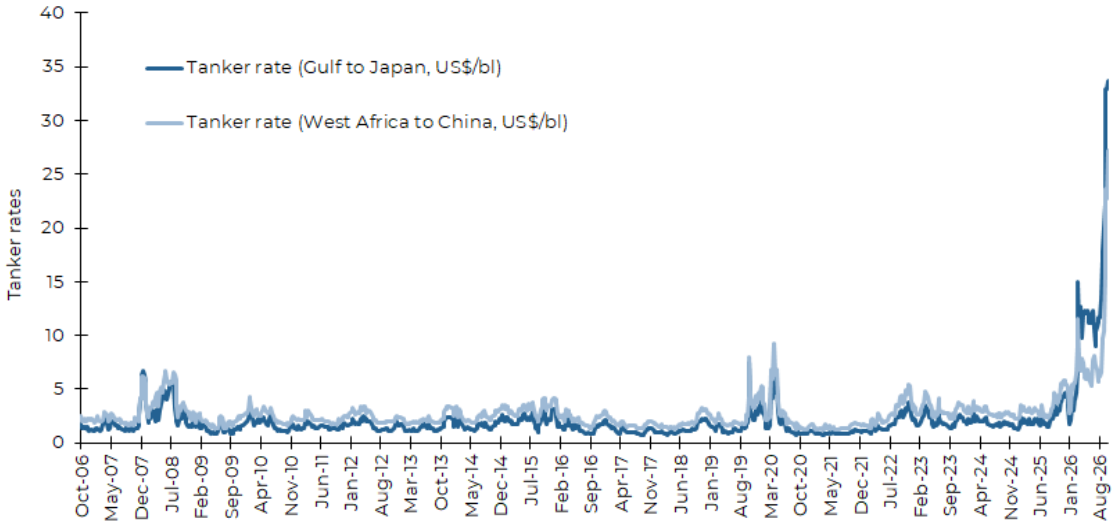
Chart of the Month

The use of shuttle tankers and the recent need to re-route Saudi oil exports via the Cape of Good Hope rather than through the Bab al-Mandeb Strait (now in the hands of the Houthis) has put acute stress on the global oil tanker market. Tanker availability has fallen and tanker rates have soared to record levels.

Example oil/oil product tanker costs (US$/bl)



Source: Guinness Atkinson, Bloomberg Sept 2026

News

OIL

Spot prices remain elevated on Middle East disruption

WTI and Brent spot oil prices remained elevated during September as Strait of Hormuz disruption continued, Houthi rebels took control of the Bab al-Mandeb Strait and the Saudi East-West pipeline was bombed. Acute tightness was seen in the downstream with European diesel margins reaching $90/bl and benchmark tanker transportation rates reaching close to $30/bl. Retail product prices reached record highs with the US threatening a diesel export ban in order to offset inflation.

NATURAL GAS

Global gas prices higher in September

Asian and European liquefied natural gas (LNG) prices stayed over $20/Mcf (thousand cubic feet) in September, reflecting low European inventories (17 percentage points below their usual levels) and abnormally low wind power generation. Normally, 20% of global LNG supplies transit the Strait of Hormuz. US prices remained around $3/Mcf

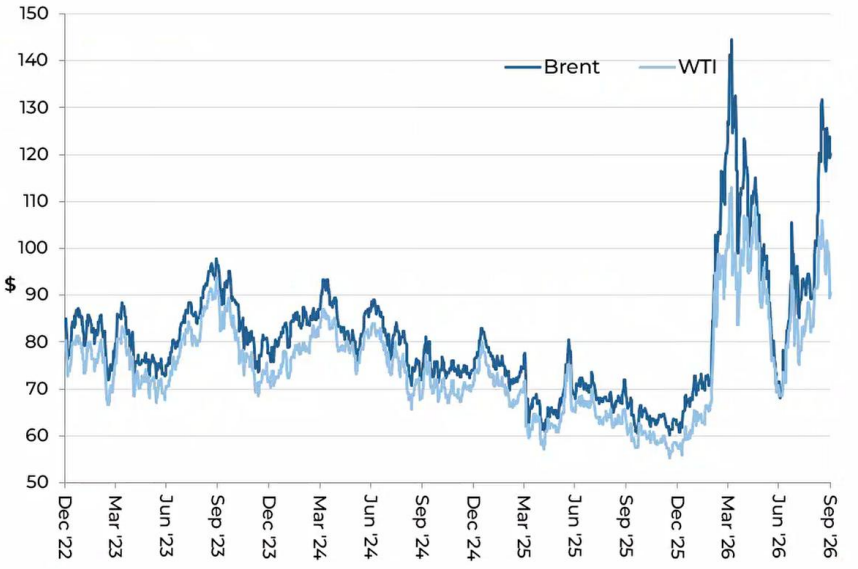
EQUITIES

Energy underperforms the broad market in September

Comparing energy equities to the broader market, the MSCI World Energy Index (net return) fell by 2.2% (USD) in September, underperforming the MSCI World Index (net return), which fell by 1.2%. Year-to-date, the MSCI World Energy Index is up 36.5% versus the MSCI World Index up by 11.8%

SEPTEMBER IN REVIEW

Spot oil price (WTI and Brent $/barrel): December 2022 to September 2026



Source: Bloomberg; Guinness Atkinson, data as of 09.30.2026

The West Texas Intermediate (WTI) oil price began September at $85.8/bl and, after it rose to a peak of over $105/bl mid-month before closing at $90.4/bl. Dated Brent oil started the month at $89.7/bl and followed a similar trend,

peaking at $130/bl mid-month before receding to close slightly lower at $120/bl. Dated Brent has averaged $94/bl so far in 2026, having averaged $69/bl in 2025, $81/bl in 2024 and $83/bl in 2023. The gap between the WTI and Brent benchmark oil prices widened sharply over the month, ending September at nearly $30/bl as physical demand for Brent crude oil in Europe remained strong and tanker rates increased sharply. The Brent-WTI spread has averaged around $5/bl in recent years.

Factors which strengthened WTI and Brent oil prices in September:

Continued disruption in the Middle East

The scale of the disruption in the Middle East has been extraordinary and continues to be extraordinary. The Strait of Hormuz normally sees the passage of around 20m b/day of crude oil, condensate and oil products, as well as around 20% of global LNG trade. Since the outbreak of conflict, tanker traffic through the Strait has fallen to a fraction of normal levels. Pipeline re-routing through Saudi Arabia, the United Arab Emirates and Iraq, strategic inventory releases, de-sanctioned barrels and the rebalancing of trade flows have helped to reduce the net disruption, but the market has still been left with a very large supply shortfall.

Disruption increased early in the month as the Houthis appeared to gain control of the strategically important Bab al-Mandeb Strait and the Saudi East-West pipeline was attacked. Disruption eased toward the end of the month with shuttle tankers helping to increase flow through the Strait of Hormuz and Saudi recovering volumes through its pipeline. According to Vortexa data, Persian Gulf oil flows (excluding Iran) recovered to 81% of pre-war levels in September, led by a recovery in Saudi exports. Meanwhile, diplomatic efforts appeared to wane, and the United States sent a third aircraft carrier to the region at the end of the month, with attacks in the Strait of Hormuz picking up again at the start of October.

- **Closure of Saudi's East-West Oil Pipeline**

Attacks on Saudi Arabia's East-West pipeline on Thursday 10 September resulted in the pipeline being closed for a large part of the month. As a reminder, The East-West pipeline across Saudi has absorbed 3-3.5m b/day of Saudi oil that was flowing through the Strait of Hormuz and has been a key mitigation against Hormuz disruption.

- **Sustained Ukrainian attacks on Russian refineries**

Despite pressure from President Trump to slow attacks on Russian energy, Ukraine continued its drone strikes. Mid-September saw the largest Ukrainian drone attack reported so far on the Moscow region which damaged part of the Gazprom Neft Moscow oil refinery. The attack is significant as the refinery is large (230,000 b/day capacity).

Factors which weakened WTI and Brent oil prices in September:

Weakened demand expectations for 2026

In its September report, the International Energy Agency (IEA) updated its global oil demand estimate for 2026 to 102.5m b/day (down from 103.3m b/day in the August report) and a reduction of 2.3m b/day versus its prior 2026 estimate of 104.8m b/day (made at the start of the year). The lower demand is likely a function of both demand destruction (as a result of higher oil product prices, especially in petrochemicals and oil products in Asia) but also delayed demand due to insufficient supply. Current IEA estimates suggest that oil demand will grow 2.5m b/day in 2027, recovering all of the 2026 demand reduction.

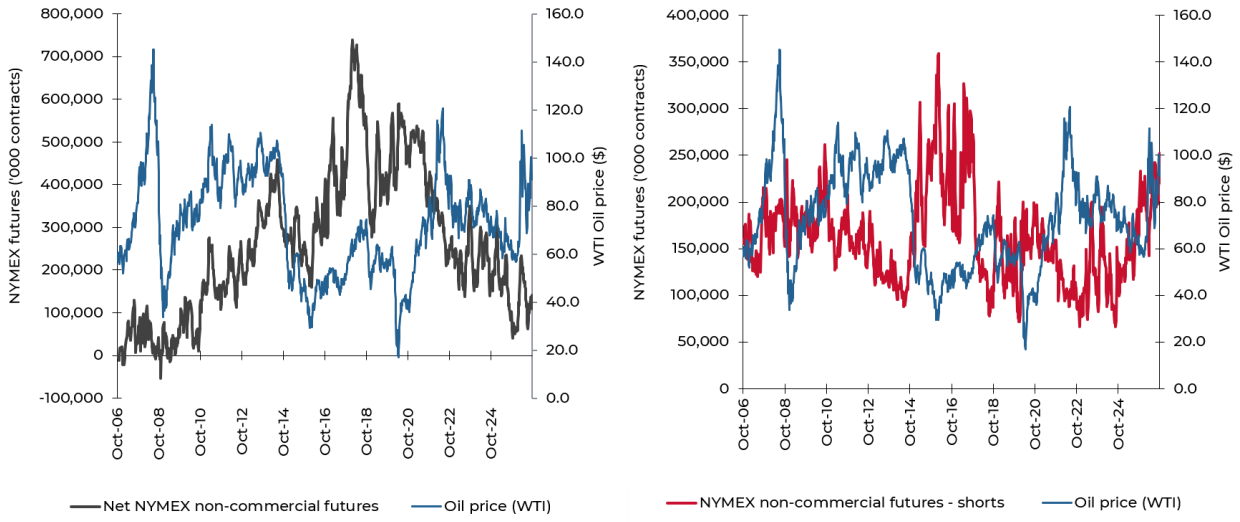
- **G7 commits to release 100m bls of oil and oil products**

Late in the month, in response to US threats to initiate a diesel export ban, the G7 committed to release 100 million barrels of oil and oil products over four months, prioritising diesel. Details of the release are still coming out but it appears that the agreement fulfils the outstanding March IEA-related commitment rather than representing a wholly additional new source of inventory supply. Alongside the announcement, Donald Trump ruled out a US diesel export ban.

Speculative and investment flows

The New York Mercantile Exchange (NYMEX) net non-commercial crude oil futures open position was 109,000 contracts long at the end of September versus 103,000 contracts long at the end of the previous month. The net position peaked in February 2018 at 739,000 contracts long. Typically, there is a positive correlation between the movement in net position and movement in the oil price. The gross short position rose to 252,000 contracts at the end of September versus 200,000 at the end of the previous month.

NYMEX non-commercial net and short futures contracts: WTI October 2006 – September 2026



Source: Bloomberg LP/NYMEX/ICE, data as of 09.30. 2026

Organization for Economic Cooperation and Development (OECD) stocks

OECD total product and crude inventories at the end of August (latest data point) were estimated by the IEA to be 2,794m barrels (bls), up by 23m bls versus the level reported for the previous month. The move in August compares to a 10-year average (pre-COVID) build of 18m bls. OECD inventories have held up surprisingly well through the US-Iran conflict, with the majority of global inventory decline occurring in other parts of the market. At the end of August, the overall level of OECD inventories was below the 10-year average.

OECD total product and crude inventories, monthly, 2010 to August 2026



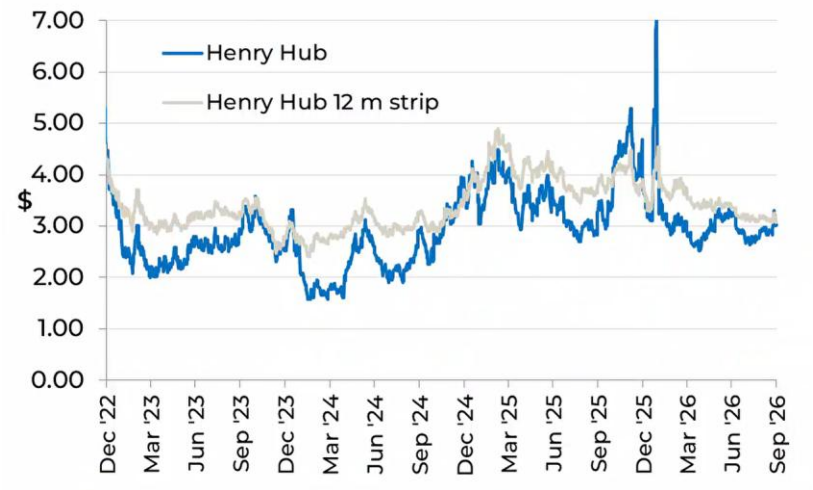
Source: IEA Oil Market Reports (September 2026 and older)

Natural gas market

The US natural gas price (Henry Hub front month) opened September at $2.94/Mcf (1,000 cubic feet) and stayed in a tight range before ending the month $3.03/Mcf. The spot gas price has averaged $3.15/Mcf so far in 2026, having averaged $3.63/Mcf in 2025, $2.41/Mcf in 2024 and $2.67/Mcf in 2023.

The 12-month gas strip price (a simple average of settlement prices for the next 12 months' futures prices) traded slightly weaker, opening at $3.16/Mcf and closing at $3.09/Mcf. The strip price has averaged $3.55/Mcf so far in 2026, having averaged $4.00 in 2025, $2.98 in 2024 and $3.19 in 2023.

Henry Hub gas spot price and 12m strip ($/Mcf): December 2022 to September 2026

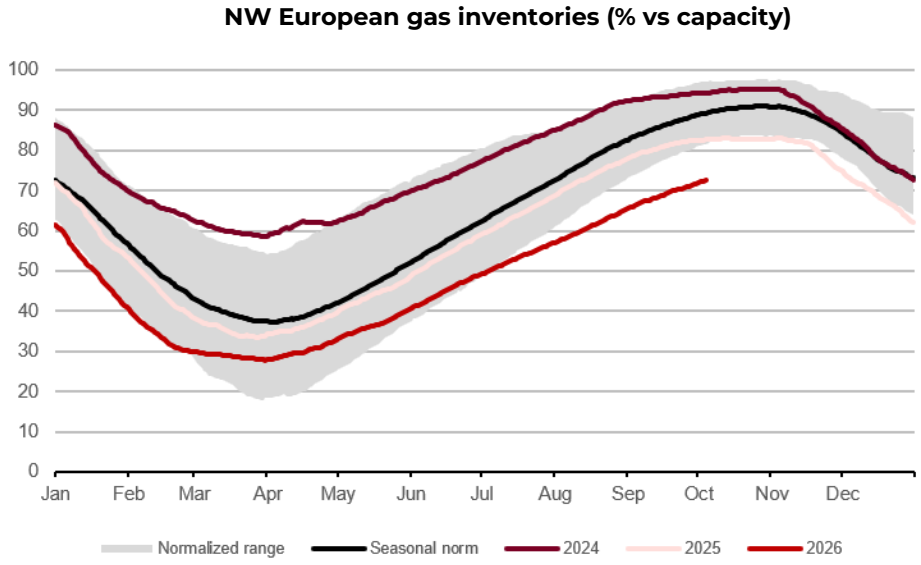


Source: Bloomberg LP, data as of 9.30.2026

Factors which strengthened global gas prices in September included:

Low European natural gas inventories

With the European gas market now entering its winter season, focus remains on the low level of European gas inventories. Most recent data shows inventories are 72% full, around 17 points below the 10-year average range. European gas prices stayed above $20/Mcf during the month as the region increasingly competes for LNG with Asia. Low inventories reduce the buffer against winter weather variability, making supply security dependent on a mild winter.



Source: DnB Carnegie, data as of 10.6.2026

- **Low European wind power generation**

European gas market pressure was compounded in September by low wind power generation as a result of unusually calm weather. Looking forward, German wind generation is set to average 13.7GW in October, down 39% year-on-year, according to BNEF, while the United Kingdom is set to see an 18% year-on-year decline.

- **War in the Middle East**

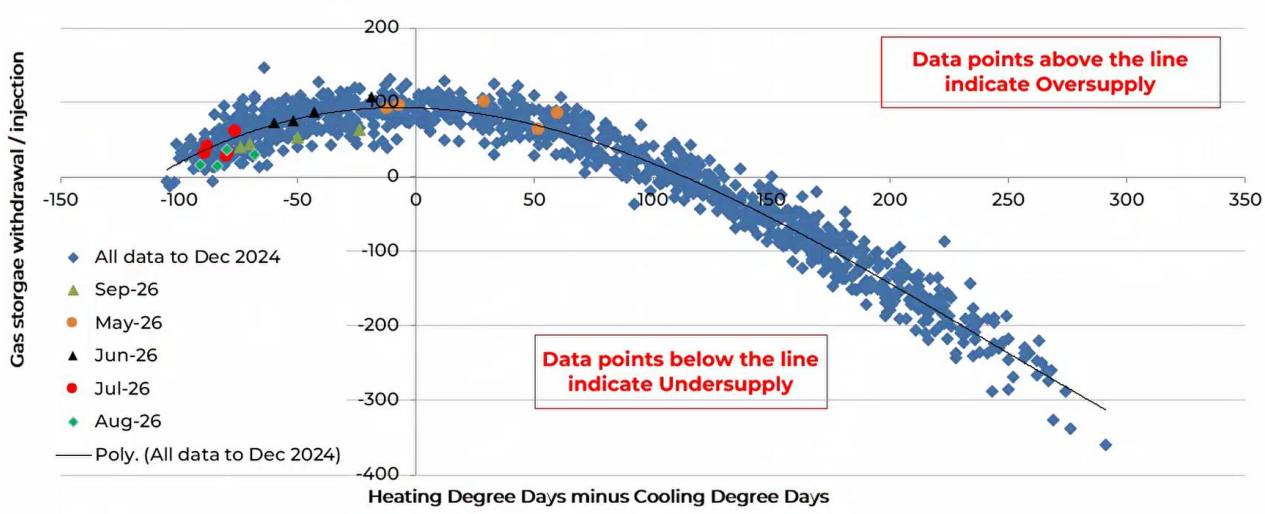
The Strait of Hormuz typically sees the passage of around 10-11 billion cubic feet (Bcf) per day of LNG, around 20% of the global LNG market. The largest producer, QatarEnergy, shut in production very shortly after the start of the war as available inventory capacity was limited. The loss of 10-11 Bcf/day of LNG is equivalent to around 75% of the Russian pipeline gas lost by Europe in 2022. The fact that flows of LNG in the Gulf remained largely offline was a positive for international gas prices in the month.

During September, Qatar LNG extended force majeure notices to early November for EU LNG purchasers, removing the chance for last-minute storage fills before the start of the European winter season. Currently there is just a 'trickle' of Qatari LNG leaving the Middle East.

- **US market slightly undersupplied (ex-weather effects)**

Adjusting for the impact of weather, the US gas market was, on average, around 2.5 Bcf/day undersupplied during September.

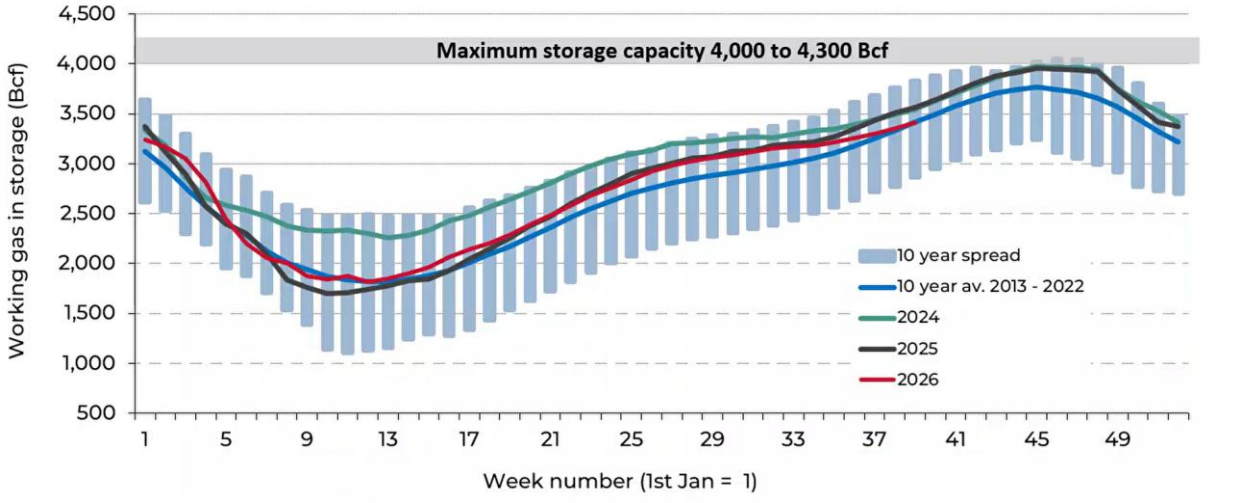
Weather-adjusted US natural gas inventory injections and withdrawals



Source: Bloomberg LP; Guinness Atkinson; data as of 09.30.2026

US natural gas inventories moved towards the 10-year average levels during September. With the US market both undersupplied and somewhat insulated from the supply disruption in the international and Asian gas markets, inventories built less than usual.

Deviation from 10-year US gas storage norm



Source: Bloomberg; Energy Information Administration (EIA), data as of 09.30.2026

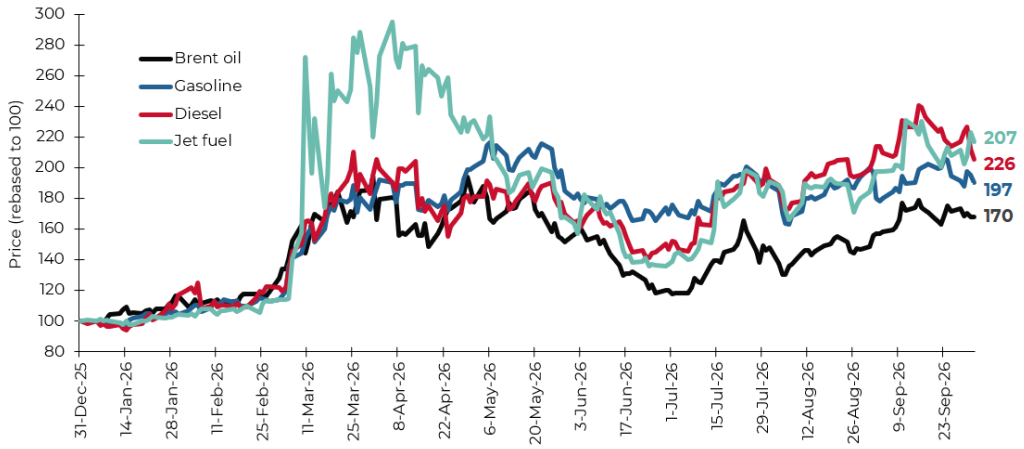
MANAGERS' COMMENTS

In this month's managers' comments, we focus on the downstream and assess why it has been the key driver of energy equity and fund performance over the quarter. Ongoing conflict in the Middle East and Russia/Ukraine has driven sharp increases in oil product prices, refining margins and tanker rates, thereby raising the specter of a US diesel export ban in order to contain inflationary pressures ahead of the mid-term elections.

Oil product prices have rallied hard, bringing broader inflationary concerns

An interesting aspect of the Middle East conflict and the Strait of Hormuz disruption has been that oil products such as diesel, gasoline and jet fuel have rallied harder than crude oil itself. So far this year, US wholesale gasoline prices are up 97%, wholesale diesel is up 126% and Singapore wholesale jet fuel is up 107%, while Brent crude is up 70%. Retail prices have moved similarly, with US diesel at a record $6.38/gallon and UK diesel exceeding £2/liter in September.

Oil product prices, 2026 to date



Source: Bloomberg. Data to 09.30.2026

This inflation has caused headaches for central banks globally. Higher product prices feed directly into inflation metrics and have been a key factor in recent rate increases and expectations of further increases. Governments have responded by reducing product taxation or restricting exports to defend limited inventories. September also saw a public debate around the threat of a US diesel export ban, with President Trump also mooting the removal of federal gasoline taxes.

The two main drivers of higher product prices have been refining margins, especially diesel margins, and oil product transportation costs.

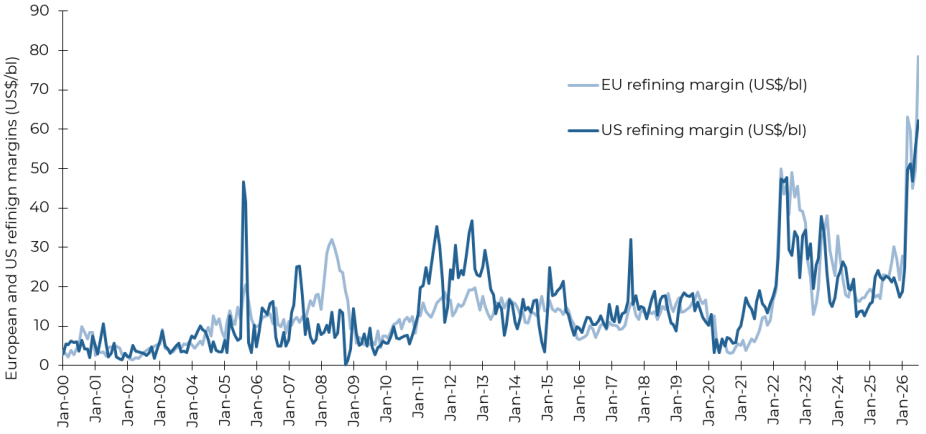
Refining margins, especially for diesel, up sharply and likely to stay elevated

Conflict in Russia and the Middle East has materially reduced available global refining capacity and had a particularly significant impact on diesel. **Russia**, the third largest refiner in the world with around 6.5m b/day of nameplate capacity, has come under sustained pressure from Ukraine's expanding drone campaign, which has targeted 28 of Russia's 32 refineries and put around 4m b/day of refining capacity offline in August. The conflict in the **Middle East** has also resulted in around 2.2m b/day of refining capacity, heavily skewed towards diesel, being inoperative due to physical damage or transport restrictions.

Together, Russia and the Middle East represented over one third of the 2025 global seaborne diesel export market, but combined volumes are down close to 2m b/day this year. In contrast, the crude oil market has been supported by emergency strategic inventory releases and sharply lower Chinese crude oil imports, limiting crude oil price increases. Recent Vortexa data shows that crude oil volumes through the Strait of Hormuz are at 91% of pre-war levels, while oil product volumes are only at 61%.

The divergence between product and crude prices is captured by refiners through refining margins, which have expanded very sharply this year. In Europe, diesel refining margins reached $93/bl at the end of September, while US gasoline refining margins exceeded $60/bl. Both regions are seeing margins three to five times higher than long-run average levels. These record margins reflect a physical shortage of refining capacity, with tightness compounded by limited investment in the global refining system in recent years.

US and European illustrative refining margins (US$/bl)



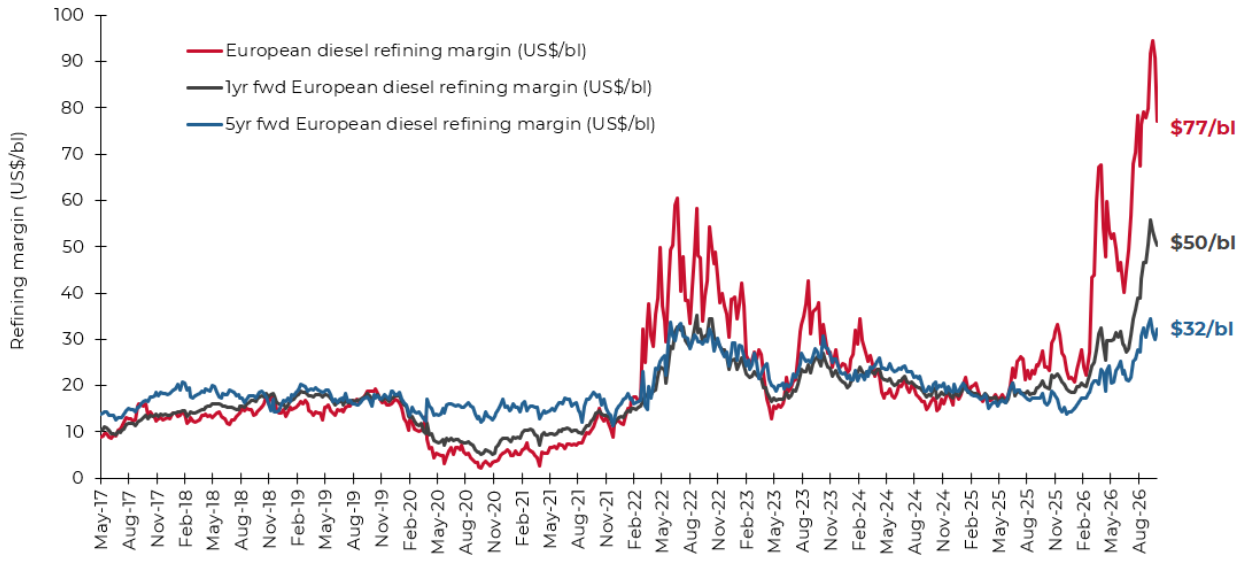
Source: Bloomberg. Data to 09.30.2026

In normal markets, refining margin strength would elicit an additional refining supply response. However, the current global refining system is close to its physical limits, with major Gulf and Russian facilities still disrupted and little new capacity due to come online. According to the IEA, global refinery throughput in August was still 4.2m b/day below a

year earlier. The US refinery system delivered record utilisation of 97.1% in August, but this can only be achieved temporarily, since pushing utilization too hard often increases the risk of equipment failure and outages.

Forward refining margins have also moved up sharply. One-year and five-year forward European refining margins are now two to three times their long-term average levels, suggesting that refiners may continue to benefit from elevated profitability into the end of the decade.

Current, 1yr forward and 5yr forward European diesel refining margins (US$/bl)



Source: Bloomberg. Data to 09.30.2026

Tanker rates up as fleet utilization suffers on Middle East supply workarounds

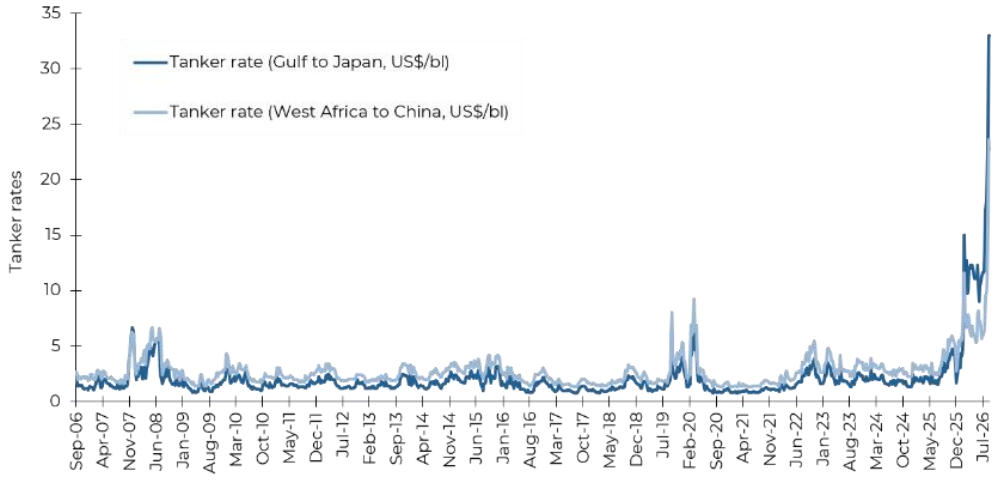
The other component of higher retail product prices in 2026 is the sharply higher cost of oil and product transportation. Inflation here stems from increased risk in the Gulf, shuttle tanker use around the Strait of Hormuz, and vessel rerouting away from the Red Sea.

Middle East exporters have increased exports by using smaller **shuttle tankers** to transit oil through the Strait, where it can then be loaded via ship-to-ship transfer in the Gulf of Oman onto VLCCs (very large crude carriers). Smaller tankers are being used because they are harder to target, easier to guide through the narrow waterway and cheaper to lose in the event of an attack. At the end of August, around 6m b/day was being exported this way. The drawback is that a full VLCC transfer now takes around five to six days rather than the usual 24-36 hours, creating queues outside the Strait and reducing effective global fleet availability.

A second factor is the **Houthi threat** to Saudi shipping through the Bab al-Mandeb Strait. To avoid this, Saudi Arabia has had to reroute vessels north through the Suez Canal and around the Cape of Good Hope to access Asian markets, broadly tripling the length of the usual export route to China and further reducing VLCC availability.

Crude oil and product tanker rates have therefore risen very sharply. Historically, a typical long-distance route has cost less than $3/bl and represented less than 5% of the landed cost of a barrel. Today, these journeys are costing more than $20/bl and, in some cases, more than $30/bl, making freight a major component of delivered crude and product prices.

Example oil tanker rates (US$/bl)



Source: Bloomberg. Data to 09.30.2026

Would a US diesel export ban help to reduce domestic prices?

Higher refining margins and tanker rates have been central to product price inflation in 2026, and record diesel prices have become an increasingly significant political problem in the US. The US produces approximately 5.1m b/day of diesel and exports around 1.2m b/day, principally to Latin America and Europe. The administration therefore raised the concept of a full or partial diesel export ban, arguing that retaining otherwise exported diesel would rebuild domestic inventories and allow US diesel prices to fall.

We think this analysis is too simple because the refining process produces more than diesel alone. A diesel export ban would probably cause diesel prices and refining margins to fall initially as surplus diesel became trapped in the domestic market. However, as storage filled, refiners would likely reduce throughput to avoid overfilling diesel tanks, **also reducing gasoline and jet fuel output**. Consequently, a diesel export ban could ultimately reduce the overall supply of refined products in the United States and tighten other product balances.

The international consequences would be more immediately inflationary. Europe would not be able to import diesel from a supplier representing one-fifth of global seaborne diesel trade, forcing it to bid harder for scarce cargoes. In reaction to the threat, the G7 committed on 2 October to release 100m barrels of oil and oil products over four months, prioritizing diesel. Alongside the announcement, Donald Trump ruled out a US diesel export ban.

The threat of a ban highlighted that the global refining and tanker systems are integrated networks operating close to capacity. Restricting trade in one product may reduce one regional price temporarily, but in a system this stretched, intervention is more likely to redistribute scarcity than eliminate it.

Review of the portfolio in Q3 2026

With these macro factors in mind, it is not surprising that downstream-oriented companies have been the key driver of fund performance over the quarter. The third quarter of 2026 saw strong absolute performance for energy equities with the MSCI World Energy Index returning 15.18% in USD and the Guinness Atkinson Global Energy Fund returning 15.02% in USD.

Buys/Sells

There were no stock switches during the month, but the portfolio was rebalanced.

Portfolio holdings

Our integrated and similar stock exposure is comprised of a mix of mid-cap, mid/large-cap and large-cap stocks. Our five large-caps are Chevron, BP, ExxonMobil, Shell and TotalEnergies. Mid/large and mid-caps are ENI, Equinor, GALP, Repsol and OMV. We also have three Canadian integrated holdings, Suncor, Cenovus and Imperial Oil. All three companies have significant exposure to oil sands in addition to downstream assets.

Our exploration and production (E&P) holdings give us exposure most directly to rising oil and natural gas prices. We include in this category non-integrated oil sands companies, as this is the GICS approach. The stock here with oil sands exposure is Canadian Natural Resources. The pure E&P stocks have a bias towards the US (EOG, Diamondback and Devon), with one other name (ConocoPhillips) having a mix of US and international production. One of the key metrics behind a number of the E&P stocks held is low enterprise value relative to proven reserves.

We have exposure to two emerging market stocks, Petrochina and Sinopec, which in total represent around 3% of the portfolio.

The portfolio contains four midstream holdings, Enbridge, Kinder Morgan, Williams Cos and TC Energy. These represent four of North America's largest pipeline companies. With the growth of hydrocarbon demand expected in the US and

Canada over the next five years, especially natural gas, we believe each company is well placed to execute its pipeline and energy infrastructure expansion plans.

We have reasonable exposure to oil service stocks, which comprise around 8% of the portfolio. The stocks we own provide exposure to both North American and international oil and natural gas development.

Our independent refining exposure is currently in the US in Valero, the largest of the US refiners. Valero has a reasonably large presence on the US Gulf Coast and is benefiting from a recovery in refining margins.

Outlook

Oil market

The table below illustrates the difference between the growth in world oil demand and non-OPEC supply since 2015:

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026E	2027E
												IEA	*IEA*
World Demand	***95.3***	***96.4***	***98.2***	***99.5***	***100.7***	***91.8***	***97.4***	***100.0***	***102.8***	***104.0***	***104.8***	***102.5***	***105.0***
Non-OPEC supply (inc NGLs)	*65.7*	*65.2*	*66.1*	*68.7*	*70.9*	*68.0*	*68.4*	*70.9*	*73.6*	*74.5*	*76.7*	*76.6*	*79.0*
OPEC NGLs	*4.5*	*4.6*	*4.7*	*4.8*	*4.5*	*4.5*	*4.6*	*4.7*	*4.6*	*4.6*	*4.8*	*3.5*	*4.5*
Non-OPEC supply plus OPEC NGLs	**70.2**	**69.8**	**70.8**	**73.5**	**75.4**	**72.5**	**73.0**	**75.6**	**78.2**	**79.1**	**81.5**	**80.1**	**83.5**
Call on OPEC (crude oil)	**25.1**	**26.6**	**27.4**	**26.0**	**25.3**	**19.3**	**24.4**	**24.4**	**24.6**	**24.9**	**23.3**	**22.4**	**21.5**
Congo supply adjustment	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3
Gabon supply adjustment	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Eq Guinea supply adjustment	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Call on OPEC-8 (crude oil)	**24.5**	**26.0**	**26.8**	**25.4**	**24.7**	**18.7**	**23.8**	**23.8**	**24.0**	**24.4**	**22.8**	**21.9**	**20.9**

Source: 2006 - 2014: IEA oil market reports; 2015 - 24: Feb 25 Oil market Report
OPEC-9 = Algeria; Iran; Iraq; Kuwait; Libya; Nigeria; Saudi Arabia; UAE; Venezuela

Source: Bloomberg; IEA; Guinness Atkinson, September 2026

Global oil demand in 2019 was 13m b/day higher than the pre-Financial Crisis (2007) peak. The demand picture for 2020, down by around 9m b/day, was heavily clouded by the impact of the COVID-19 virus and efforts to mitigate its spread. Demand rebounded between 2020 and 2025 by over 13m b/day, leaving overall consumption in 2025 4.3m b/day higher than the 2019 peak.

OPEC

The last few years have proved testing for OPEC. They have tried to keep prices strong enough that OPEC economies are not running excessive deficits, whilst not pushing the price too high and over-stimulating non-OPEC supply.

The effect of $100+/bl oil, enjoyed for most of the 2011-2014 period, emerged in 2014 in the form of an acceleration in US shale oil production and an acceleration in the number of large non-OPEC (ex US onshore) projects reaching production. OPEC met in late 2014 and responded to rising non-OPEC supply with a significant change in strategy to one that prioritised market share over price. Post the November 2014 meeting, OPEC not only maintained their quota but also raised production significantly, up by 2.5m b/day over the subsequent 18 months. This contributed to an oversupplied market in 2015 and 2016.

In late 2016, faced with sharply lower oil prices, OPEC stepped back from their market share stance, announcing plans for the first production cut since 2008. The announcement included a cut in production from Russia (a non-OPEC country), creating for the first time the concept of an OPEC+ group.

OPEC-8 oil production August 2026

('000 b/day)	31-Dec-19	31-Dec-25	31-Aug-26	Current vs Dec 2019	Current vs Dec 2025
Saudi	9,730	10,000	**6,980**	-2,750	-3,020
Iran	2,080	3,270	**2,410**	330	-860
Iraq	4,610	4,370	**2,980**	-1,630	-1,390
Kuwait	2,710	2,560	**1,850**	-860	-710
Nigeria	1,820	1,520	**1,610**	-210	90
Venezuela	730	900	**1,230**	500	330
Libya	1,110	1,320	**1,340**	230	20
Algeria	1,010	970	**1,000**	-10	30
OPEC-8	**23,800**	**24,910**	**19,400**	**-4,400**	**-5,510**

Source: Bloomberg; Guinness Atkinson, September 2026

The 2017-19 period continued to be volatile for OPEC, with further production cuts necessary to balance ongoing non-OPEC supply growth.

The challenge for OPEC+ then ballooned in 2020 with the onset of COVID around the world. Initially, OPEC and their non-OPEC partners failed to reach agreement around their response to demand from the spread of the virus, precipitating a fall-out between participants and a short-lived price war. In light of extreme oil market oversupply, OPEC and non-OPEC partners reconvened in April 2020 and confirmed a deal to cut their production by nearly 10m b/day.

In mid 2021, with demand largely recovered after COVID, the OPEC+ group agreed to taper their quota cuts until late 2022. The actions of OPEC through the pandemic gave us confidence that OPEC was looking to do 'what it takes' to

keep the market in balance, despite extreme challenges. Since the end of 2022, OPEC have adjusted their production to match closely the prevailing call on the group, while mindful that any loss of market share must not stretch too far.

Since the start of 2025, the group has increased quotas sharply, taking advantage of low inventories to bring its oil back to market. And now in 2026, OPEC must navigate its way through one of the most significant oil shocks in history, with a prolonged closure of the Strait of Hormuz.

OPEC-8 apparent production vs call on OPEC 2000 – 2026



Source: IEA Oil Market Report (September 2026 and prior); Guinness Atkinson estimates

OPEC's actions in recent years have generally demonstrated a commitment to delivering a reasonable oil price to satisfy their own economies but also to incentivise investment in long-term projects. Saudi's actions at the head of OPEC have been designed to achieve an oil price that to some extent closes their fiscal deficit (about $90/bl is needed to close the gap fully), whilst not spiking the oil price too high and over-stimulating non-OPEC supply.

In the shorter term, the COVID-19 and Russia/Ukraine crises have created particularly challenging conditions, adding to oil price volatility. Longer-term, we believe that Saudi seek a 'good' oil price, one that satisfies their fiscal needs. Overall, we reiterate two important criteria for Saudi:

1. Saudi is interested in the average price of oil that they get; they have a longer investment horizon than most other market participants.

2. Saudi wants to maintain a balance between global oil supply and demand to maintain a price that is acceptable to both producers and consumers.

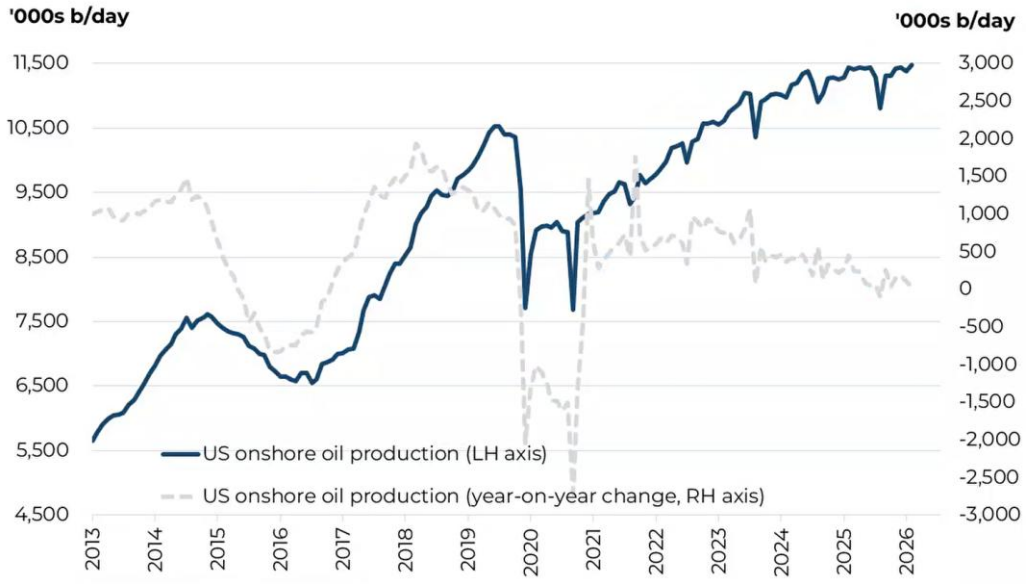
Nothing in the market in recent years has changed our view that OPEC can put a floor under the price – as they did in 2020, 2018, 2016, 2008, 2006, 2001 and 1998.

Supply looking forward

The non-OPEC world has, since the 2008 financial crisis, grown its production more meaningfully than in the period before 2008. The growth was 0.9% p.a. from 2001-2008, increasing to 1.7% p.a. from 2009-2025.

Growth in the non-OPEC region since the start of the last decade has been dominated by the development of shale oil and oil sands in North America (up around 8m b/day since 2010), implying that the rest of the non-OPEC region has seen limited growth over this period, despite the sustained high oil price until mid-2014.

US onshore oil production



Source: EIA; Guinness Atkinson, September 2026

The growth in US shale oil production, especially the Permian Basin, raises the question of how much more there is to come and at what price. Our assessment is that US shale oil is capital-intensive but some growth is viable, on average, at around $70 oil prices. In particular, there appears to be ample inventory in the Permian Basin to maintain volumes into the late-2020s. The rate of development is heavily dependent on the cashflow available to producing companies, and the underlying cost of services to drill and fracture the wells. Since 2019, we have seen increased shareholder pressure successfully applied to US E&P companies to improve their capital discipline and to cut their reinvestment rates.

The collapse in oil prices at the start of 2020 to a level well below $50/bl changed the landscape, with US E&P companies reducing capital spending further as they attempted to live within their cashflows. Shale oil production dropped by nearly 3m b/day in 2020 (peak to trough) and took nearly three years to recover to the previous peak of late 2019.

Non-OPEC supply growth outside the US has been sustained in recent years by a handful of major project additions, notably in Guyana and Brazil. Net growth remains sluggish, however, as much of the new oil has been required to offset natural declines in more mature basins.

Future demand

The IEA estimate that 2026 oil demand will be down by 2.5m b/day at 102.5m b/day, but still 1.8m b/day ahead of the 2019 pre-COVID peak. The IEA are forecasting demand to rebound by 2.5m b/day in 2027 to 105m b/day. We must note though that demand estimates are currently in flux, as the shortage of oil from the Middle East (US/Iran war) plays out.

In normal conditions, and post the COVID demand recovery, the world is settling back into annual oil demand growth of 0.5-1m b/day, led by increased use in the non-OECD region. China has been and continues to be a relevant – although no longer major – part of this growth and signs are emerging that India will also grow well.

The trajectory of global oil demand over the next few years will be a function of global GDP, the pace of the 'consumerization' of developing economies, the development of alternative fuels, and price. At $90/bl, the world oil bill as a percentage of GDP is around 2.9%, and this will still be a stimulant of further demand growth. If oil prices were in a higher range (say around $115/bl, representing 3.8% of GDP), we would probably return to the pattern established over the past five years, with a flatter picture in the OECD more than offset by growth in the non-OECD area. Flatter OECD demand reflects improving oil efficiency over time, dampened by economic, population and vehicle growth. Within the non-OECD, population growth and rising oil use per capita will both play a significant part.

We keep a close eye on developments in the 'new energy' vehicle fleet (electric vehicles; hybrids etc). Sales of electric vehicles (pure electric and plug-in hybrid electrics) globally were around 22m in 2025, up from 17.5m in 2024. We expect to see strong EV sales growth again in 2026, up to around 25.5m, exceeding 28% of total global sales. Even applying an aggressive growth rate to EV sales, we see EVs comprising only around 15% of the global car fleet by the end of 2030. Looking further ahead, we expect the penetration of EVs to accelerate, causing global gasoline demand to peak at some point in the middle of the 2020s. However, owing to the weight of oil demand that comes from sources other than passenger vehicles (around 75%), which we expect to continue growing linked to GDP, we expect total oil demand not to peak until the early 2030s.

Conclusions about oil

The following table summarizes our view by showing our oil price forecasts for WTI and Brent in 2026 versus recent history.

Average WTI & Brent yearly prices, and changes

Oil price ($/bl)	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Est 2025	Est 2026
WTI	75	72	100	62	80	95	94	98	93	49	43	51	65	57	39	68	94	78	76	65	85
Brent	75	73	99	63	80	111	112	109	99	54	45	55	72	64	43	71	99	83	81	69	90
Brent/WTI average	**75**	**73**	**99**	**62**	**80**	**103**	**103**	**103**	**96**	**51**	**44**	**53**	**68**	**61**	**41**	**70**	**97**	**80**	**78**	**67**	**88**
Brent/WTI y-on-y change (%)	15%	-3%	37%	-37%	28%	29%	0%	0%	-7%	-47%	-13%	19%	29%	-11%	-32%	68%	39%	-17%	-2%	-14%	31%
Brent/WTI (5yr MAV)	51	59	72	75	78	83	89	90	97	91	80	70	63	55	53	58	67	70	73	78	82

Source: Guinness Atkinson estimates, Bloomberg, September 2026

We believe that Saudi's long-term objective remains to maintain a 'good' oil price, something north of $80/bl. The world oil bill at around $80/bl represents 2.7% of 2024 global GDP, lower than the thirty-year average level of around 3%.

Natural gas market

On the demand side for the US, industrial gas demand and power generation gas demand (each about 25-35% of total US gas demand) are key. Commercial and residential demand, which make up a further quarter, have been fairly constant on average over the last decade – although yearly fluctuations due to the severity of winter weather can be marked.

US natural gas demand

Bcf/day	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026E
US natural gas demand:															
Residential/commercial	19.2	22.4	23.4	21.4	20.5	20.9	23.4	23.5	21.5	21.5	23.2	21.5	21.0	23.1	23.1
Power generation	24.9	22.3	22.3	26.5	27.3	25.3	29.0	30.9	31.7	30.9	33.1	35.3	36.7	35.8	36.6
Industrial	19.7	20.3	20.9	20.6	21.1	21.6	23.0	23.1	22.3	22.5	23.2	23.3	23.3	23.5	23.8
Pipeline exports (Mexico)	1.8	1.9	1.9	2.7	3.8	4.0	4.6	5.1	5.4	5.9	5.7	6.1	6.4	6.6	6.9
LNG exports	-	-	-	0.1	1.0	2.6	2.8	4.8	6.4	9.7	12.0	12.6	13.1	16.5	18.9
Pipeline/plant/other	6.1	6.7	6.3	6.5	6.4	6.5	7.0	7.8	7.7	7.8	7.4	8.2	7.9	7.9	8.3
Total demand	**71.7**	**73.6**	**74.8**	**77.8**	**80.1**	**80.9**	**89.8**	**95.2**	**95.0**	**98.3**	**104.6**	**107.0**	**108.4**	**113.4**	**117.6**
Demand growth	**3.1**	**1.9**	**1.2**	**3.0**	**2.3**	**0.8**	**8.9**	**5.4**	**- 0.2**	**3.3**	**6.3**	**2.4**	**1.4**	**5.0**	**4.2**

Source: EIA; GS; Guinness estimates, August 2026

Industrial demand (of which around 35% comes from petrochemicals) trends up and down depending on the strength of the economy and the differential between US and international gas prices. Electricity gas demand (i.e. power generation) is affected by weather, in particular by warm summers, which drive demand for air conditioning, but the underlying trend depends on GDP growth and the proportion of incremental new power generation each year that goes to natural gas versus the alternatives of coal, nuclear and renewables. Gas has been taking market share in this sector: in 2025 40% of electricity generation was powered by gas, up from 22% in 2007. The big loser here is coal, which has consistently given up market share.

Total gas demand in 2025 (including Mexican and LNG exports) was around 113.4 Bcf/day, up by 5.0 Bcf/day versus 2024 and ~18 Bcf/day higher than the pre-COVID level in 2019. The biggest contributor to the growth in demand in 2025 was LNG exports.

We expect US demand growth in 2026 of around 4.2 Bcf/day. Growth is expected to be driven by higher LNG exports and greater power generation demand. Beyond 2026, we expect to see a material increase in US LNG export capacity as higher international gas prices incentivise new LNG export investment. Proposed projects imply capacity growth of around 5-6 Bcf/day in 2026-2028, bringing total export capacity to over 20 Bcf/day by 2028.

US gas supply

Overall, while gas demand in the US has been strong over the past five years, it has been overshadowed by a rise in onshore supply, holding the gas price lower.

The supply side fundamentals for natural gas in the US are driven by three main moving parts: onshore and offshore domestic production, pipeline imports of gas from Canada, and LNG imports. Of these, onshore supply is the biggest component, making up over 90% of total supply.

US natural gas supply

Bcf/day	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026E
US natural gas supply:															
US (onshore & offshore)	65.7	66.3	70.9	74.2	73.4	73.6	84.3	91.4	91.1	91.8	97.4	102.5	101.8	106.5	110.6
Net imports (Canada)	5.4	5.0	4.9	4.9	5.5	5.8	5.4	4.7	4.4	5.1	5.6	5.2	5.8	5.8	5.7
LNG imports & other	0.8	0.6	0.5	0.5	0.4	0.3	0.1	0.1	-	-	0.1	-	0.6	0.6	0.9
Total supply	**71.9**	**71.9**	**76.3**	**79.6**	**79.3**	**79.7**	**89.8**	**96.2**	**95.5**	**96.9**	**103.1**	**107.7**	**108.2**	**112.9**	**117.2**
Supply growth	**2.4**	**-**	**4.4**	**3.3**	**- 0.3**	**0.4**	**10.1**	**6.4**	**- 0.7**	**1.4**	**6.2**	**4.6**	**0.5**	**4.7**	**4.3**
(Supply)/demand balance	**- 0.2**	**1.7**	**- 1.5**	**- 1.8**	**0.8**	**1.2**	**-**	**- 1.0**	**- 0.5**	**1.4**	**1.5**	**- 0.7**	**0.2**	**0.5**	**0.4**

Source: EIA; GS; Guinness Atkinson estimates, August 2026

Since 2010, the weaker gas price in the US reflects growing onshore US production driven by rising shale gas and associated gas production (a by-product of growing onshore US oil production). Interestingly, the overall rise in onshore production has come despite a collapse in the number of rigs drilling for gas, which has dropped from a 1,606 peak in September 2008 to a trough of 68 in July 2020, before recovering to 134 at the end of March 2026. However, offsetting the fall, the average productivity per rig has risen dramatically since 2020 as producers focus their attention on the most prolific shale basins, whilst associated gas from oil production has grown handsomely.

The outlook for gas production in the US depends on three key factors: the rise of associated gas (gas produced from wells classified as oil wells); expansion of the newer shale basins, principally the Marcellus/Utica, and the decline profile of legacy gas fields.

Associated gas production is expected to rise again in 2026 albeit at a slower pace (around 1 Bcf/day) than in 2022 (+5.5 Bcf/day) and 2023 (+3.6 Bcf/day). Lower supply growth is expected from onshore properties as weaker natural gas prices have brought a lower rig count and lower investment.

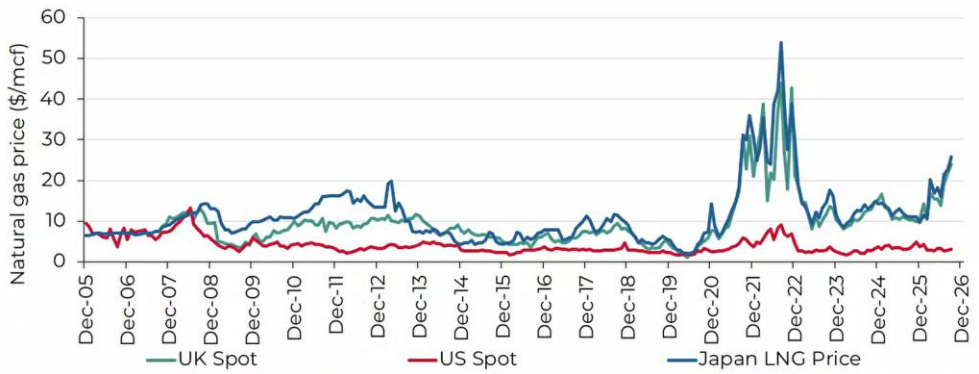
Outlook for US LNG exports – global gas arbitrage

In the short-term we have seen a spike in LNG prices, a response to Qatari natural gas being shut in behind the Strait of Hormuz. The duration of the blockage is unclear but, beyond this, we expect the LNG market is going to

be quite finely balanced over the next couple of years. In the event of moderate Chinese LNG demand and "normal" European winters, LNG supply and demand appear to be roughly in balance and global LNG prices appear to be fairly priced at around $10/Mcf. However, stronger Asian demand (including South Korea and Japan as well as China) or a colder than expected European winter could easily see LNG in tight supply and cause international gas prices spike, although it is unlikely that they revert to the $40-$50 levels seen in winter 2022-23.

Looking further ahead, we see international gas prices settling in a $9-$11/Mcf range. This price range should be sufficient to incentivize new US LNG supply to come online. It would also allow Europe to displace permanently almost all its Russian gas imports. An international gas price in the $9-11/Mcf is well down on the highs seen in 2022, but would leave the market at a higher price point than that seen in the few years prior to COVID and the Russian invasion of Ukraine.

Global gas prices

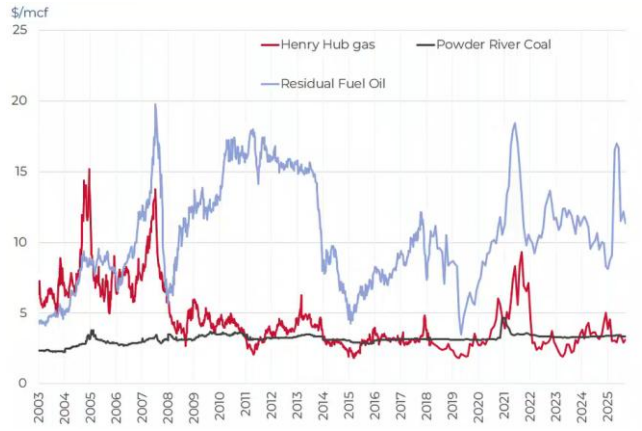


Source: Bloomberg; Guinness Atkinson, September 2026

Relationship with oil and coal

The following chart of the front month US natural gas price against heating oil (No 2), residual fuel oil (No 6) and coal (Sandy Barge adjusted for transport and environmental costs) seeks to illustrate how coal and residual fuel oil switching provide a floor and heating oil a ceiling to the natural gas price. When the gas price has traded below the coal price support level (2012 and 2016), resulting coal-to-gas switching for power generation was significant.

Natural gas versus substitutes (fuel oil and coal) - Henry Hub vs residual fuel oil, heating oil, Sandy Barge (adjusted) and Powder River coal (adjusted)



Source: Bloomberg; Guinness Atkinson, September 2026

Conclusions about US natural gas

The US natural gas price since 2010 has mainly fluctuated between $2 and $4/Mcf. The extremes of this range have tended to coincide with warm and cold winters, and any sustained recovery over $3.50/Mcf has generally been muted by strength in gas supply. With inflationary pressures, we estimate that new onshore supply has an incentive price of around $3.50/Mcf. Assuming normal weather in 2026, we expect a Henry Hub price at around this level.

Oil and gas markets historical context

Oil price (WTI $) since 1989



Source: Bloomberg, August 2026

For the oil market, the period since the Iraq/Kuwait war (1990/91) can be divided into four distinct periods:

1990-1998: broadly characterized by decline. The oil price steadily weakened 1991 – 1993, rallied between 1994 – 1996, and then sold off sharply, to test 20-year lows in late 1998. This latter decline was partly induced by a sharp contraction in demand growth from Asia, associated with the Asian crisis, partly by a rapid recovery in Iraq exports after the UN Oil for food deal, and partly by a perceived lack of discipline at OPEC in coping with these developments.

1998-2014: a much stronger price and upward trend. There was a very strong rally between 1999 and 2000 as OPEC implemented 4m b/day of production cuts. It was followed by a period of weakness caused by the rollback of these cuts, coinciding with the world economic slowdown, which reduced demand growth and a recovery in Russian exports from depressed levels in the mid 90's that increased supply. OPEC responded rapidly to this during 2001 and reintroduced production cuts that stabilized the market relatively quickly by the end of 2001.

Then, in late 2002 early 2003, war in Iraq and a general strike in Venezuela caused the price to spike upward. This was quickly followed by a sharp sell-off due to the swift capture of Iraq's Southern oil fields by Allied Forces and expectation that they would win easily. Then higher prices were generated when the anticipated recovery in Iraq production was slow to materialize. This was in mid to end 2003 followed by a much more normal phase with positive factors (China demand; Venezuelan production difficulties; strong world economy) balanced against negative ones (Iraq back to 2.5 m b/day; 2Q seasonal demand weakness) with stock levels and speculative activity needing to be monitored closely. OPEC's management skills appeared likely to be the critical determinant in this environment.

By mid-2004 the market had become unsettled by the deteriorating security situation in Iraq and Saudi Arabia and increasingly impressed by the regular upgrades in IEA forecasts of near record world oil demand growth in 2004 caused by a triple demand shock from strong demand simultaneously from China; the developed world (esp. USA)

and Asia ex China. Higher production by OPEC has been one response and there was for a period some worry that this, if not curbed, together with demand and supply responses to higher prices, would cause an oil price sell off. Offsetting this has been an opposite worry that non-OPEC production could be within a decade of peaking; a growing view that OPEC would defend $50 oil vigorously; upwards pressure on inventory levels from a move from JIT (just in time) to JIC (just in case); and pressure on futures markets from commodity fund investors.

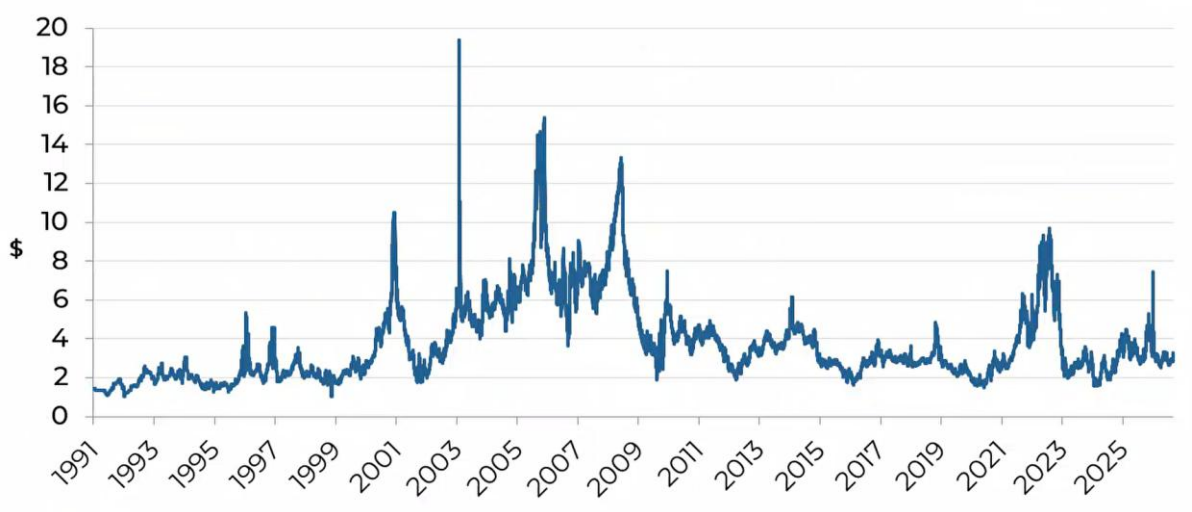
Continued expectations of a supply crunch by the end of the decade, coupled with increased speculative activity in oil markets, contributed to the oil price **surging** past $90 in the final months of 2007 and as high as $147 by the middle of 2008. This spike was brought to an abrupt end by the collapse of Lehman Brothers and the financial crisis and recession that followed, all of which contributed to the oil price falling back by early 2009 to just above $30. OPEC responded decisively and reduced output, helping the price to recover in 2009 and stabilize in the $70-95 range where it remained for two years.

Prices during 2011-2014 moved higher, averaging around $100, though WTI generally traded lower than Brent oil benchmarks due to US domestic oversupply affecting WTI. During this period, US unconventional oil supply grew strongly, but was offset by the pressures of rising non-OECD demand and supply tensions in the Middle East/North Africa.

2014-2020: a further downcycle in oil. Ten years of high prices leading up to 2014 catalyzed a wall of new non-OPEC supply, sufficient that OPEC saw no choice but to stop supporting price and re-set the investment cycle. Oil prices found a bottom in 2016 (as a result of OPEC and non-OPEC partners cutting production again), but its recovery was capped by the volume of new supply still coming into the market from projects sanctioned pre the 2014 price crash. Average prices were pinned 2017-19 in the $50-70/bl range, with prices at the top end of this range stimulating oversupply from US shale. The alliance between OPEC and non-OPEC partners fell apart briefly in March 2020 and, coupled with an unprecedented collapse in demand owing to the COVID-19 crisis, oil prices dropped back below $30/bl, before recovering to around $50/bl by the end of 2020 thanks to renewed OPEC+ action.

2021 onwards: The period since 2021 has been characterized by a reasonable well supplied oil market, overlaid with two significant energy shocks that have reinforced volatility and the importance of geopolitical risk. The first major shock came in 2022 with Russia's invasion of Ukraine. This event triggered a sharp repricing of oil, with prices moving above $100/bl as sanctions and trade **dislocations** disrupted established flows. The market was forced to rapidly reconfigure, with Russian crude redirected to new buyers and global inventories drawn down. The second shock emerged more recently with escalating conflict in the Middle East. Given the region's central role in global supply and spare capacity, the situation has heightened concerns around potential disruptions to key export routes and production hubs.

North American gas price since 1991 (Henry Hub $/Mcf)



Source: Bloomberg, August 2026

With regard to the US natural gas market, the price traded between $1.50 and $3/Mcf for the period 1991 - 1999. The 2000s were a more volatile period for the gas price, with several spikes over $8/Mcf, but each lasting less than 12 months. On each occasion, the price spike induced a spurt of drilling which brought the price back down. Excepting these spikes, from 2004 to 2008, the price generally traded in the $5-8 range. Since 2008, the price has averaged below $4 as progress achieved in 2007-8 in developing shale plays boosted supply while the 2008-09 recession cut demand. Demand has been extremely strong over the last decade but this has been outpaced by continued growth in onshore production, driven by the prolific Marcellus/Utica field and associated gas as a by-product of shale oil production.

North American gas prices are important to many E&P companies. In the short term, they do not necessarily move in line with the oil price, as the gas market is essentially a local one. (In theory 6 Mcf of gas is equivalent to 1 barrel of oil so $60 per barrel equals $10/Mcf gas). It remains a regional market more than a global market, though the development of the LNG industry is creating a greater linkage.

Performance

The main index of oil and gas equities, the MSCI World Energy Index (net return), fell by 2.2% in September, while the broader equity market, as measured by the MSCI World Index (net return), fell by 1.2% in USD.

Within the Fund, the strongest performers were Valero Energy Repsol, BP, Shell and Galp Energia while the weakest performers were Hornbeck Offshore Services, Schlumberger, Baker Hughes, Halliburton and Williams Cos.

As of 9/30/2026	YTD	1 Year	3 Years	5 Years	10 Years
GAGEX	38.63%	42.01%	14.81%	17.87%	7.37%
MSCI World Index NR	11.75%	15.24%	21.38%	11.88%	12.80%
MSCI World Energy NR	36.50%	39.26%	15.06%	19.95%	9.21%

All returns after 1 year annualized.

Inception 06.30.2004 Expense ratio* 1.47% (net); 2.27% (gross)

Performance data quoted represents past performance; past performance does not guarantee future results. The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance of the Fund may be lower or higher than the performance quoted. Performance data current to the most recent month end may be obtained by visiting www.gafunds.com or calling 800-915-6566.

* The Advisor has contractually agreed to reduce its fees and/or pay Fund expenses (excluding Acquired Fund Fees and Expenses, interest, taxes, dividends on short positions and extraordinary expenses) in order to limit the Fund's Total Annual Operating Expenses to 1.45% through June 30, 2029. To the extent that the Advisor absorbs expenses to satisfy this cap, it may recoup a portion or all of such amounts absorbed at any time within three fiscal years after the fiscal year in which such amounts were waived or absorbed, subject to the expense cap in place at the time recoupment is sought, which cannot exceed the expense cap at the time of the waiver. The expense limitation agreement may be terminated by the Board of the Fund at any time without penalty upon 60 days' notice.

Top 10 Fund Holdings as of 9/30/26:

1.	ExxonMobil Holdings Corp	5.50%
2.	Shell PLC	4.97%
3.	Chevron Corp	4.96%
4.	Valero Energy Corp	4.96%
5.	BP PLC	4.69%
6.	TotalEnergies SE	4.66%
7.	ConocoPhillips	4.42%
8.	Repsol SA	4.23%
9.	Cenovus Energy Inc	4.05%
10.	Suncor Energy Inc	4.03%

MSCI World Energy Index is designed to capture the large and mid cap segments across 23 Developed Markets countries. All securities in the index are classified in the Energy sector as per the Global Industry Classification Standard.

MSCI World Index captures large and mid cap representation across 23 Developed Markets countries. With 1,546 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

The MSCI World Index (Net Return) measures the performance of large and mid-sized companies across 23 Developed Markets countries. It reflects both share price movements and dividends, with dividends reinvested after accounting for local withholding taxes.

Brent Crude is the price benchmark used for the light oil market in Europe, Africa, and the Middle East, originating from oil fields in the North Sea between the Shetland Islands and Norway.

West Texas Intermediate (WTI) is the price benchmark for the US light oil market and is sourced from US oil fields.

Short futures position in oil is when a trader sells an oils future contract in the belief that the price of oil will decrease before the contract expires.

Organization for Economic Cooperation and Development (OECD) is an intergovernmental organization with 38 member countries meant to stimulate economic progress and world trade.

OPEC+, or the Organization of the Petroleum Exporting Countries Plus, is a loosely affiliated entity consisting of 12 OPEC members and 10 of the world's major non-OPEC (e.g., Russia, Kazakhstan, Mexico, Oman, Malaysia) oil-exporting nations.

Henry Hub is a natural gas pipeline located in Erath, Louisiana, that serves as the official delivery location for futures contracts on the New York Mercantile Exchange (NYMEX).

The International Energy Agency (IEA) is an international intergovernmental organization based in Paris that was established in 1974. Its stated mandate is to maintain the stability of the international oil supply, although its mission has expanded to emphasize the promotion of renewable energy sources.

Return on capital employed is a financial ratio that measures a company's profitability in terms of all of its capital.

Free cash flow yield is a solvency ratio that measures free cash flow per share against the market value per share. A high free cash flow yield indicates a company can easily meet its debt obligations and provide returns to shareholders.

Fund holdings and/or sector allocations are subject to change at any time and are not recommendations to buy or sell any security.

One cannot invest directly in an index.

Earnings Growth is not a measure of future performance.

Opinions expressed are subject to change, are not guaranteed and should not be considered investment advice.

The Guinness Atkinson Global Energy Fund's investment objectives, risks, charges and expenses must be considered carefully before investing. The statutory and summary prospectuses contain this and other important information and can be obtained by calling 800- 915-6565 or visiting www.gafunds.com. Read and consider it carefully before investing.

The Fund invests in foreign securities which will involve greater volatility and political, economic and currency risks and difference in accounting methods. The risks are greater for investments in emerging markets. The Fund also invests in smaller and mid-cap companies, which will involve additional risks such as limited liquidity and greater volatility than larger companies. The Fund's focus on the energy sector to the exclusion of other sectors exposes the Fund to greater market risk and potential monetary losses than if the Fund's assets were diversified among various sectors.

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