gal	Spot	Bloomberg	2.3	3.7	3.9	3.4	3.4	↓ -1.1%	↑ 46.2%	

Key Considerations

- The current global inflation scenario combined with tight monetary policies have directly affected gasoline and refined product prices in the U.S. while urban demand remains in good shape.
- In the same way, signs of an imminent Chinese economic recovery with the lifting of strict pandemic restrictions fostered a last push in diesel and jet fuel prices toward the end of 2022. Recent macroeconomic data suggest more interest rate hikes and inventory building will eventually boost demand growth, along with a prospective rise in U.S. employment rates.

Explanatory Note:

Data presented above indicates the rounded price of the selected commodities as of the last day of each quarter from Q4 2021 to Q4 2022. Percent Change column may present differences due to decimal rounding of the commodities' spot prices in the tables.

ΔQoQ: Quarter on Quarter Change

ΔYoY: Year on Year Change



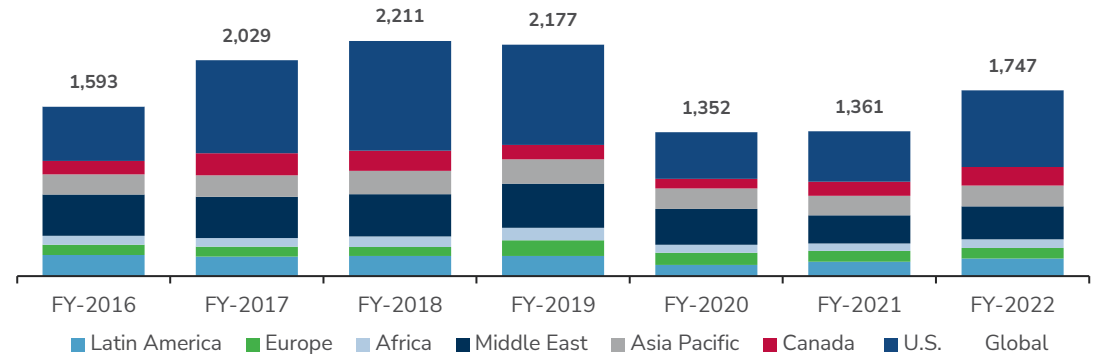
Leading Sector Indicators

Key Considerations

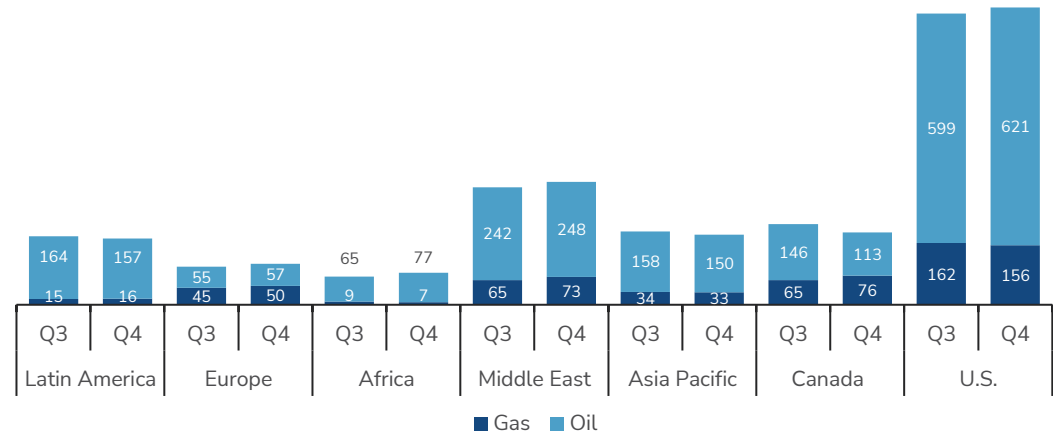
- Rig count activity has shown great dynamism in 2022 with a YoY increase of 28%. The U.S. and the Middle East remain the most active regions, comprising 87% of the total additions in 2022. During Q4 2022, the U.S. and Middle East completed 16 and 14 rig additions, respectively.
- Growth can be attributed to various factors that support prices and incentivize additional investments, including:
 - High resilience on global demand with an estimated growth of 1.9 million barrels per day (MMBbls/d), in 2023 will leave a record demand of 101.7 MMBbls/d, with China accountable for half of this increase.
 - Slight reductions in oil supply as OPEC+ maintains its production targets and holds steady production plans.
 - Pursuit of energy security as risk of insufficient supply has reshaped governments' needs.
- EU ban on Russian crude oil is gradually evoking lower production in the country, generating a promising advantage for the U.S. and the Middle East to suit up for new exploration and production activities.

Rig Count Analysis

Average Full Year Rig Count



2022 Rig Count Breakout



Source: Baker Hughes as of December 31, 2022

Explanatory Note:

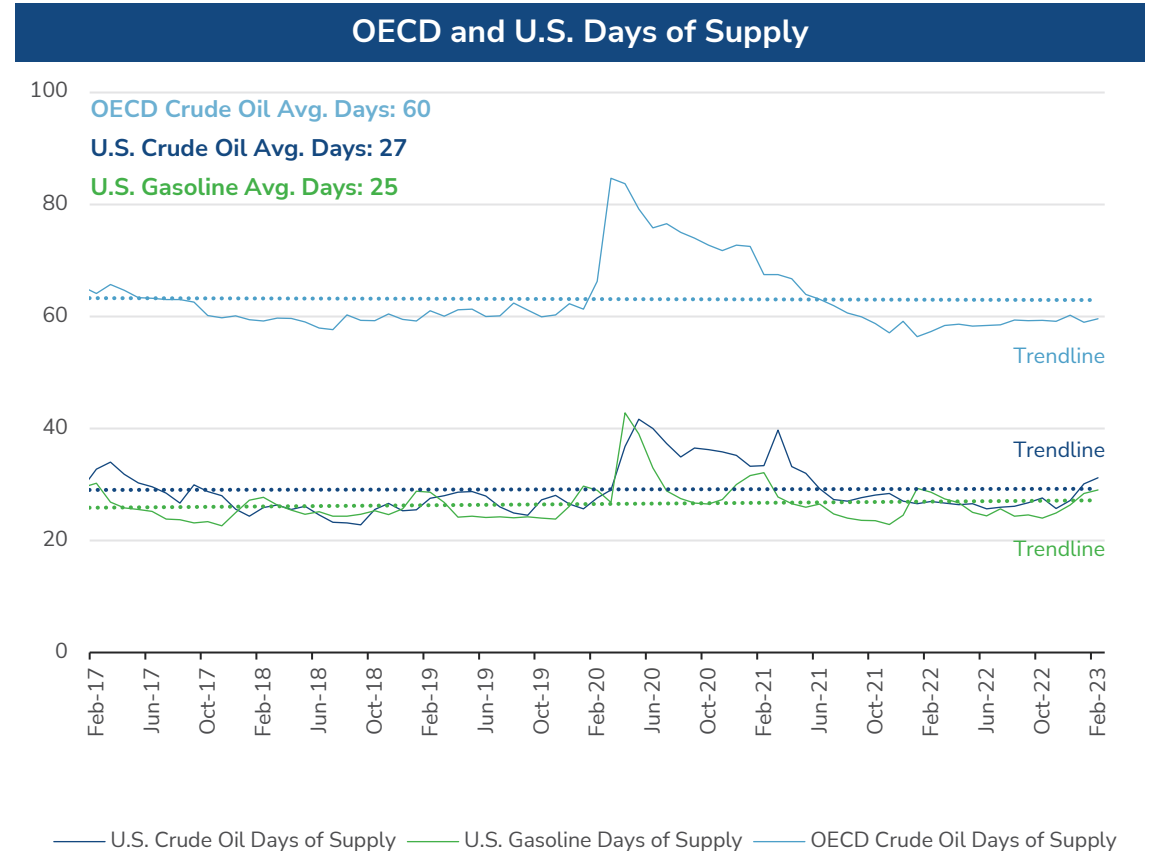
The Rig Count indicator displays the average number of active drilling rigs throughout the world. This indicator is closely watched as a precursor to oil production across the oil and gas sector. For the purpose of the analysis and data visualization, "Miscellaneous" subject from "2022 Rig Count Breakout" was not included in the graph. This concept represents less than 3.5% of the total rig count for both periods.



Leading Sector Indicators

Key Considerations

- In Q4 2022 average days of supply increased 1.3% on average in comparison with the previous quarter, with the U.S. and OECD crude oil supply information showing 25 and 60 days, respectively.
- By the end of 2022, global demand turned out to be lower than expected across all sectors, as industrial activity faded with an uncertain economic environment, leading to a strong volatility in day-on-day crude prices.
- Similarly, mild weather in large swaths of the Northern Hemisphere, helped suppliers maintain high crude inventories to confront an upcoming rise in demand, as Chinese restrictions seem to fade, and prices are expected to improve.
- Furthermore, LNG will remain a key actor on the energy markets as China's economic rebound in the latter part of 2023 will increase demand. China will compete with Europe who is quickly increasing its import capacity thanks to the expedite approval of new LNG infrastructure.



Source: EIA

Explanatory Note:

The U.S. days of crude oil supply is a measure of the adequacy of inventories. It is calculated by taking the current stock level and dividing by product supplied averaged over the most recent four-week period. The OECD days of crude oil supply is a measure of OECD member countries' inventory adequacy. It is calculated with the same methodology as the U.S. index.



Economic Environment

Key Considerations

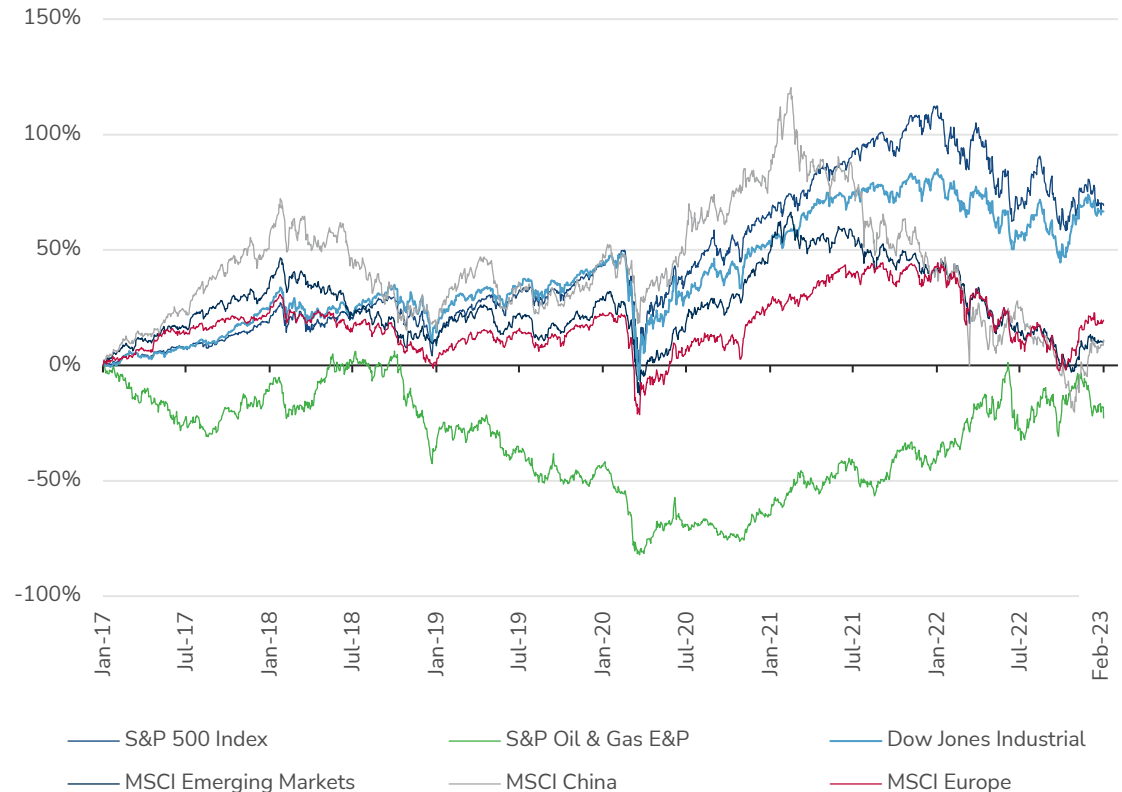
- 2022 was a rough year for equities since inflation and central banks' efforts to diminish it had a direct effect on overall performance; nevertheless, fixed income securities took advantage from this approach.
- Data and key economic indicators during Q4 2022 motivated a bullish tendency in the Chinese market at the expense of U.S. stocks. Since late October, global stocks have been consistently outperforming U.S. equities.
- European and Chinese equities gained ground in comparison with the rest of the indexes displayed, showing confidence from investors for a bullish behavior in the last part of 2022 as company earnings appeared solid and inflation dropped.
- With the U.S. annual urban consumer price index (CPI) declining lower than expected in early 2023, the gradual lifting on hawkish monetary policies seems to be endangered, promoting higher short-term fixed income yields and retaining investors attention.
- Previously grim economic outlook for OECD countries are giving way to encouraging scenarios in which the U.S. can achieve a soft landing as big oil and gas majors finished the year with record profits while the EU hopes to avoid a recession and benefit from China's reopening through its exports.

Source: Bloomberg

Explanatory Note:

The graph shown above portrays the performance of selected indexes against the S&P Oil and Gas E&P Index, which encompasses a selection of the most important exploration and production companies in the world; the calculation takes January 17, 2017, as the starting point and tracks the percentual change until February 17, 2023.

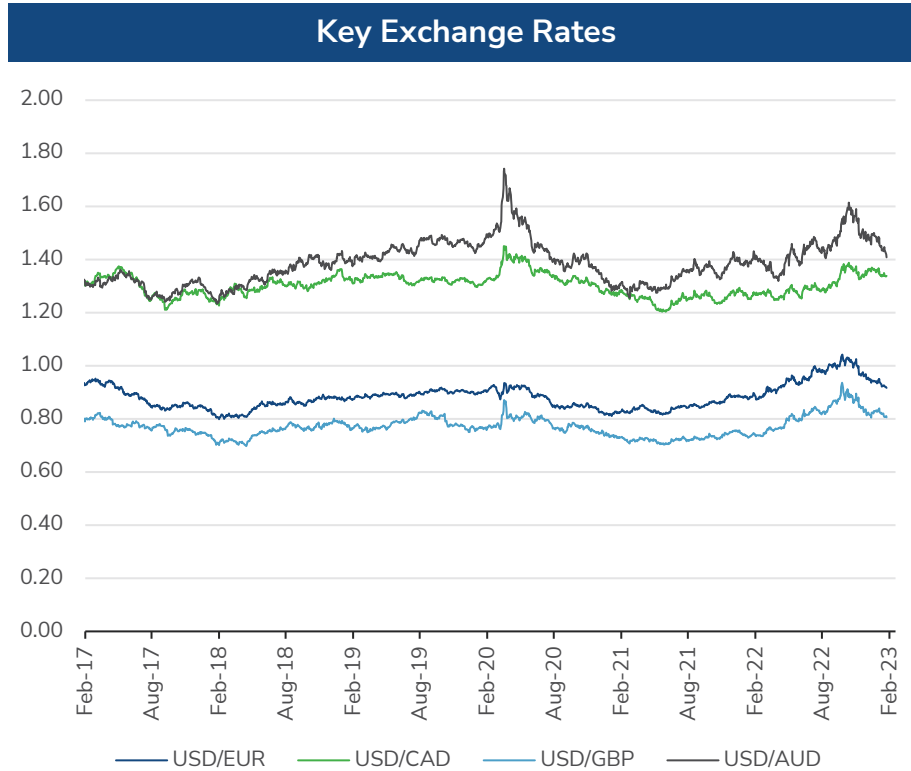
Selected Global Equities Performance





Economic Environment

FX Rates of Key Currency Pairs



Other Relevant FX Pairs in the Global Oil and Gas Market

FX Pair	2016 Avg.	2017 Avg.	2018 Avg.	2019 Avg.	2020 Avg.	2021 Avg.	2022 Avg.
USD/MXN	18.69	18.91	19.23	19.25	21.48	20.19	20.11
USD/NOK	8.40	8.27	8.14	8.80	9.41	8.44	9.62
USD/BRL	3.48	3.19	3.65	3.95	5.16	5.41	5.16
USD/SAR	3.75	3.75	3.75	3.75	3.75	3.75	3.75
USD/JPY	108.78	112.15	110.46	109.03	106.77	107.61	131.55
USD/SKK	27.23	26.72	25.54	26.92	26.42	24.99	28.66
EUR/RUB	74.13	65.92	74.02	72.42	82.66	89.73	74.13

Key Considerations

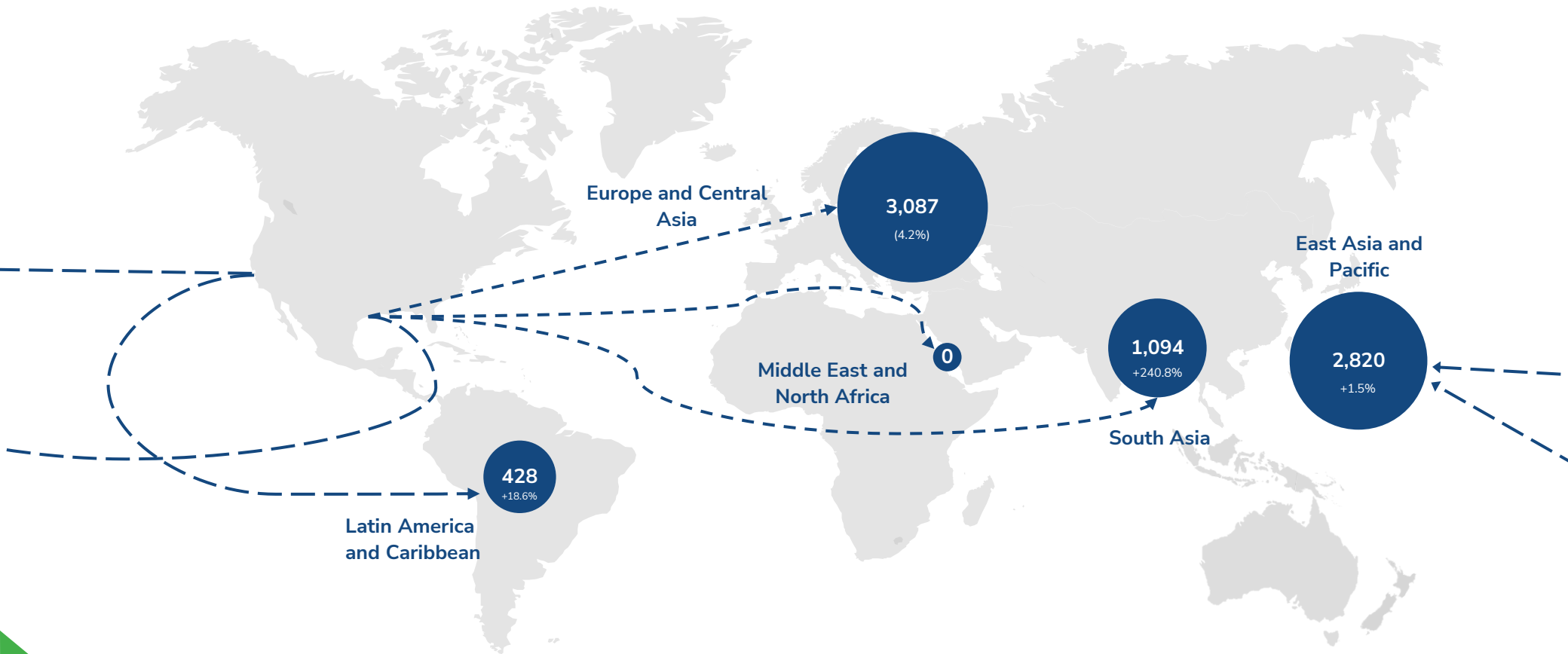
- During Q4 2022 the U.S. dollar experienced a slight devaluation against currency pairs due to the strict monetary policies taken by the Federal Reserve.
- The Russian Ruble recorded the best performance against the U.S. dollar, appreciating a total of 82% compared to 2021.

Source: Bloomberg
 Definition:
 FX: Foreign Exchange



Trading Statistics

Q4 2022 U.S. Crude Oil Exports by Region (MBbls/d)



Source: U.S. Department of Energy

Explanatory Note:

Data for this visualization includes U.S. commodity export values from October 2022 to November 2022.

Definition:

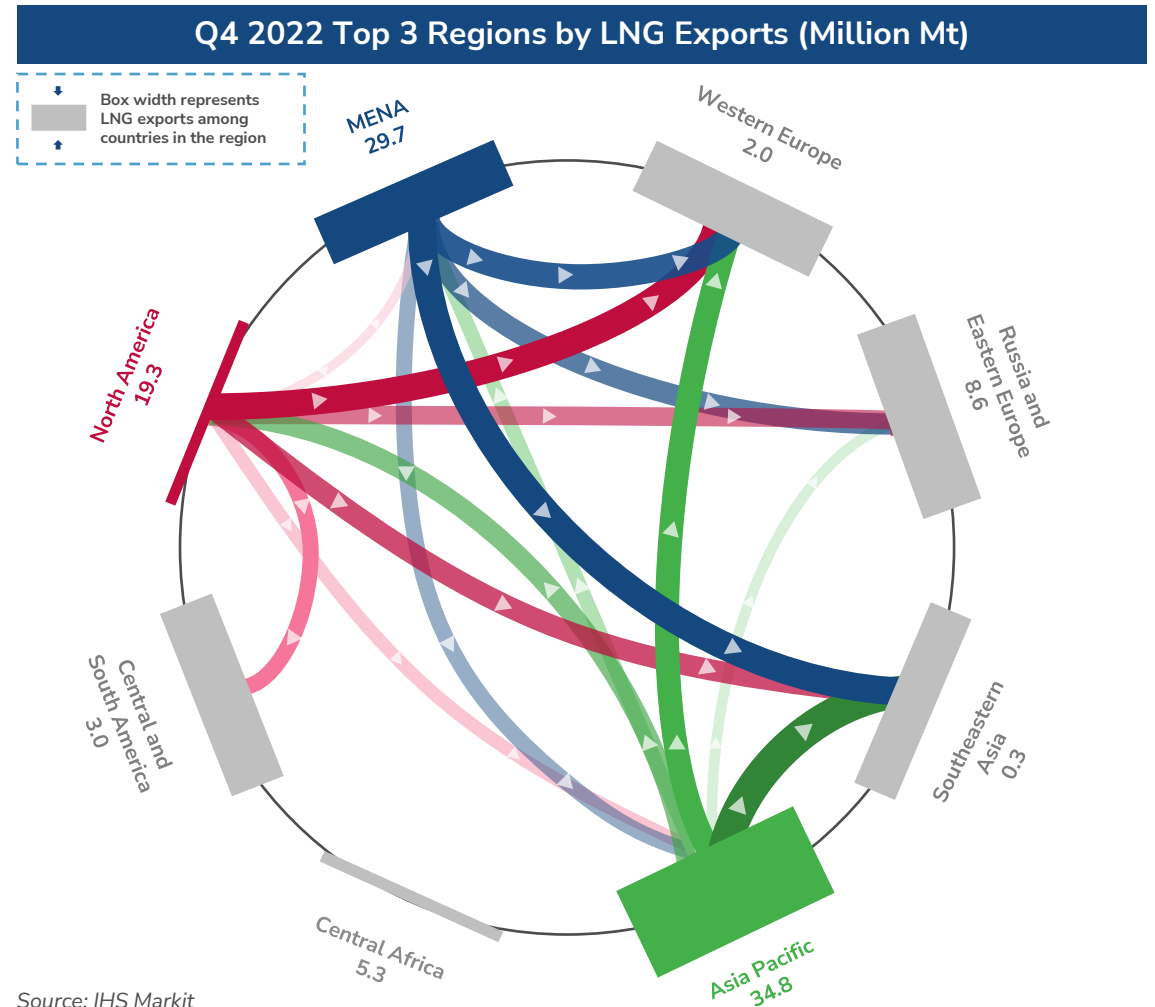
MBbls/d: Thousand Barrels per Day



Trading Statistics

Key Considerations

- Total LNG global exports recorded a 4.7% QoQ increase in volume. The top 3 regions displayed accounted for 81% of global exports and a 4.3% growth vs. Q3 2022. North America experienced the greatest volume increase with a 10.4% QoQ while MENA and Asia Pacific volumes increased 3.2% and 2.1%, respectively.
- The expansion can be attributed to structural changes in trade flows of the LNG market. The Russian invasion of Ukraine forced the EU to undergo an unprecedented transformation of their energy mix, which is drawing large amounts of LNG supplies from the North American region.
- Furthermore, global additions will remain marginal in the short and mid-term, keeping markets tight, maintaining pressure on prices and fostering demand destruction for price-sensitive consumers.
- However, the long lead times for LNG projects will defer the impact of recently approved projects until 2025–2027. Among these projects, Qatar's massive expansion plan will be crucial for easing the markets. In the meantime, high prices will incentivize increased output as facilities push beyond nameplate capacity.



Source: IHS Markit

Explanatory Note:

Data for this visualization includes commodity bilateral trade export values for selected regions from October 2022 to December 2022. Values inside the boxes indicate the global LNG exports for each region during the analyzed period.

Definition:

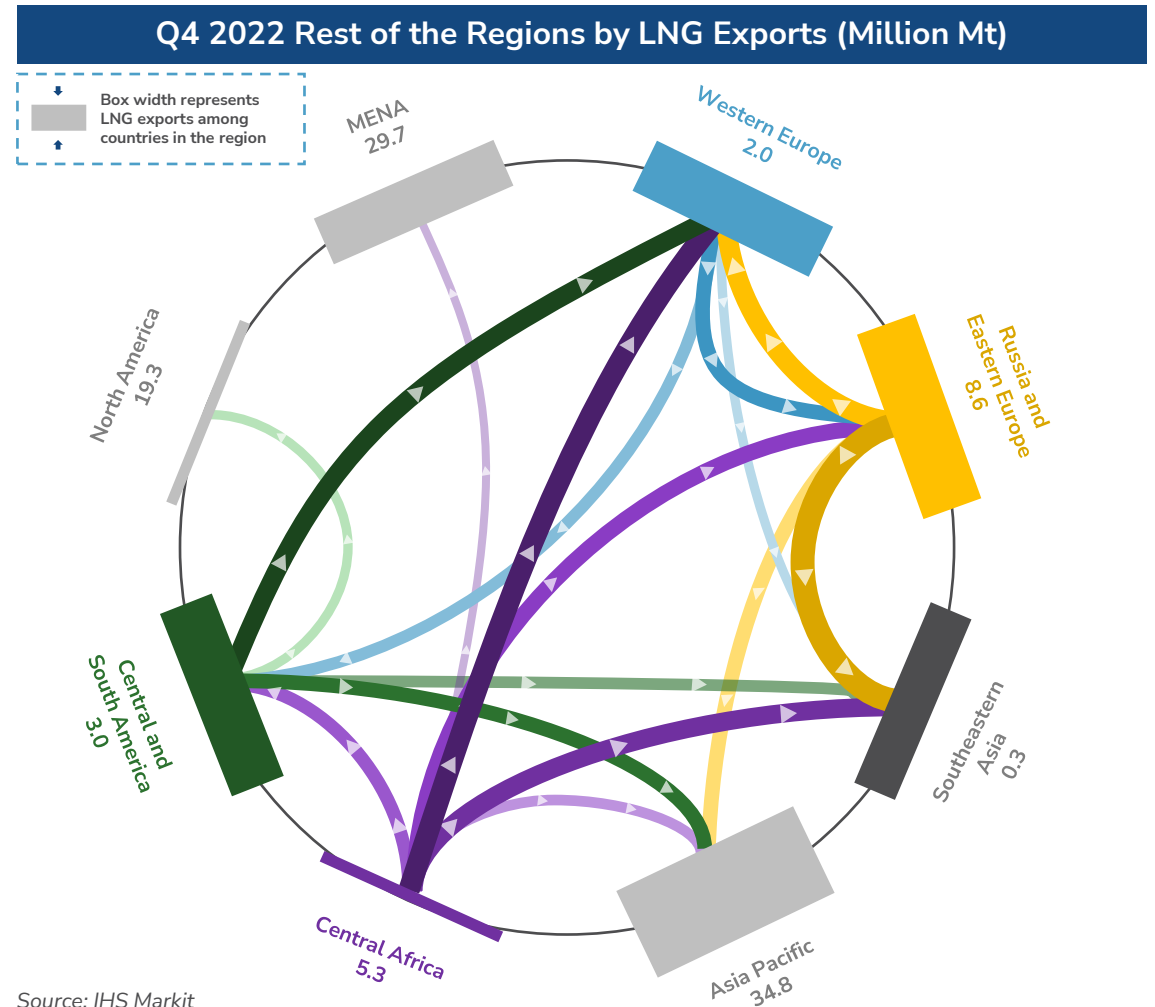
LNG: Liquefied Natural Gas Mt: Metric tons



Trading Statistics

Key Considerations

- The remaining regions represent 19% of the global LNG exports and had a 6.3% increase in Q4 2022. Among these regions, the intraregional trade in Southeastern Asia showed a 24% growth QoQ. Meanwhile, Western Europe deliveries to Eastern Europe have doubled to 576 thousand Mt and trade within the region was marginally reduced during this quarter.
- The EU pivot toward LNG benefited greatly from reduced demand from China during the refilling session when Europe was ferociously replenishing its reserves and transforming itself into an LNG premium market as a result of the geopolitical conflict.
- The expected economic rebound of China during the latter part of 2023 will heighten an already fierce competition for LNG, and availability will be limited by the previously mentioned lack of major supply additions.
- In the race to secure supplies, Asia leads in the signing of new long-term contracts, with U.S. producers securing most of these Asian buyers.
- Aiming to increase global capacity additions, countries in the Middle East and North America are expected to reach final investment decisions (FID) and secure a large number of supply contracts.



Explanatory Note:

Data for this visualization includes commodity bilateral trade export values for selected regions from October 2022 to December 2022. Values inside the boxes indicate the global LNG exports for each region during the analyzed period.

Definition:

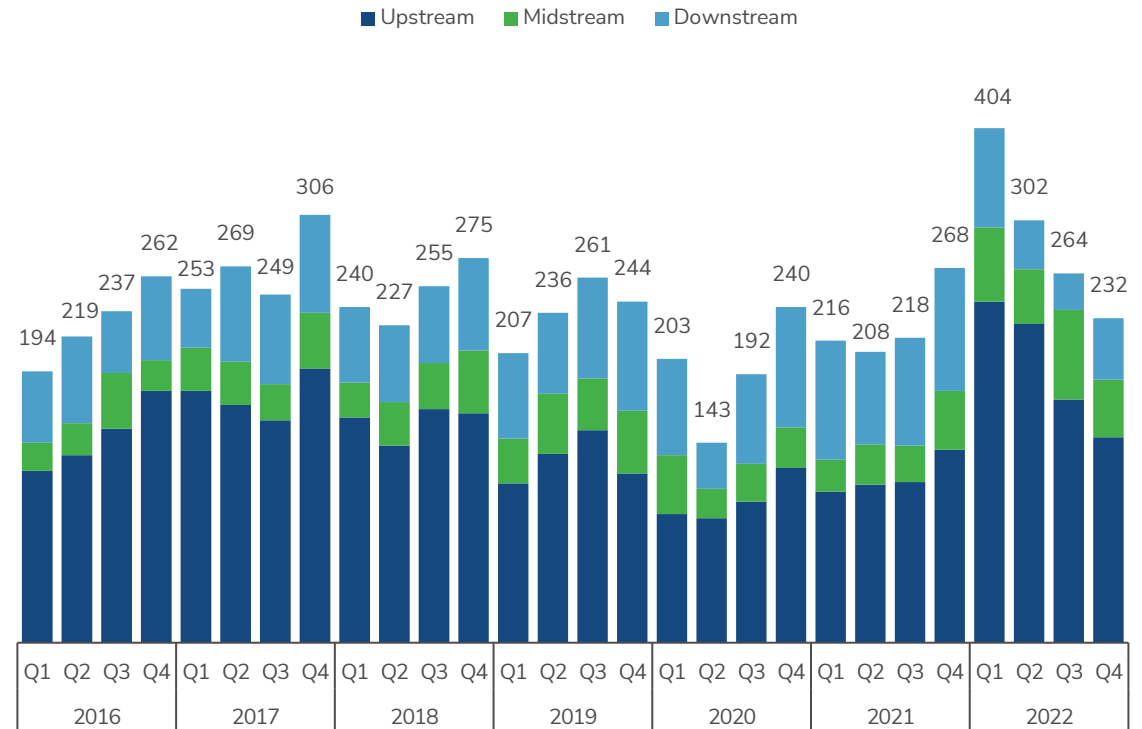
LNG: Liquefied Natural Gas Mt: Metric tons

Announced Deals

Key Considerations

- M&A activity suffered a 12.1% decrease with 232 announced deals in Q4 2022 against 264 in the last quarter.
- However, the total disclosed transaction value (TV) rose to USD 79.3 billion (bn) vs. USD 69.5 bn in Q3 2022, highlighting the U.S. as the country with the highest deal values.
- Transaction volumes in the industry experienced a drop for three straight quarter during the year and a 13.4% plunge, comparing Q4 2022 with Q4 2021 as companies increased the value of their assets to make up for higher interest rates.
- The upstream subsector preserved its superiority in terms of deal volume, accounting for 63.4% of the total transactions in Q4 2022 and 68.7% for the whole year.
- For the second time in the year, the downstream subsector surpassed the midstream subsector total deal count by covering 19.0% of the total transactions in the quarter against a 17.7% for storage and transportation activities in the sector.
- With energy trade disruptions and infrastructure constraints nearly fixed, firms began to eye refining assets during Q4 2022, with the surge in prices and potential bans from the EU on refined product imports from Russia.

M&A Quarterly Deal Count



Source: IHS & Bloomberg as of December 31, 2022

Explanatory Note:

The analysis is based on disclosed transactions for the mentioned periods considering all announced M&A deals in the oil and gas industry in order to illustrate the overall M&A activity.

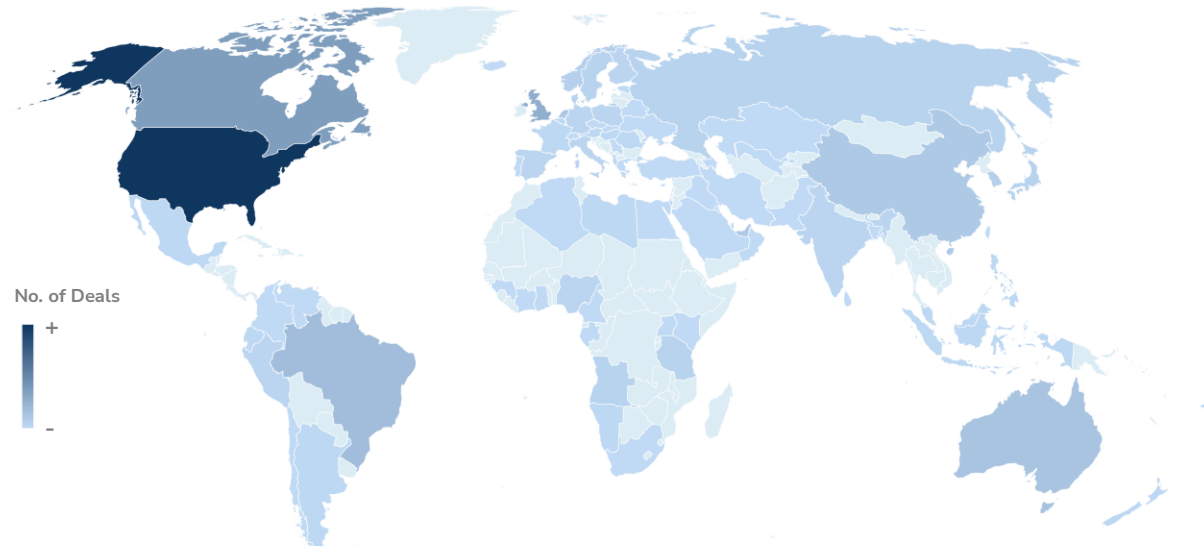


Global Hotspots for Oil and Gas Deal Activity

Key Considerations

- Due to inflationary pressures, energy companies shifted toward healthy balance sheet strategies and shareholders' return enhancement, explaining the tumbling trend seen since Q2 2022.
- North America, Europe and Asia Pacific outperformed the rest of the regions regarding completed transaction volumes, comprising 81.3% of the whole transaction universe during 2022.
- Nevertheless, U.S. and Canadian companies with higher financial power and expertise within the industry kept diversifying their portfolios with natural gas assets and GHG emissions reduction investments to prepare for the clean energy transition era.
- The expanding demand for LNG triggered M&A activity in North America and Europe. With liquefaction facility additions, gas investment incentives and an increase in long-term LNG contracts in the U.S., both regions seek to evolve as core gas producers.
- On the other hand, during 2022 Australia and Brazil highly supported the oil and gas M&A activity within their respective regions, accounting for 6.6% of the total transactions in the year, more than the U.K.

M&A Heatmap by Region and Deal Count



Source: IHS and Bloomberg between October 1 and December 31, 2022

Explanatory Note:

The heatmap displays M&A activity distribution across the world based only on the number of deals announced during the period and does not take into consideration the value corresponding to said transactions. As a result, the volume of events per location within the announced and completed deal universe provides an immediate visual summary of the figures regarding Q4 2022.

Definition:

GHG: Greenhouse Emissions



Global Hotspots for Oil and Gas Deal Activity

Key Considerations

- During the last part of Q4 2022, global inflationary pressures started to mildly cease due to central banks' hawkish postures on interest rates.
- However, tight supply and increasing demand for gas and energy transition assets kept high transaction values regardless of the mild inflation deceleration in Europe and Asia Pacific.
- North America's average TV/EBITDA multiple was the highest value observed in Q4 2022 and the only one to decline 0.8x vs. its previous quarter value. In Europe and Asia Pacific, growth recorded 3.0x and 0.4x, respectively.
- Solid cost-effective strategies and record level cash flows in North America shielded the exponential rise in mentioned industry assets and enterprise values.
- In Europe and India such cash flows have faced windfall taxes, which has increased caution. Future investment projects will be picked with great care and financial discipline.
- The biggest capex growth will be mostly held by private companies and worldwide majors as portfolio diversification and LNG shift strategies remain as priorities for the upcoming years.

Avg. Multiples (TV/EBITDA) by Highlighted Regions*

Region	Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022
North America	18.9	5.9	6.8	9.1	8.3
Europe	7.6	5.3	5.3	2.8	5.8
Asia Pacific	10.9	1.7	5.2	4.4	4.8

Source: IHS and Bloomberg as of December 31, 2022

Explanatory Note:

The chart displays M&A activity distribution across the world based only on the number of deals announced, disclosing the transaction value during the period. As a result, an approximate of transaction value multiples per region within the announced and completed deal universe provides an immediate visual summary of the figures regarding Q4 2022.

* Note: Multiple calculation for the displayed heatmap only considers disclosed transaction value and available financial information regarding the target and may not be representative of the whole M&A activity for the quarter.



Global Hotspots for Oil and Gas Deal Activity

Key Considerations

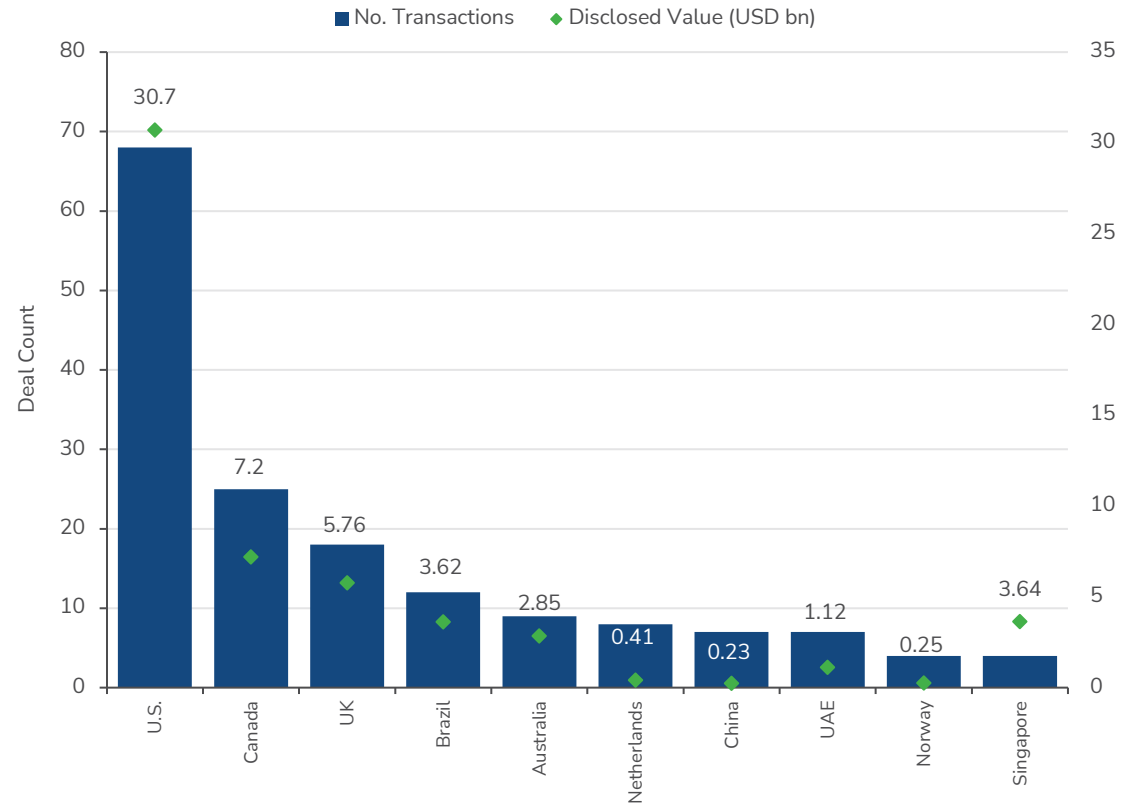
- North America leads M&A activity with 94 deals, covering 40% of global deals during Q4 2022. Meanwhile, Europe follows, comprising 24% of global transactions share. Top 10 countries displayed in the graph dominate global activity in terms of deal count and values (162 out of 232 and USD 55.8 bn out of USD 78.3 bn, respectively).
- The U.S. and Canada have been the most active countries with 68 and 25 deals, respectively. In Europe, the merger of Polish state-owned PGNiG and Orlen accounted for 40% of the regional transaction value. Regarding South America, Brazil dominated with 12 deals that accounted for 93% of the total disclosed value.
- Big players have been dominating deal activities as record cash flows allow for portfolio adjustments in order to secure supplies and integrate green assets.
- Future activity will show higher investments in efficiency improvements, carbon capture and the use of nature-based offsets to achieve emissions neutrality.
- The sector will continue to de-lever and build up a fortress balance sheet throughout 2023, proving to be extremely resilient to lower prices and flexible enough to take advantage of new opportunities.

Source: IHS and Bloomberg as of December 31, 2022

Explanatory Note:

The analysis is based on disclosed transactions for the period considering the top 10 countries by total transaction value (considering all announced M&A deals in the oil and gas industry) in order to illustrate overall M&A activity. Therefore, the said countries represent the industry's most significant regions by concentrating the highest proportion of market activity regarding volume and value.

Top 10 Countries by Deal Count and Value





Top 10 Deals Announced in Upstream

(In USD mn)	Acquirer	Seller	Target	Type	Deal Description	Stake Acq.	Transaction Value	LTM Cash Flow	LTM EBITDA	TV/LTM Cash Flow	TV/LTM EBITDA
Announced											
Dec 31, 2022			Upstream assets & processing assets	Asset	Quantum Energy Partners LLC announced the sale of certain assets from THQ Appalachia I LLC & THQ-XcL Holdings I LLC.	100%	5,194	N/A	697	N/A	13.1x
Oct 17, 2022	Hamm Family		Continental Resources Inc./Oklahoma	Private Company	CEO Harold Hamm and his Family privatized the public portion of Continental Resources Inc./Oklahoma by acquiring it. The transaction was completed on October 23, 2022.	100%	4,584	1,120	6,938	4.1x	0.7x
Oct 4, 2022			Drilling Co. of 1972, A/S	Private Company	Noble Corp PLC announced the acquisition of The Drilling Co. of 1972 A/S.	100%	2,794	15	294	186.3x	9.5x
Oct 12, 2022			Firebird Energy LLC	Private Company	Diamondback Energy Inc. acquired Permian operator Firebird Energy LLC. The transaction was completed on December 1, 2022.	100%	1,535	N/A	N/A	N/A	N/A
Nov 16, 2022			Lario Permian LLC	Private Company	Lario Oil & Gas Co. announced the sale of Lario Permian LLC to Diamondback Energy Inc. The transaction was completed on January 31, 2023.	100%	1,507	N/A	N/A	N/A	N/A
Oct 23, 2022			North Field South	Asset	Shell PLC announced the acquisition of a participation in Qatar's North Field South project. The transaction is currently pending.	9.37%	1,493	N/A	N/A	N/A	N/A
Oct 13, 2022			Deltastream Energy Corp.	Private Company	Tamarack Valley Energy Ltd. acquired Deltastream Energy Corp. The transaction was completed on October 13, 2022.	100%	1,378	N/A	N/A	N/A	N/A
Dec 31, 2022			Enven Energy Corp.	Private Company	Talos Energy Inc. announced the acquisition of Enven Energy Corp.	100%	1,108	91	569	12.2x	1.9x
Dec 21, 2022			Carmopolis Cluster	Asset	Petroleo Brasileiro SA sold Carmopolis Cluster/Petroleo Brasileiro SA to Carmo Energy SA for USD 1,100.00 mn. The transaction was announced on December 28, 2021, and completed on December 21, 2022.	100%	1,100	N/A	N/A	N/A	N/A
Dec 22, 2022			AquadriLL LLC	Private Company	Seadrill Ltd. announced the acquisition of Aquadrill LLC for USD 925.84 mn. The transaction was announced on December 22, 2022, and is expected to be completed by June 30, 2023.	100%	926	N/A	N/A	N/A	N/A

Source: Bloomberg as of December 31, 2022

Definitions:

LTM: Last Twelve Months

TV/LTM: Transaction Value/Last Twelve Months Revenue

TV/LTM EBITDA: Transaction Value/Last Twelve Months Earnings Before Interests Taxes Depreciation and Amortization



Top 10 Deals Announced in Midstream

(In USD mn)	Acquirer	Seller	Target	Type	Deal Description	Stake Acq.	Transaction Value	LTM Cash Flow	LTM EBITDA	TV/LTM Cash Flow	TV/LTM EBITDA
Announced											
Oct 19, 2022			Shell Midstream Partners LP	Private Company	Shell PLC acquired the remaining shares of Shell Midstream Partners LP. The transaction was completed on October 19, 2022.	100%	1,963	N/A	267	N/A	7.4x
Dec 15, 2022			Mountainwest Pipelines Holding Co.	Private Company	Southwest Gas Holdings Inc. announced the sale of Mountainwest Pipelines Holding Co. to The Williams Cos. Inc.	100%	1,500	N/A	N/A	N/A	N/A
Dec 1, 2022			PBF Logistics LP	Public Company	PBF Energy Inc. acquired PBF Logistics LP. The transaction was completed on December 1, 2022.	100%	1,097	16	228	68.6x	4.8x
Oct 31, 2022			7 oil pipelines in Alberta	Asset	Enbridge Inc. announced the sale of a stake in 7 oil pipelines/Alberta to a group of 23 First Nation and Métis communities.	11.57%	880	N/A	N/A	N/A	N/A
Dec 31, 2022			Fluxys Belgium SA	Public Company	Caisse de Depot et Placement du Quebec announced the sale of a minority stake in Fluxys Belgium SA to Energy Infrastructure Partners AG.	19.85%	777	216	353	3.6x	2.2x
Oct 24, 2022			Greenship Gas Manager Pte Ltd, Greenship Gas Trust	Private Company	Jaccar Holdings SAS sold Greenship Gas Manager Pte Ltd. & Greenship Gas Trust to Seapeak LLC. The transaction was completed on December 29, 2022.	100%	700	N/A	N/A	N/A	N/A
Oct 31, 2022			Yakutia gas project	Asset	A-Property Group announced the sale of Yakutia gas project to Zhejiang Provincial Energy Group Co. Ltd.	100%	567	N/A	N/A	N/A	N/A
Oct 7, 2022			Millennium Pipeline/U.S.	Asset	National Grid PLC sold Millennium Pipeline/U.S. to DT Midstream Inc. The transaction was completed on October 7, 2022.	100%	552	N/A	N/A	N/A	N/A
Dec 12, 2022			KAPS pipeline system in Northwest Alberta	Asset	Keyera Corp. announced the sale of KAPS pipeline system/Northwest Alberta to Stonepeak Partners LP. The transaction is expected to be completed by March 31, 2023.	100%	485	N/A	N/A	N/A	N/A
Oct 17, 2022			Midstream companies	Private Company	Summit Midstream Partners LP announced the acquisition of Outrigger DJ Midstream LLC & Sterling Energy Investments LLC.	100%	305	N/A	N/A	N/A	N/A

Source: Bloomberg as of December 31, 2022

Definitions:

LTM: Last Twelve Months

TV/LTM: Transaction Value/Last Twelve Months Revenue

TV/LTM EBITDA: Transaction Value/Last Twelve Months Earnings Before Interest Taxes Depreciation and Amortization



Top 10 Deals Announced in Downstream

(In USD mn)	Acquirer	Seller	Target	Type	Deal Description	Stake Acq.	Transaction Value	LTM Cash Flow	LTM EBITDA	TV/LTM Cash Flow	TV/LTM EBITDA
Announced											
Nov 18, 2022			PGNiG	State Company	Polski Koncern Naftowy ORLEN SA acquired Polskie Gornictwo Naftowe i Gazownictwo. The transaction was completed on November 18, 2022.	100%	9,391	1,024	5,976	9.2x	1.6x
Nov 28, 2022			NGF Nature Energy Biogas A/S	Private Company	A consortium led by Sampension Livsforsikring A/S announced the sale of NGF Nature Energy Biogas A/S to Shell PLC. The transaction is expected to be completed by March 31, 2023.	100%	2,000	N/A	N/A	N/A	N/A
Dec 22, 2022			Certarus Ltd.	Private Company	A consortium led by PFM Capital Inc. announced the sale of Certarus Ltd. to Superior Plus Corp. The transaction is expected to be completed by March 31, 2023.	100%	624	N/A	N/A	N/A	N/A
Nov 30, 2022			LOTOS Paliwa Sp zoo	Private Company	Polski Koncern Naftowy ORLEN SA sold LOTOS Paliwa Sp zoo to MOL Hungarian Oil & Gas. The transaction was completed on November 30, 2022.	100%	610	N/A	N/A	N/A	N/A
Dec 31, 2022			OMV Slovenija doo	Private Company	OMV AG announced the sale of OMV Slovenija doo to a consortium led by MOL Hungarian Oil & Gas. The transaction is currently pending.	100%	367	N/A	N/A	N/A	N/A
Dec 31, 2022			Toledo Refinery Holding Co. LLC	Asset	BP PLC announced the sale of Toledo Refinery Holding Co. LLC to Cenovus Energy Inc. The transaction was completed by February 28, 2023	100%	300	N/A	N/A	N/A	N/A
Nov 2, 2022			Crodux derivati dva doo	Private Company	Crodux Plin DOO sold Crodux derivati dva doo to Petrol DD Ljubljana. The transaction was completed on November 2, 2022.	100%	232	N/A	N/A	N/A	N/A
Oct 17, 2022			PKN Orlen	Public Company	PKO Bank Polski SA acquired shares of Polski Koncern Naftowy Orlen SA-PKN. The transaction was announced on September 29, 2022 and completed on October 17, 2022.	2.26%	144	4,927	9,030	0.03x	0.01x
Dec 23, 2022			IGL Ltd./Jamaica	Private Company	Caribbean Petroleum Marketing Ltd. announced the sale of IGL Ltd./Jamaica to Massy Holdings Ltd. The transaction is currently pending.	100%	141	N/A	N/A	N/A	N/A
Nov 14, 2022			Toa Oil Co. Ltd.	Public Company	Idemitsu Kosan Co. Ltd. acquired the remaining shares of Toa Oil Co. Ltd. for JPY 19,545.27 mn from Cornwall Capital Management. The transaction was announced on September 29, 2022 and completed on November 14, 2022.	49.88%	135	3.6	50.1	37.5x	2.7x

Source: Bloomberg as of December 31, 2022

Definitions:

LTM: Last Twelve Months

TV/LTM: Transaction Value/Last Twelve Months Revenue

TV/LTM EBITDA: Transaction Value/Last Twelve Months Earnings Before Interest Taxes Depreciation and Amortization

JVs and Projects

Port Arthur LNG phase 1 capacity is fully subscribed and has reached the required offtake for FID

January 2023

Sempra has reached a new long-term sale and purchase agreement of LNG from Port Arthur LNG with Polish refiner PKN Orlen SA. PKN Orlen SA joins other major players such as RWE, ConocoPhillips, INEOS and ENGIE in signing long-term binding agreements.

Phase 1 capacity is now fully booked with 10.5 Mtpa of LNG and has reached the milestone for Sempra to reach an FID in the latter part of Q1 2023. If construction advances as planned, the first cargo deliveries are expected to begin in 2027. Port Arthur LNG Phase 1 infrastructure has received all necessary permits and is expected to produce 13.5 Mtpa of LNG thanks to its two natural gas liquefaction trains.

Aramco and TotalEnergies to build petrochemical complex in Saudi Arabia

December 2022

Saudi Aramco and TotalEnergies have reached an FID for the development of the Amiral complex, a colossal petrochemical facility in Saudi Arabia that will be the first in the region to be embedded into a refinery.

The project will require an investment of USD 11 bn. Construction is scheduled to begin in Q1 2023 and commercial operations are scheduled to start in 2027.

The complex mixed feed cracker will be capable of producing 1.65 million tons of ethylene yearly.

Source: Bloomberg News, UpStream, Borr Drilling, S&P

CFE has signed a public-private partnership with ENGIE for expansion of the Mayakán Pipeline

November 2022

The Mexico's Federal Electricity Commission (CFE) has signed an agreement for the expansion of the Mayakán Pipeline with ENGIE. The pipeline has an extension of 800 km and serves the Yucatán Peninsula. The project entails the construction of a parallel pipeline next to the existing one. This new infrastructure will supply the two new combined cycle plants, which are named Mérida IV and Valladolid IV.

Additionally, the new pipeline will leverage from the TC Energy marine pipeline by increasing imports from Texas. This project is part of a broader plan by the government of Yucatán, the federal government and the CFE to promote a reliable supply of natural gas and guarantee electricity service in the Yucatán Peninsula during the next 30 years.

Exxon pours billions into Guyanese joint venture with China National Offshore Oil Corporation

December 2022

U.S. giant ExxonMobil is set to approve a fifth development in the prolific deepwaters of Guyana. The Uaru oil field is expected to reach a peak production of 250,000 barrels per day.

This new project is expected to require an investment of USD 12.68 bn, which will be 27% larger than their previous 4th development in the country. The expansion plans have already been submitted to Guyana's government for approval and the consortium is ready to authorize the investment as soon as April, which is contingent on the government's decision.

Additionally, Exxon is ready to consider additional bids for new exploration areas in Guyana's first competitive auction.

Definitions:

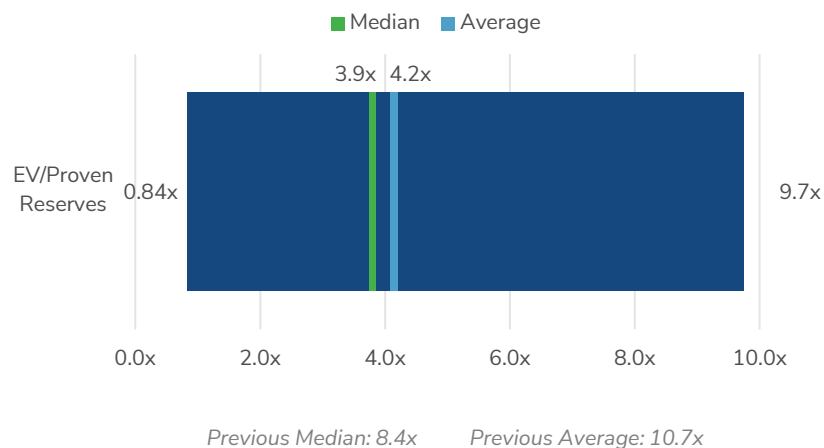
JVs: Joint Ventures

Mtpa: Million tons per annum

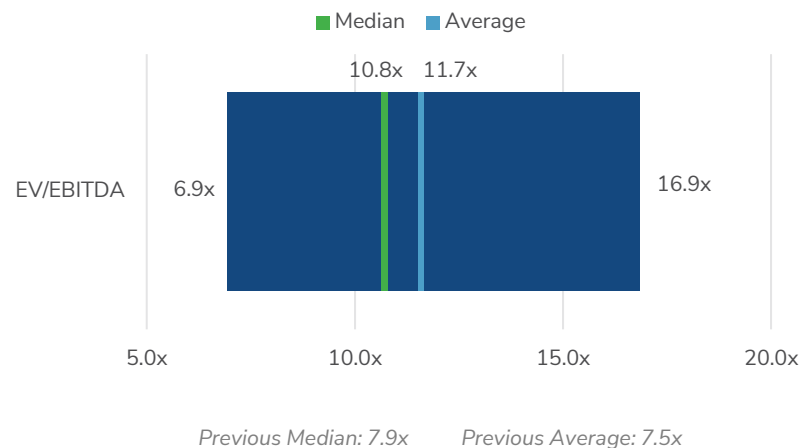
Valuation Multiples

Subindustry

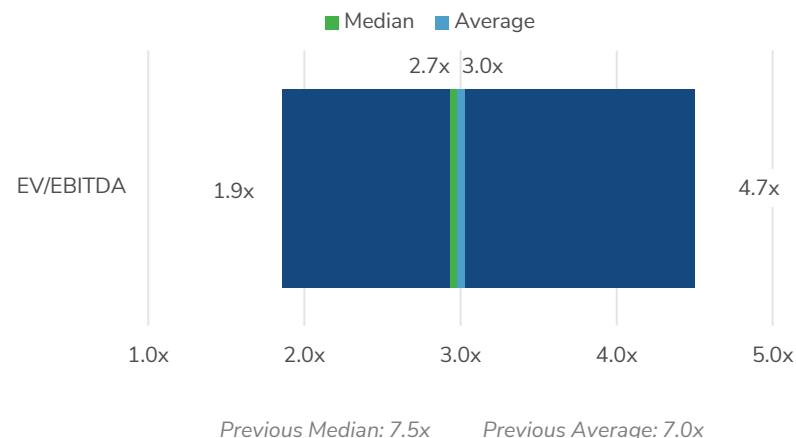
Upstream



Midstream



Downstream



Key Considerations

- The downward volatility scenario in oil and gas prices, along with the initial activity slowdown in Asia, pushed demand down, encouraging companies to shift investments into the midstream subsector. The bearish trend for upstream subsector equities during Q4 2022 affected EVs and investors; along with decisions about portfolio diversification.
- Solid profits from the downstream subsector, mostly driven by the late recovery in refined product prices such as diesel, shielded the big TVs seen in recent months, lowering the average and median EV/EBITDA ratios within refining and marketing activities.

Source: Bloomberg/Capital IQ

Explanatory Note:

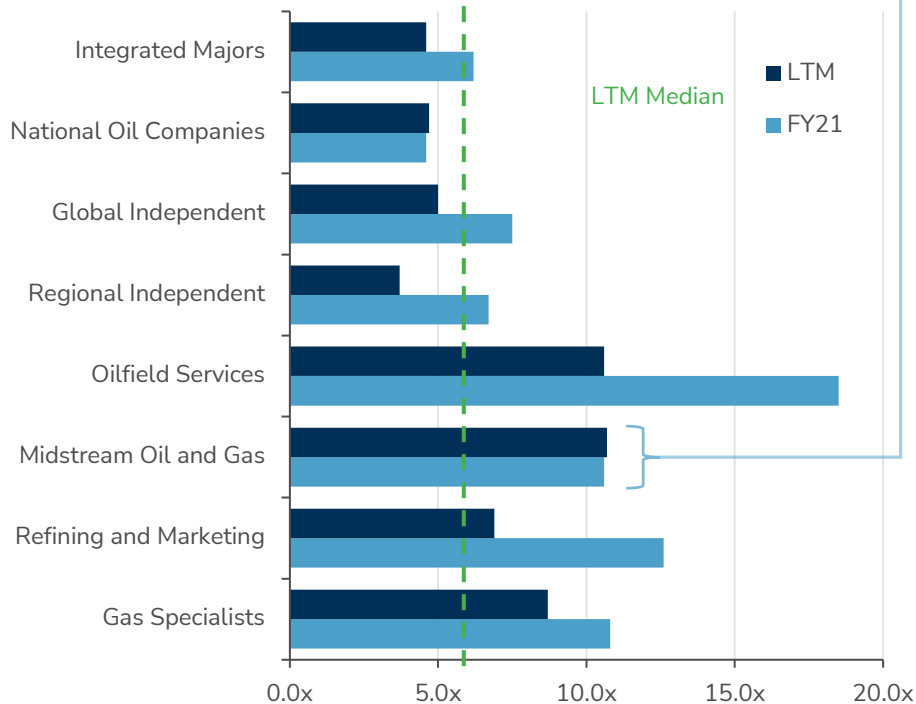
The values considered in this analysis reflect the disclosed valuation multiple values from Q4 2022, which may differ from the entire M&A activity in this quarter.



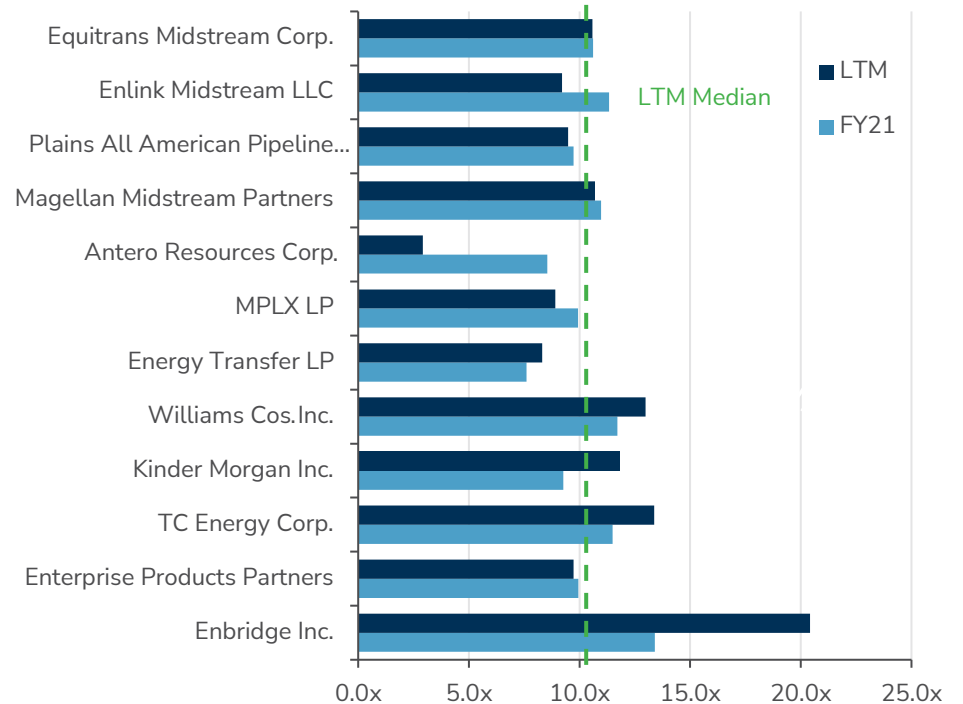
Public Trading Analysis

Subsector Focus: EV/EBITDA

Oil and Gas Subsector Average (LTM/FY21)



Spotlight: Midstream Oil and Gas



Source: Bloomberg as of December 31, 2022

Explanatory Note:

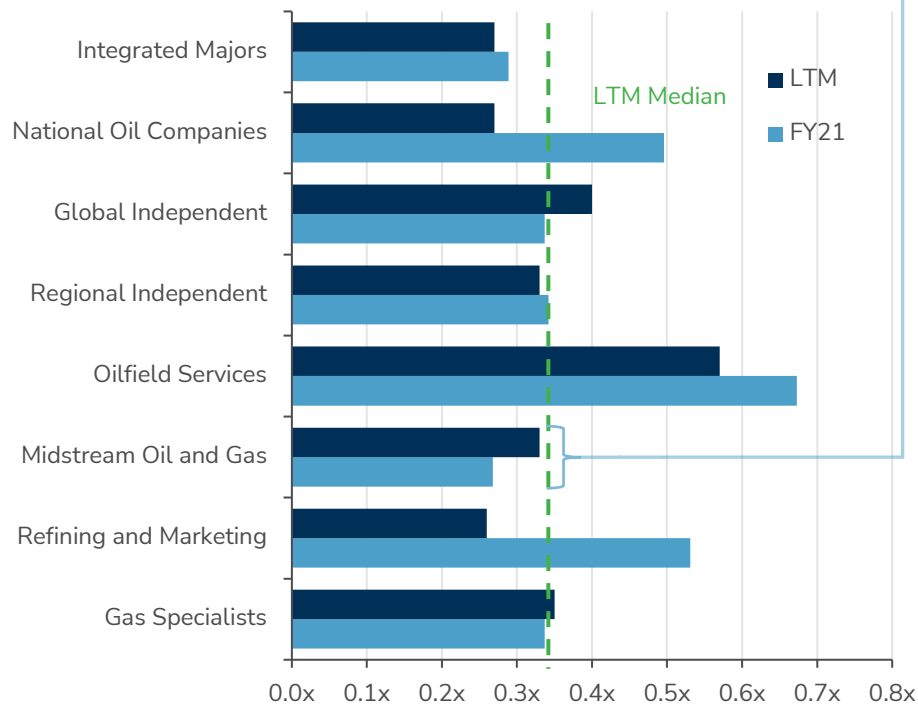
Subsector averages consider the available EVs and EBITDA values for the public companies under each category. Similarly, the "midstream oil and gas" subsector considers the most representative companies by market capitalization (as of December 31, 2022) with available data for the multiple calculation (LTM EV/EBITDA and FY21 EV/EBITDA). Therefore, the LTM median presented in the analysis may differ from the subsector average as it only considers said companies and not all the companies listed under the category.



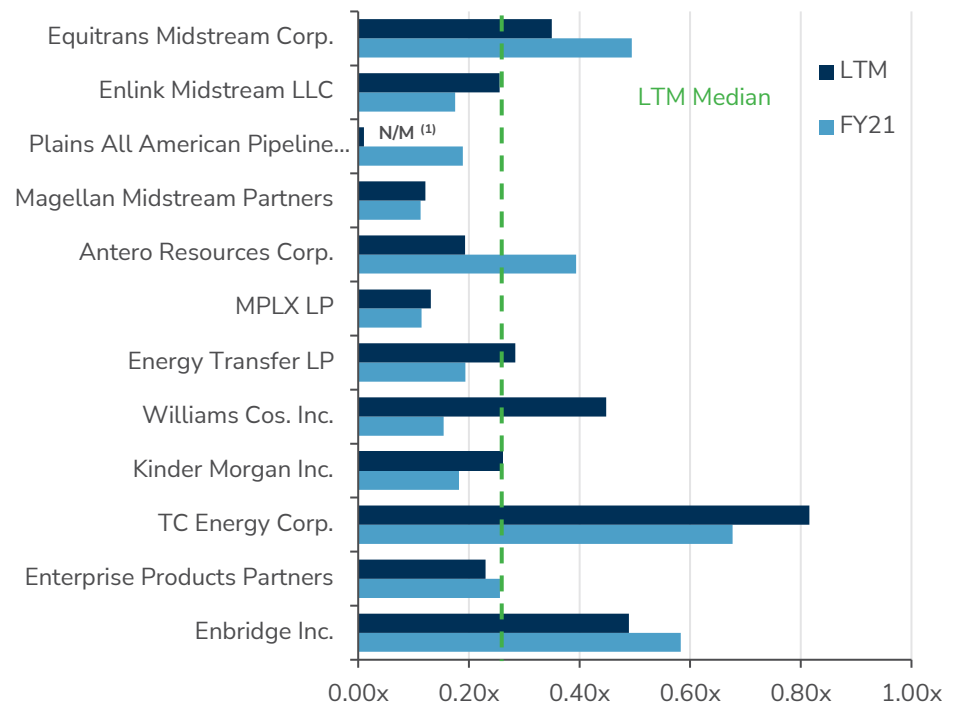
Public Trading Analysis

Subsector Focus: Capital Expenditure/EBITDA

Oil and Gas Subsector Average (LTM/FY21)



Spotlight: Midstream Oil and Gas



Source: Bloomberg as of December 31, 2022

Explanatory Note:

Subsector averages consider the available capital expenditure and EBITDA values for the public companies under each category. Similarly, the "midstream oil and gas" subsector considers the most representative companies by market capitalization (as of December 31, 2022) and uses the available data as inputs for the multiple calculation. Therefore, the LTM median presented in the analysis only considers said companies and not the entire universe under the category.

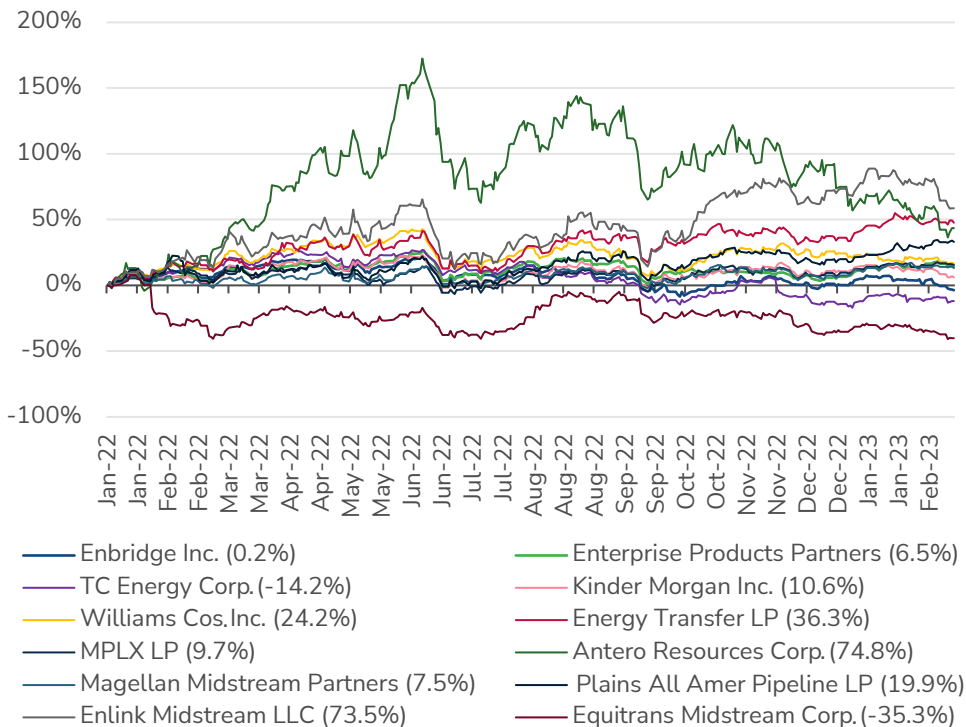
(1) The multiple for the company was not representative for the purpose of this analysis (ratio value was zero).



Public Trading Analysis

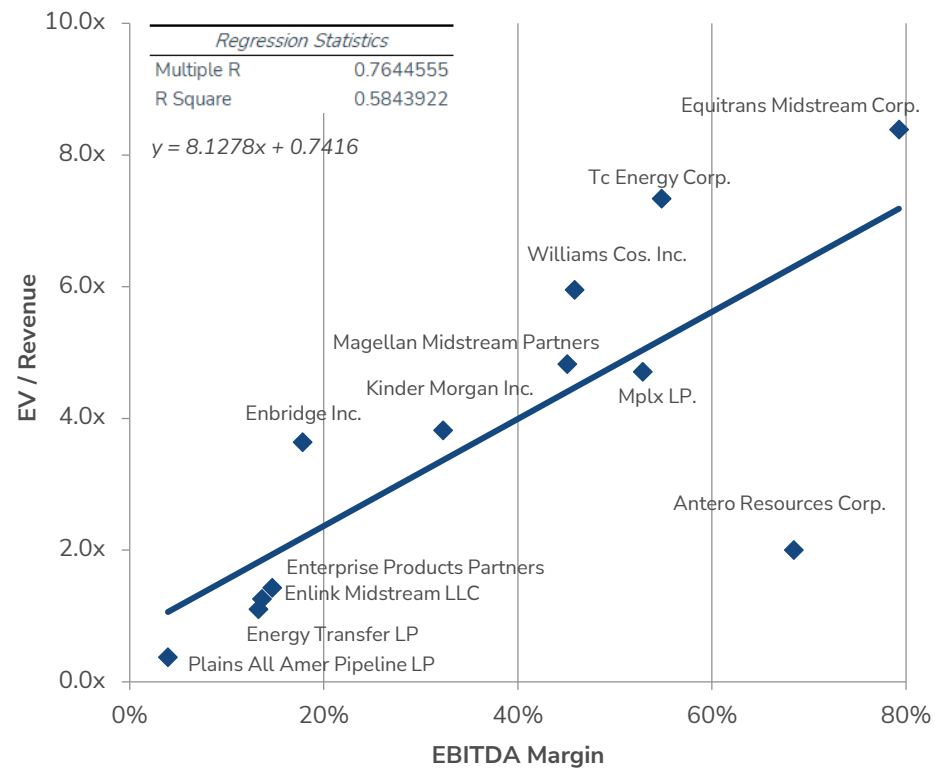
Subsector Focus: Midstream Oil and Gas

Share Price Development Q4 2022*



Source: Bloomberg as of December 31, 2022, Kroll Analysis

Regression Analysis: EV/Revenue vs. EBITDA Margin



Explanatory Note:

The linear regression plotted on the right side represents the forecasted EBITDA margin depending on the EV/Revenue multiple as of December 31, 2022.

* Note: The return showed in selected stocks is calculated by taking January 3, 2022, as the starting point and tracks the change in percentage until February 24, 2023.



Public Trading Analysis

Company Trading Statistics

(USD bn, except for per-share data)

	Share Price	52-Week Share Price		Market Cap	Enterprise Value	Revenues	EBITDA		EBITDA Margin	EV/EBITDA	
	31-Dic-22	Low	High			LTM	LTM	FY2021	LTM	LTM	FY2021
Integrated Majors											
Exxon Mobil Corp,	110.3	76.93	119.17	450.24	476.21	398.67	87.59	53.71	22%	5.4x	8.9x
Chevron Corp,	161.7	135.94	188.05	343.76	356.22	235.72	56.23	42.23	23.9%	6.3x	8.4x
Royal Dutch Shell Plc	29.9	22.81	31.16	216.23	251.09	381.32	87.59	52.42	23%	2.9x	4.8x
TotalEnergies SE	61.9	45.15	64.68	164.53	183.18	263.31	59.74	38.34	22.7%	3.1	4.8x
BP Plc	6.6	4.29	6.82	103.26	147.49	231.39	29.11	36.02	12.1%	5.1x	4.1x
Average									20.7%	4.6x	6.2x
Median									22.7%	5.1x	4.8x

Source: Bloomberg as of December 31, 2022

Explanatory Note:

The information presented reflects analytical data and indicators from key public entities that make up the integrated majors subsector of the oil and gas industry as of December 31, 2022. The selected companies were sorted by order of the largest market capitalization from the entire subindustry's public company universe in order to highlight their financial status and capital adequacy. Therefore, the averages presented only account for the major players and not the entire subindustry.



Public Trading Analysis

Company Trading Statistics

(USD bn, except for per-share data)

	Share Price	52-Week Share Price		Market Cap	Enterprise Value	Revenues	EBITDA		EBITDA Margin	EV/EBITDA	
	31-Dic-22	Low	High			LTM	LTM	FY2021	LTM	LTM	FY2021
National Oil Companies											
Saudi Arabian Oil Company	8.54	8.04	11.33	1,817.26*	1,856.97*	526.6*	324.5*	229.78	61.6%*	6.6x	9.3x
Equinor Asa	31.06	28.42	41.73	113.81	97.36	149.00	85.9	42.37	57.7%	1.1x	2.3x
Petrochina Co. Ltd.	0.52	0.38	0.57	132.43*	185.16*	486.9*	67.2*	59.17	13.8%*	2.7x*	3.0x
Petrobras	5.08	4.03	7.54	71.22*	118.89*	117.9*	68.7*	45.84	58.2%*	1.8x*	2.7x
China Petroleum & Chemical	0.53	0.39	0.55	75.93*	123.17*	477.7*	15.33*	34.16	3.2%*	7.8x	3.5x
Eni Spa	13.95	10.30	16.13	50.82	63.66	139.28	26.03	18.71	18.7%	2.4x	3.4x
Ecopetrol SA	0.53	0.44	0.96	23.20*	49.40*	33.80*	15.30*	10.23	45.4%*	2.8x*	4.2x
PTT PCL	0.93	0.89	1.23	26.55	67.93	96.25	11.50	11.44	11.9%	5.9x	5.9x
Oil & Natural Gas Corp. Ltd.	1.87	1.50	2.43	23.49	38.48	17.1*	9.1*	7.09	53.2%	4.5x	5.4x
Indian Oil Corp. Ltd.	0.93	0.80	1.18	11.72	28.05	92.5	3.47	4.38	5.9%*	8.1x	6.4x
Bharat Petroleum Corp. Ltd.	3.83	3.52	5.21	8.15	15.66	52.7	1.4*	2.33	2.6%*	11.2x*	6.7x
YPF S.A.	22.22	6.31	24.17	8.87	6.98	16.1*	4.4*	3.87	27.4%*	1.2x	1.8x
Average									30%	4.7x	4.6x
Median									23%	3.7x	3.9x

Source: Bloomberg as of December 31, 2022

Explanatory Note:

The information presented reflects analytical data and indicators from key public entities that make up the national oil companies (NOCs) subsector of the oil and gas industry as of December 31, 2022. The selected companies were sorted by order of the largest market capitalization from the entire subindustry's public company universe in order to highlight their financial status and capital adequacy. Therefore, the averages presented only account for the major players and not the entire subindustry.

*Note: Values correspond to Q3 2022 period, as companies did not present earnings information for the Q4 2022 period by the elaboration time of this report.



Public Trading Analysis

Company Trading Statistics

(USD bn, except for per-share data)

	Share Price	52-Week Share Price		Market Cap	Enterprise Value	Revenues	EBITDA		EBITDA Margin	EV/EBITDA	
	31-Dic-22	Low	High			LTM	LTM	FY2021	LTM	LTM	FY2021
Global Independent											
ConocoPhillips	104.82	81.61	134.94	144.42	153.58	78.49	34.06	20.53	43.4%	4.5x	7.5x
EOG Resources	114.21	95.12	148.26	83.55	85.78	26.56	13.51	10.71	50.9%	6.4x	8.0x
Repsol SA	15.68	10.90	17.30	21.11	29.46	79.16	8.64	7.74	10.9%	3.4x	3.8x
Inpex Corp.	10.61	9.24	13.47	14.71	25.79	17.79	11.85	6.45	66.6%	2.2x	4.0x
Occidental Petroleum Corp.	58.75	38.74	75.97	53.06	83.62	33.7*	18.8*	13.68	55.8%*	4.7x*	6.4x
Hess Corp.	137.75	93.08	160.44	43.72	51.05	11.32	5.73	3.40	50.6%	8.9x	15.0x
Average									46.4%	5.0x	7.5x
Median									50.7%	4.6x	6.9x

Source: Bloomberg as of December 31, 2022

Explanatory Note:

The information presented reflects analytical data and indicators from key public entities that make up the global independent subsector of the oil and gas industry as of December 31, 2022. The selected companies were sorted by order of the largest market capitalization from the entire subindustry's public company universe in order to highlight their financial status and capital adequacy. Therefore, the averages presented only account for the major players and not the entire subindustry.

*Note: Values correspond to Q3 2022 period, as companies did not present earnings information for the Q4 2022 period by the elaboration time of this report.



Public Trading Analysis

Company Trading Statistics

(USD bn, except for per-share data)

	Share Price	52-Week Share Price		Market Cap	Enterprise Value	Revenues	EBITDA		EBITDA Margin	EV/EBITDA	
	31-Dic-22	Low	High			LTM	LTM	FY2021	LTM	LTM	FY2021
Regional Independent											
Canadian Natural Resources	55.63	44.72	68.78	62.99*	72.79*	32.8*	17.9*	12.17	54.5%*	3.5x*	5.9x
Pioneer Natural Resources Co.	202.14	202.29	285.28	53.91	58.17	24.00	12.49	6.73	52.0%	4.7x	8.6x
Suncor Energy Inc.	33.13	26.61	42.55	45.37	55.95	44.97	19.47	10.10	43.3%	2.8x	5.3x
Devon Energy Corp.	54.81	51.00	78.04	40.17	45.51	19.17	10.91	5.49	56.9%	4.2x	8.3x
Cenovus Energy Inc.	17.90	14.57	24.68	37.07	43.64	50.08	10.42	6.53	20.8%	4.2x	6.7x
Imperial Oil Ltd.	49.05	40.33	57.88	28.47	29.06	44.04	8.64	4.07	19.4%	3.4x	7.1x
Diamondback Energy Inc.	142.50	106.71	167.03	24.60	30.92	8.79	7.00	4.16	79.7%	4.4x	7.4x
Continental Resources Inc.**	74.27	52.32	74.27	N/A	N/A	9.47	7.24	4.41	76.4%	N/A	6.6x*
Santos	4.72	4.44	6.31	16.13	19.88	7.79	4.99	2.92	64.0%	4.0x	6.8x
Marathon Oil Corp.	25.51	20.41	33.03	17.14	20.19	7.58	5.09	3.46	67.2%	4.0x	5.8x
Aker BP ASA	26.53	26.28	43.94	19.57	22.12	13.01	10.67	4.47	82.0%	2.1x	4.9x
Average									56.0%	3.7x	6.7x
Median									56.9%	4.0x	6.7x

Source: Bloomberg as of December 31, 2022

Explanatory Note:

The information presented reflects analytical data and indicators from key public entities that make up the regional independent subsector of the oil and gas industry as of December 31, 2022. The selected companies were sorted by order of the largest market capitalization from the entire subindustry's public company universe in order to highlight their financial status and capital adequacy. Therefore, the averages presented only account for the major players and not the entire subindustry.

*Note: Values correspond to Q3 2022 period, as companies did not present earnings information for the Q4 2022 period by the elaboration time of this report.

**Note: Continental Resources was acquired by a Private Investor on 2022/11/23, at a price of \$74.28 USD per share



Public Trading Analysis

Company Trading Statistics

(USD bn, except for per-share data)

	Share Price	52-Week Share Price		Market Cap	Enterprise Value	Revenues	EBITDA		EBITDA Margin	EV/EBITDA	
	31-Dic-22	Low	High			LTM	LTM	FY2021	LTM	LTM	FY2021
Oilfield Services											
Schlumberger Ltd.	53.20	31.33	58.46	75.91	85.86	28.09	6.30	4.89	22.4%	13.6x	17.5x
Baker Hughes Co.	30.26	20.45	38.72	29.71	33.81	21.16	2.31	2.63	10.9%	14.6x	12.9x
Halliburton Co.	36.22	23.31	42.97	35.49	42.73	20.30	3.65	2.69	18.0%	11.7x	15.9x
NOV Inc.	21.59	14.10	24.80	8.21	9.63	7.24	0.57	0.23	7.8%	17.0x	42.1x
Championx Corp.	30.13	17.57	33.02	5.75	6.31	3.81	0.51	0.45	13.3%	12.5x	13.9x
TechnipFMC Plc	14.59	5.62	14.63	6.9	7.27	6.70	0.56	0.60	8.5%	12.5x	11.9x
Liberty Oilfield Services	14.91	11.22	18.74	2.87	3.28	4.15	0.86	0.13	20.8%	3.8x	25.3x
Nextier Oilfield Solutions	8.93	6.75	12.35	2.16	2.44	3.24	0.56	0.09	17.3%	4.3x	28.0x
Weatherford International	63.98	17.45	67.85	3.62	5.22	4.33	0.76	0.58	17.6%	6.9x	9.0x
Propetro Holding Corp.	8.54	7.35	16.23	1.19	1.14	1.28	0.13	0.14	9.8%	9.0x	8.2x
Average									14.6%	10.6x	18.5x
Median									15.3%	12.1x	14.9x

Source: Bloomberg as of December 31, 2022

Explanatory Note:

The information presented reflects analytical data and indicators from key public entities that make up the oilfield services subsector of the oil and gas industry as of December 31, 2022. The selected companies were sorted by order of the largest market capitalization from the entire subindustry's public company universe in order to highlight their financial status and capital adequacy. Therefore, the averages presented only account for the major players and not the entire subindustry.



Public Trading Analysis

Company Trading Statistics

(USD bn, except for per-share data)

	Share Price	52-Week Share Price		Market Cap	Enterprise Value	Revenues	EBITDA		EBITDA Margin	EV/EBITDA	
	31-Dic-22	Low	High			LTM	LTM	FY2021	LTM	LTM	FY2021
Midstream Oil and Gas											
Enbridge Inc.	37.72	35.68	47.50	81.19	149.06	40.99	7.30	11.12	17.8%	20.4x	13.4x
Enterprise Products Partners	25.89	22.91	28.47	52.47	83.05	58.19	8.53	8.34	14.7%	9.7x	10.0x
TC Energy Corp.	40.77	38.53	58.99	40.54	84.47	11.51	6.31	7.35	54.8%	13.4x	11.5x
Kinder Morgan Inc.	17.37	16.05	20.14	40.64	73.28	19.20	6.20	7.90	32.3%	11.8x	9.3x
Williams Cos. Inc.	30.87	28.42	37.82	40.07	65.26	10.97	5.03	5.57	45.8%	13.0x	11.7x
Energy Transfer LP	12.90	9.54	13.50	36.73	98.89	89.88	11.90	13.00	13.2%	8.3x	7.6x
MPLX LP	34.64	27.98	35.12	33.37	54.70	11.61	6.14	5.51	52.9%	8.9x	9.9x
Oneok Inc.	67.48	50.58	73.62	30.36	44.20	22.01	3.20	3.40	14.5%	13.8x	12.7x
Antero Resources Corp.	26.57	22.65	48.31	9.22	14.28	7.14	4.88	1.67	68.4%	2.9x	8.5x
Magellan Midstream Partners	53.02	45.69	54.70	10.21	15.45	3.20	1.44	1.41	45.1%	10.7x	11.0x
Plains All Amer Pipeline LP	13.09	9.59	13.20	8.73	21.43	57.34	2.26	2.20	3.9%	9.5x	9.7x
Enlink Midstream LLC	11.21	8.00	13.38	5.77	11.98	9.54	1.30	1.06	13.6%	9.2x	11.3x
Equitrans Midstream Corp.	6.20	6.10	9.83	3.48	11.39	1.36	1.08	1.07	79.3%	10.6x	10.6x
Average									36.8%	10.7x	10.6x
Median									38.7%	10.2x	10.6x

Source: Bloomberg as of December 31, 2022

Explanatory Note:

The information presented reflects analytical data and indicators from key public entities that make up the midstream subsector of the oil and gas industry as of December 31, 2022. The selected companies were sorted by order of the largest market capitalization from the entire subindustry's public company universe in order to highlight their financial status and capital adequacy. Therefore, the averages presented only account for the major players and not the entire subindustry.



Public Trading Analysis

Company Trading Statistics

(USD bn, except for per-share data)

	Share Price	52-Week Share Price		Market Cap	Enterprise Value	Revenues	EBITDA		EBITDA Margin	EV/EBITDA	
	31-Dic-22	Low	High			LTM	LTM	FY2021	LTM	LTM	FY2021
Refining and Marketing											
Reliance Industries Ltd.	28.71	27.90	36.79	193.71	238.28	111.29	18.75	10.94	16.8%	12.3x	21.8x
Marathon Petroleum Corp.	124.65	74.40	135.35	52.84	78.78	177.45	24.50	7.61	13.8%	3.2x	10.4x
Valero Energy Corp.	131.68	80.63	149.96	47.21	58.32	176.38	18.16	4.12	10.3%	3.2x	14.2x
Phillips 66	100.67	74.16	112.29	47.95	68.18	169.99	13.91	4.78	8.2%	4.9x	14.3x
Neste OYJ	47.04	34.66	51.79	35.39	37.02	27.08	3.21	2.12	11.9%	11.5x	17.4x
Formosa Petrochemical Corp.	2.78	2.37	3.62	24.89	24.38	28.46	1.45	2.71	5.1%	16.9x	9.0x
Pembina Pipeline Corp.	32.78	30.27	42.33	18.68	28.32	8.95	3.10	2.64	34.6%	9.1x	10.7x
OMV AG	49.91	34.91	60.06	16.85	30.32	65.62	14.71	9.31	22.4%	2.1x	3.3x
Targa Resources Corp.	76.19	56.28	80.63	16.61	31.25	20.93	2.84	2.03	13.5%	11.0x	15.4x
SK Innovation Co. Ltd.	117.90	96.56	187.09	11.32	23.98	60.59	5.42	3.22	8.9%	4.4x	7.5x
Eneos Holdings Inc.	3.40	3.21	4.31	10.35	40.34	111.93	5.70	5.12	5.1%	7.1x	7.9x
HF Sinclair	49.15	29.34	65.61	10.24	11.83	38.20	4.78	0.97	12.5%	2.5x	13.8x
Sunoco LP	47.12	35.61	48.09	4.33	8.03	25.73	0.87	0.75	3.4%	9.2x	10.7x
PBF Energy Inc.	42.63	16.35	48.23	5.29	7.10	46.83	4.69	0.34	10.0%	1.5x	20.9x
CVR Energy Inc.	31.16	17.01	43.07	3.15	4.37	10.90	1.27	0.35	11.6%	3.5x	12.5x
Average									12.5%	6.9x	12.6x
Median									11.6%	4.9x	12.5x

Source: Bloomberg as of December 31, 2022

Explanatory Note:

The information presented reflects analytical data and indicators from key public entities that make up the refining and marketing subsector of the oil and gas industry as of December 31, 2022. The selected companies were sorted by order of the largest market capitalization from the entire subindustry's public company universe in order to highlight their financial status and capital adequacy. Therefore, the averages presented only account for the major players and not the entire subindustry.



Public Trading Analysis

Company Trading Statistics

(USD bn, except for per-share data)

	Share Price	52-Week Share Price		Market Cap	Enterprise Value	Revenues	EBITDA		EBITDA Margin	EV/EBITDA	
	31-Dic-22	Low	High			LTM	LTM	FY2021	LTM	LTM	FY2021
Gas Specialists											
TC Energy Corp.	40.77	38.53	58.99	40.54	84.47	11.51	6.31	7.35	54.8%	13.4x	11.5x
Kinder Morgan Inc.	17.37	16.05	20.14	17.09	73.28	19.20	6.20	7.90	32.8%	11.8x	9.3x
Williams Cos. Inc.	30.87	28.42	37.82	30.69	65.26	10.97	5.03	5.57	45.8%	13.0x	11.7x
Cheniere Energy Inc.	157.88	122.39	179.86	155.35	66.51	33.43	6.37	4.91	19.0%	10.4x	13.5x
Oneok Inc.	67.48	50.58	73.62	30.36	44.20	22.01	3.20	3.40	14.5%	13.8x	12.7x
Coterra Energy Inc.	25.19	22.71	36.11	24.78	21.29	9.05	6.84	2.21	75.6%	3.1x	9.6x
Woodside Petroleum Ltd.	23.30	19.49	26.59	23.27	49.02	16.82	12.13	4.26	72.2%	4.0x	11.5x
Southwestern Energy Co.	5.21	4.83	9.64	5.46	11.49	15.00	9.81	1.74	65.4%	1.2x	6.6x
DCP Midstream LP	41.73	37.85	42.08	41.06	13.70	14.90	1.08	1.33	7.2%	12.7x	10.3x
Average									43.0%	8.7x	10.8x
Median									45.8%	11.8x	11.5x

Source: Bloomberg as of December 31, 2022

Explanatory Note:

The information presented reflects analytical data and indicators from key public entities that make up the gas specialists subsector of the oil and gas industry as of December 31, 2022. The selected companies were sorted by order of the largest market capitalization from the entire subindustry's public company universe in order to highlight their financial status and capital adequacy. Therefore, the averages presented only account for the major players and not the entire subindustry.

Trading Statistics – Appendix I

Q4 2022 LNG Exports by Destination

(In mn metric tons)

	MENA	Asia Pacific	North America	Russia and Eastern Europe	Central Africa	Central and South America	Western Europe	Southeastern Asia	Total
Regions									
MENA	0.7	1.5	-	2.3	-	-	7.9	17.3	29.7
Asia Pacific	0.1	2.8	0.1	0.1	-	-	0.2	31.5	34.8
North America	0.2	0.3	-	1.8	-	0.4	12.4	4.2	19.3
Russia and Eastern Europe	-	0.1	-	0.3	-	-	3.2	5.0	8.6
Central Africa	0.1	0.1	0.0	0.4	-	0.3	3.2	1.2	5.3
Central and South America	0.1	0.2	0.2	0.1	-	0.7	1.6	0.2	3.0
Western Europe	-	-	0.0	0.6	-	0.1	1.2	0.0	2.0
Southeastern Asia	-	-	-	-	-	-	-	0.3	0.3
Total	1.1	5.0	0.3	5.6	-	1.5	29.7	59.6	102.9

Source: HIS Markit as of December 31, 2022

Explanatory Note:

The information presented reflects the global bilateral LNG trade for Q4 2022, with the first column indicating the exporting region and the following columns being the reception regions or importers.

How Can Kroll Help

Kroll has a dedicated industry team with more than 100 full-time professionals, combining two key success factors in oil and gas transactions: (i) deep operational knowledge and market and legal understanding of the industry and (ii) corporate finance and accounting expertise.

We work with oil and gas organizations to rationalize portfolios, raise private debt and capital, find cost reduction opportunities and successfully navigate regulatory and tax law changes.

Our team has advised most major international oil companies on a variety of transactions and strategic issues, ranging from M&A mandates to full due diligence, valuation advisory, corporate reorganizations and capital raising.

Our team structure provides a flexible approach, and senior management is present throughout every phase of a transaction.

Buy-Side Advisory

From decision support at origination to deal closing and beyond, Kroll supports its clients throughout the deal cycle. Combining market data with fundamental financial competencies, we support critical decision-making with essential advice and information.

We provide our clients with the information they need to make informed business decisions for buy-side transaction projects.

From strategy to execution, Kroll enables oil and gas companies to transact, grow and realize value with greater conviction and speed and the appropriate industry insights.

Sell-Side Advisory

Sellers may face tremendous pressure to drive maximum value by bringing assets to market that are operationally optimized and transaction-ready.

Whether the seller is looking to spin-off, carve-out an asset or sell an entire company or business unit, oil and gas companies should focus on selling assets in the same rigorous way they focus on acquisitions.

Kroll's team can help companies optimize their portfolio and improve divestment strategy and execution through the following vendor assistance actions:

- Assessing the strategy and portfolio management
- Drafting equity story development and delivery
- Executing complete due diligence as a one-stop-shop (financial, commercial, risk and compliance)
- Supporting negotiations and closings

Private Debt and Capital

Kroll has long-standing relationships with the leading providers of private debt and equity capital and supports our clients in achieving an array of strategic objectives, including:

- Capital structure, capital raising and capital alternatives (recapitalization)
- Financial structuring
- Strategic planning
- Independent view on investment bank and equity research analyst selection, pricing, valuation and equity raising process appropriate to industry insights.

Oil and Gas-Specific Services

The nature of and investment amounts required for the oil and gas industry need a thorough understanding of sector-specific drivers, such as macroeconomic and geopolitical impacts on market balances.

Our oil and gas team has extensive and global hands-on experience in the sector, and we add value by providing a bridge between technical, commercial, legal and financial teams.

The Kroll Oil and Gas team understands the idiosyncrasies of the global sector and puts the following knowledge at your disposal:

- Project and structured commodity finance advisory and asset-based lending advisory
- Joint venture audits, financial joint venture management and preparation of cost certificates
- Valuation of exploration and production assets, commercial contracts, etc.
- Development or tariff/rate models for midstream and downstream assets



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About Kroll

As the leading independent provider of risk and financial advisory solutions, Kroll leverages our unique insights, data and technology to help clients stay ahead of complex demands. Kroll's team of more than 6,500 professionals worldwide continues the firm's nearly 100-year history of trusted expertise spanning risk, governance, transactions and valuation. Our advanced solutions and intelligence provide clients the foresight they need to create an enduring competitive advantage. At Kroll, our values define who we are and how we partner with clients and communities. Learn more at www.kroll.com

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