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ENERGY INTELLIGENCE **FINANCE**®

CONTENTS

OUR TAKE

Selling 'Energy Good, Emissions Bad'

Last week's Energy Intelligence Forum in London should quiet concerns that the current energy crisis has taken the oil and gas industry's eye off the decarbonization ball. But successfully convincing policymakers, investors and broader society that the sector offers viable solutions to global climate and energy goals will require a faster shift toward tangible investments and demonstrated improvements in emissions than has been delivered to date, in our view. And even this won't erase the reality that oil and gas production ultimately needs to decline.

- Near-term energy security needs have not undone the industry's commitment to decarbonization. The conference saw state and private producers stress how incremental oil and gas investment is being paired with efforts to cut flaring and methane leaks, electrify operations, incorporate carbon capture and storage (CCS), introduce flexible "green" infrastructure and/or favor suppliers who are also decarbonizing. The impetus remains long-term resiliency: No matter how small or large future oil and gas demand might be, lower-carbon, lower-cost supplies have the greatest chance of maintaining market share.

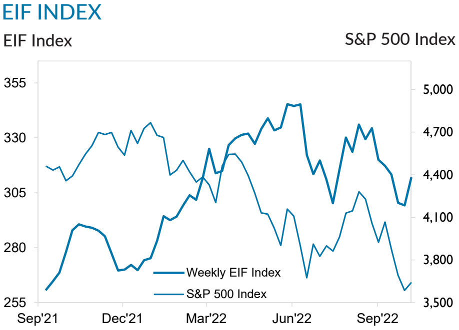
- Skepticism of viable oil and gas decarbonization nevertheless remains widespread and presents significant risks to the industry's future access to (and cost of) capital and asset valuations. After all, decarbonization here is limited to Scope 1-2 (operational) emissions barring widespread deployment of direct air capture, keeping oil and gas a higher emitting alternative to renewables.

- Still, energy realities have presented the industry with a fresh — and arguably final — opportunity to convince on credibility as a viable decarbonization contributor. The lead time required to fully transition away from fossil fuels means decarbonization of oil and gas is both supportive of and imperative to global climate goals. In particular, a more nuanced view has emerged in some corners of capital markets, speakers and delegates said, with financing increasingly available to oil and gas this decade if tangible decarbonization plans are attached and concrete emissions reductions are demonstrated.

- Yet oil and gas decarbonization needs to move faster, in our view. This isn't to say the industry is off track from stated plans. Rather, its credibility faces inherent risks in the naturally slow pace it takes to demonstrate emissions improvements on a sustained basis. Needle-moving industry decarbonization solutions, led by CCS and hydrogen, remain largely conceptual. Credibility comes from shifting from MOU to FID. The industry's reputation isn't on the line for what it can promise for 2050. It's on the line for what it can deliver in 2025 and 2030.

- That said, the industry must also understand that the "energy good, emissions bad" debate, as Baker Hughes' Lorenzo Simonelli put it, ultimately favors renewables over oil and gas no matter how decarbonized operations become. Decarbonization will provide oil and gas a more supportive role in a climate-conscious energy mix. But it cannot preserve the status quo.

EIF INDEX



EIF Global Oil and Gas Index of 22 traded equities

CORPORATE STRATEGY

Q&A: No Red Lines for Woodside in Portfolio Review

Australian independent Woodside Energy has announced a strategic review of its portfolio following its $40 billion acquisition of BHP Petroleum. In an interview on the sidelines of the Energy Intelligence Forum in London, Woodside CEO Meg O'Neill says the company won't draw red lines around certain types of assets and discusses its plans to monetize carbon capture and storage (CCS). An edited transcript follows.

Q: What is the rationale behind the strategic review?

A: We have just completed a merger with BHP Petroleum, so we have a set of assets with the combined company that is bigger than what either company separately held. So, the purpose is to understand what do we have, how do things fit together, what does the shape of the business look like going forward, and where do we want to go from here? We've already communicated that we're going to withdraw from the Orphan Basin exploration, offshore eastern Canada. A very quick outcome from the review was it doesn't look like that's going to fit with us.

Q: Where do you set the red line in terms of what assets are not going to fit Woodside's portfolio anymore?

A: We don't redline. I think it's always a dangerous practice to say I will or won't do a certain thing quite emphatically. We just need to take a look at how things fit together. We have a very significant Australian position, a very big LNG position. We have got a few offshore facilities, a big position in the Bass Strait. In the Gulf of Mexico, we have got three significant assets, all of which have ongoing running room. Trinidad is probably a smaller business, but we've got the Calypso gas discovery there. It is a country that really is very supportive of oil and gas development. There's an existing LNG facility with ullage. There's a strong domestic network or domestic industry for things like ammonia, which is one of the products that we're interested in starting to produce. So, I think the portfolio is in really good shape.

Q: Is a divestment of Sunrise in the cards following recent statements made by the president of East Timor?

A: Sunrise is an important asset. It's an asset Woodside has held for a very long time. We're actually very pleased thatthe government of Timor-Leste is trying to restart the conversation and raise the profile of the opportunity. Since the Maritime Boundary Treaty was agreed, we've been working with the two governments involved on trying to negotiate a PSC [production-sharing contract]. To be frank, that's been going slowly. So, the recent level of energy from the Timor-Leste government has been very effective in terms of getting a bit more momentum in that process. So, we are working to complete the discussions on the PSC, come to that agreement and then we will be able to figure out what's the right development concept going forward.

Q: Woodside recently secured some acreage offshore Australia. Is CCS part of the review in terms of growth opportunities?

A: We are starting with CCS in our backyard because that's where we know the opportunity. We know the reservoirs. We have got facilities for a couple of the areas. Browse, for example, which is one of our gas opportunities with 10% reservoir CO_2. We are doing the technical work to get comfortable with CCS to manage that reservoir CO_2. But I think we will be open to looking at other parts of the world. The US is a big market, [has a] long history in oil and gas, long history in CCS. So, I would expect we will be looking at that, but the focus in the near term is Australia.

Q: As part of Woodside's CCS strategy, there is the idea that CO_2 is going to be a commodity and that you can sell storage capacity to generate new revenue. What do you need exactly for that to work?

A: If you're economically rational, a price on carbon would be the clearest way for people to make decisions in this space. Absent a price on carbon, and many nations find that a politically difficult decision to make, it comes down to working on business to business on their own decarbonization commitments. We recognize for CCS as a service to be attractive, it has to be cost competitive against other alternatives which today would be carbon credits or the carbon market. So that's exactly what we're working towards.

Q: How is the conversation going with potential clients to secure the CO_2 feedstock?

A: Customers need to make investments on their side to capture CO_2. Depending on where they are, they may need to make arrangements for the transportation of CO_2. As they're doing the cost stack, there is the capture of emissions, transport and then pay a service fee. What we can control is the work that we do to design the facility to drive that service fee down as low as we possibly can. We're having those conversations with customers around what does the total need to be? Then we can decide, is there a role for government to support this kind of new industry? Because while CCS has been done in the US for 50 years, doing CCS as a service is a new business model. Ultimately, what makes it attractive for a customer is to bring down the cost per ton and the way you do that is to get the tons up. So securing more feedstock.

Q: Your company's final environmental report for the proposed Browse gas project off Western Australia says CCS does not form "part of the referred proposed action." What are Woodside's plans?

A: We've been working on our environmental approvals for over three years and our CCS work has only been under way for probably a year and a little bit. So, we need to close out the work that we've been doing to date, but there are processes to work with the government to change things after those initial approvals have been granted. So even in the initial application, it said that we would retain space on the FPSO [floating production, storage and offloading unit] to retrofit for CCS. So, it has always been in part of the design. It wasn't intended though when we filed those applications that we would have CCS to start up, but we always had space on the FPSO. So, we had the facilities, through the turret to be able to do CCS locally at a point in time where we felt it was appropriate. Now with the passage of time, we've been able to mature the work on understanding the costs and the economic impact and we've got a greater level of confidence now than we had at that point in time.

Q: How is the current gas-price environment impacting your views on the share of contracted versus uncontracted LNG volumes?

A: Following the merger with BHP Petroleum, about 30% of our production is oil, whereas before we were 15% oil. A lot of LNG contracts are sold with oil indexation. So, it is an open question for us, and our treasury and marketing teams are working through exactly that question of: when we start having contracts come off and have uncontracted volumes available, how much do we want to be able to sell on gas price markers? We don't have an answer yet, but we hope to have a bit more light on that topic by the end of the year.

Marc Roussot, London

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INDUSTRY TREND

Europe Gets to Grips With Margin Call Threat

- *Russia's invasion of Ukraine caught energy companies off guard in terms of their exposure to sudden, sharp swings in energy prices.*
- *German utilities were mired in deep trouble amid skyrocketing gas prices but even cash-rich corporates like TotalEnergies and Equinor have raised the margin call issue.*
- *Trading houses say market participants are reducing their hedging and speculative trades and focusing more on physical business.*

The Issue

The fragility of energy markets in the era of volatility, particularly in Europe, is being reflected in the proliferation of margin calls in derivatives trading, where buyers or sellers of a commodity are asked to deposit more cash to cover their positions in case of unexpected price swings.

The diversion of more funds into margins has, in turn, caused liquidity to dry up on commodity exchanges and could potentially freeze up markets altogether. However, companies are growing wise to the risks at play and the consensus view is that the situation is manageable. In extreme cases, governments will likely step in to avert a meltdown, as Germany did in July when it gave utility Uniper a €15 billion ($15 billion) bailout.

'Boss, We Need $8 Billion'

In Europe, where gas prices have soared to record highs amid disruption to Russian supplies, the margin call phenomenon has reached a critical mass. Helge Haugane, vice president for gas and power at Equinor, put the total size of margin calls that European gas and power markets are facing at around €1.5 trillion.

Yet before Russia's invasion of Ukraine, the market was actually working very well, Total CEO Patrick Pouyanne told the Energy Intelligence Forum last week. "The mistake we have probably [made] is not to test the stress." He said the rise in margin calls from Total's European counterparties had made things "difficult to manage" and caused liquidity problems.

As an example of how big the issue has become, Pouyanne said one evening he received a call for $8 billion from his trading team. While this was "no problem" to find for a company of Total's size, "the next day they were in my office and we said 'let's take action — no more,'" the CEO added.

One European energy executive working in derivatives said the $8 billion call "sounded like a big number, but not a huge number. We've seen numbers that we've never seen before."

Organizations with easy access to large amounts of flexible cash will be able to manage the margin call issue, the executive said. "But some of those marketing-type businesses that aren't used to needing that cash flexibility — they probably don't have the lines set up to service these kinds of swings."

Germans on the Spot

Germany has unsurprisingly borne the brunt of the liquidity problems given its position as Europe's most exposed country to Russian gas. Utility Uniper — which was Germany's largest importer of Russian gas until Gazprom curtailed supplies — provides a vivid case of the damage that a sudden spike in prices can inflict on a company's balance sheet.

In August, the company reported a net loss of more than €12 billion for the first half of the year, as it was forced to pay eye-watering prices on the gas spot market to replace the lost Russian volumes. The German government's initial bailout of Uniper proved insufficient and, after the company asked for an additional capital injection of €8 billion, negotiations are under way for Berlin to acquire Uniper from its Finnish owner, Fortum, in a de facto nationalization.

Another German utility that is heavily exposed to the price volatility, RWE, has fared better and appears determined to avoid a government bailout. The company says it has three syndicated loans worth some €8 billion to cover forward transactions, while in neighboring Poland top gas importer PGNIG, which was also heavily dependent on Russian supplies, has up to $12 billion in state guarantees to help out with future liquidity.

Just "two or three" companies in Germany are struggling with their balance sheets, but "most other people's businesses are intact and probably doing OK — they are just short of that margin liquidity," said Vitol CEO Russell Hardy. He said banks, other financial institutions and governments had provided "good support" across Europe.

Pouyanne agreed that the issue was not insurmountable. He recommended that the European Central Bank or individual states should step up as guarantor of last resort. "If they do that, immediately, you bring back some liquidity in the market," he told delegates.

Exiting in Better Shape

The big commodity trading houses like Vitol are philosophical about the danger posed by margin calls, having learned through experience how to deal with them. "People have had time to sort this problem out and I think the larger players in the industry exit this liquidity issue in better shape than they were before," said Trafigura's co-head of oil trading, Ben Luckock. As part of their daily risk metrics, people are now asking themselves "what could go wrong?" he added, cautioning that there could be more price spikes ahead.

Torbjorn Tornqvist, CEO of Swiss energy trader Gunvor, said there had been a drop in speculative trades and a bigger focus on the physical side of the business due to the "vicious circle" of price volatility and margin calls. In an interview with Energy Intelligence on the sidelines of the Forum, Tornqvist said Gunvor had adapted its business model to cope with the extra volatility and was itself doing much more physical trade.

As for other companies, the European energy executive working in derivatives said negotiating more flexible credit lines with lenders was one way to address the margin call issue, while another would be to find hedge providers that don't require margin calls, even if it means paying more for the transactional side of a hedge book.

"I wouldn't dash to the conclusion that hedging is the wrong thing to do," the executive said. "Stopping hedging can be a pretty scary option for some business models."

Paul Sampson, London

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CORPORATE STRATEGY

Shell Fails to Capture Fullness of Gas Price Boom

The Issue

Shell last week signaled that its gas trading business underperformed yet again in the third quarter despite bumper prices, sending its share price down as much as 5%. The world's top LNG trader remains bullish on its ability to drive differentiated profitability from its massive — and growing — portfolio. But it has yet to consistently crack the code on how to do so.

Where Art Thou Trading Advantage?

So much for volatility being a good thing for traders. Shell's guidance for third-quarter liquefaction volumes (6.9 million-7.5 million tons) and gas production volumes (890,000-940,000 barrels of oil equivalent per day) was left unchanged, but it warned that its trading and optimization results for Integrated Gas were expected to be "significantly lower" compared to the second quarter. Without quantifying the impact, Shell attributed the decline to "seasonality and substantial differences between paper and physical realization in a volatile and dislocated market."

The UK-based major could justifiably point to its derecognition of Sakhalin-2 volumes and two months of industrial action at its Prelude floating LNG project in Australia as not being optimal for trading.

This was also a Northern Hemisphere summer like no other, as uncertainty over Russian supply left Europe chasing all the LNG it could get. But the idea that market volatility caused results to underperform runs counter to the adage that traders thrive on volatility and perform best when market dislocations present opportunities to tap flexible portfolios.

That's not to say that Shell has been incapable of turning its industry-leading LNG trading operation — which sold 64.2 million tons of the superchilled fuel last year — into an earnings-boosting business. Trading helped propel Shell's Integrated Gas unit earnings to their highest levels in eight years in the fourth quarter of 2021 in what then-CFO Jessica Uhl called "an absolute standout quarter for [Shell's] LNG business."

But the picture has been rockier than expected this side of the 2020 downturn, with Shell's Integrated Gas unit more often than not missing earnings estimates amid declining volumes.

It is something the major will need to iron out in part through greater asset reliability — Prelude and Gorgon have been particular problem children of late — and as it adds new supply points in places like Canada and the US.

Mind the Gap

Not every gas business looks and operates alike across the major international oil companies, but Shell's gas trading performance was all the more surprising given the much stronger pricing its peers seemed capable of capturing.

BP and TotalEnergies have yet to issue trading updates, but Exxon Mobil said it expected stronger natural gas prices to bring it a gain of $1.8 billion-$2.2 billion in July-September relative to the second quarter. It separately flagged a seasonal impact of up to $100 million, also it is not yet clear if that will be positive or negative. Shell's update on gas was a "disappointment," analysts at Scotiabank wrote in a note, "especially right after [Exxon's] positive update on natural gas capture."

The US major was not alone. Equinor's average internal gas price in the third quarter was a record $42.34 per million Btu, up from $25.53/MMBtu in April-June.

The Norwegian major added that "historically high" spreads within the European gas and power markets would enable its marketing, midstream and processing division to post adjusted earnings "well above the high end of the guided range" of $250 million-$500 million. Furthermore, derivatives trading for gas-contract risk management is set to bring a further gain of $200 million-$500 million.

Austria's OMV was another to have a good quarter in derivatives, saying that "positive cash-flow effects" from gas exchange trading were expected to offset to much of the outflows directed toward injecting gas into storage.

Playing the Long Game

Shell's executive vice president of LNG, Cederic Cremers, was quick to downplay the weak gas performance, telling reporters on the sidelines of the Energy Intelligence Forum in London last week that it was a "particular quarter" rather than a long-term trend. "I don't think I can predict the prices for LNG. But if you look at the long term over an annual basis, our profitability of LNG remains one of the cornerstones of our company and an extremely important part ... that we will continue to invest in," he added.

Looking ahead, portfolio players like Shell will be able to do what European countries like Germany don't appear willing to do — take on long-term commitments of buying US LNG, Cremers told the Forum. Germany and others are struggling to reconcile their near-term needs for non-Russian gas with a desire to preserve long-term climate goals, stunting their appetite for contracts that extend beyond this decade. That's where companies like Shell can step in since they can sell flexible US cargoes to Europe so long as the gas is needed before pivoting supplies to longer-term growth markets in Asia.

So far this year, only 25% of US LNG has been contracted by European end-users and another 25% by Chinese end-users, Cremers said, adding that the rest had been snapped up by portfolio players. Noting that Shell will seek to keep a 50-50 split between LNG volumes sourced from its own liquefaction plants and from third parties, he explained that Shell's booking of regasification capacity in Europe — such as at the Eemshaven terminal in the Netherlands — would help bring in more gas.

One problem to this plan, however, is that European governments haven't been ringing the phones of Shell or Total, executives said. The reason cited was a lack of understanding of how global LNG markets work. Shell and others may need to incorporate an education campaign into their trading and marketing plans.

Tom Daly, London

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ENERGY AND EQUITY MARKET DATA For the week ended Oct 7, 2022

EIF GLOBAL INDEX COMPONENTS*

	Close Oct 7	1-Wk Chg.	% Chg. 1-Wk	52-Wk	YTD
Petrobras-3 (spse)	7.20	+1.09	+17.88	+82.33	+88.94
Petrobras-4 (spse)	6.47	+0.96	+17.54	+64.26	+88.94
Suncor (tse)	32.79	+4.65	+16.53	+46.91	+30.88
Exxon Mobil (nyse)	101.03	+13.72	+15.71	+66.55	+65.11
Ecopetrol (bvc)	0.51	+0.06	+12.58	-33.11	-23.36
Chevron (nyse)	160.03	+16.36	+11.39	+51.43	+36.37
Equinor (osl)	35.65	+2.74	+8.32	+41.50	+33.07
TotalEnergies (par)	51.24	+3.93	+8.31	+3.90	+0.99
Eni (mise)	11.53	+0.84	+7.88	-13.83	-16.98
BP (lse)	5.20	+0.37	+7.57	+10.74	+16.29
CNOOC-H (sehk)	1.26	+0.06	+5.21	+22.65	+35.37
PetroChina-H (sehk)	0.43	+0.02	+4.97	-17.03	-3.26
ONGC (bse)	1.62	+0.06	+4.00	-24.51	-15.33
Shell (lse)	26.00	+0.93	+3.70	+14.16	+18.49
Rosneft (mos)	4.53	+0.12	+2.70	-49.57	-43.72
Sinopec-H (sehk)	0.44	+0.01	+2.38	-16.14	-5.61
Reliance Industries (bse)	29.38	+0.21	+0.72	-14.55	-7.61
Saudi Aramco (sse)	9.58	+0.03	+0.36	+6.37	+10.49
Sinopec-S (sesh)	0.42	0.00	0.00	-36.47	-36.19
Lukoil (mos)	65.72	-0.28	-0.42	-33.91	-25.42
EIF Global Index	326.64	+13.08	+4.17	+13.42	+12.57

*Converted US$/share.

INDEXES

Equity Indexes	Close Oct 7	1-Wk Chg.	% Chg. 1-Wk	52-Wk	YTD
DJIA	29,296.79	+571.28	+1.99	-15.70	-19.38
S&P 500	3,639.66	+54.04	+1.51	-17.28	-23.64
FTSE 100	6,991.09	+97.28	+1.41	-1.23	-5.33
FTSE All-World	671.22	+11.76	+1.78	-20.90	-25.25
EIF Global	326.64	+13.08	+4.17	+13.42	+12.57
S&P Global Oil	1,744.34	+161.51	+10.20	+9.67	+12.37
FT Oil, Gas & Coal	8,180.26	+433.41	+5.59	+37.60	+42.81
TSE Oil & Gas	2,861.14	+225.65	+8.56	+27.14	+25.57
Emerging Markets					
Hang Seng Energy (HK)	22,562.71	+913.91	+4.22	+20.99	+34.25
BSE Oil & Gas (India)	18,674.56	+115.45	+0.62	-1.19	+6.66
RTS Oil & Gas (Russia)	+166.94	-7.70	-4.41	-37.03	-29.81

COMMODITY PRICES

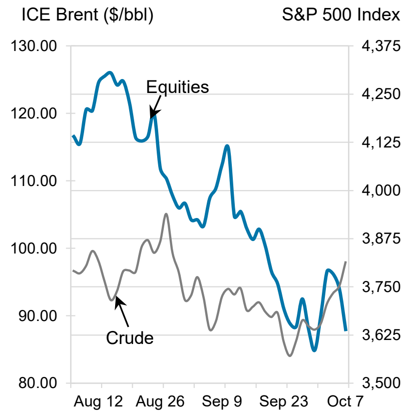
	Close Oct 7	1-Wk Chg.	% Chg. 1-Wk	52-Wk	YTD
Dated Brent	99.51	+10.61	+11.93	+20.71	+28.67
Brent 1st ICE	97.92	+12.78	+15.01	+19.49	+25.89
WTI 1st (Nymex)	92.64	+13.15	+16.54	+18.31	+23.18
Oman 1st (DME)	97.62	+10.57	+12.14	+22.07	+27.29
RBOB (Nymex)	2.73	+0.26	+10.60	+17.14	+22.71
Heating Oil (Nymex)	4.02	+0.65	+19.28	+63.39	+72.47
Gas Oil (ICE)	1,257.75	+264.50	+26.63	+78.53	+88.57
Henry Hub (Nymex)	6.75	-0.02	-0.27	+18.87	+80.91
Henry Hub (Cash)	6.25	-0.15	-2.39	+9.44	+63.44
UK NBP (Cash)	180.00	+10.00	+5.88	-20.00	+38.46

SHARE PRICES IN LOCAL CURRENCY†

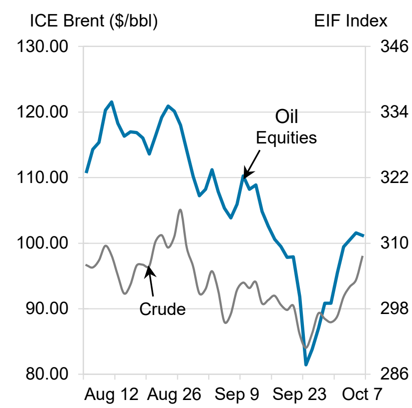
NOCs	Close Oct 7	1-Wk Chg.	% Chg. 1-Wk	52-Wk	YTD
Petrobras-3 (spse)	37.44	+4.36	+13.18	+71.79	+76.37
Petrobras-4 (spse)	33.63	+3.83	+12.85	+54.76	+76.37
Ecopetrol (bvc)	2,340.00	+266.00	+12.83	-18.18	-13.01
Equinor (osl)	381.00	+22.90	+6.39	+76.43	+61.51
PTTEP (set)	170.00	+9.50	+5.92	+41.08	+44.07
Rosneft (mos)	274.85	+13.85	+5.31	-57.30	-54.18
CNOOC-H (sehk)	9.90	+0.49	+5.21	+23.67	+36.30
PetroChina-H (sehk)	3.38	+0.16	+4.97	-16.34	-2.59
Saudi Aramco (sse)	35.95	+1.05	+3.01	+6.45	+10.46
Sinopec-H (sehk)	3.45	+0.08	+2.37	-15.44	-4.96
Sinopec-S (sesh)	2.98	0.00	0.00	-29.88	-28.19
PetroChina-S (sesh)	5.13	0.00	0.00	-14.64	+3.85
CNOOC-S (sesh)	15.83	0.00	0.00	NA	NA
Gazprom (micex)	201.40	-14.71	-6.81	-45.38	-41.33
Majors					
Exxon Mobil (nyse)	101.03	+13.72	+15.71	+66.55	+65.11
Chevron (nyse)	160.03	+16.36	+11.39	+51.43	+36.37
TotalEnergies (par)	52.60	+4.33	+8.96	+23.20	+17.86
BP (lse)	469.10	+36.00	+8.31	+36.05	+41.94
Shell (lse)	2,345.50	+99.00	+4.41	+40.25	+44.62
Regional Integrateds					
Eni (mise)	11.84	+0.93	+8.52	+2.17	-3.11
Repsol (bme)	12.69	+0.89	+7.50	+10.35	+21.60
OMV (vse)	39.93	+2.56	+6.85	-22.97	-20.06
Lukoil (mos)	3,989.00	+82.00	+2.10	-44.05	-39.28
Global Independents					
APA (nyse)	42.52	+8.33	+24.36	+86.49	+58.13
Kosmos Energy (nyse)	6.13	+0.96	+18.57	+100.98	+77.17
Hess (nyse)	128.20	+19.21	+17.63	+53.33	+73.17
ConocoPhillips (nyse)	118.51	+16.17	+15.80	+65.73	+64.19
EOG Resources (nyse)	127.45	+15.72	+14.07	+55.44	+48.52
Occidental (nyse)	69.80	+8.35	+13.59	+114.90	+140.77
Woodside Petroleum (asx)	34.83	+3.17	+10.01	+39.26	+58.82
Refiners					
Phillips66 (nyse)	92.50	+11.78	+14.59	+16.65	+27.66
PBF Energy (nyse)	39.06	+3.90	+11.09	+170.12	+201.16
Marathon Petroleum (nyse)	106.84	+7.51	+7.56	+68.25	+66.96
HollyFrontier (nyse)	57.72	+3.88	+7.21	+68.43	+76.08
Valero (nyse)	113.78	+6.93	+6.49	+49.91	+51.48
Eneos (tyo)	490.10	+25.00	+5.38	+8.77	+13.90
Reliance Industries (bse)	2,433.25	+55.55	+2.34	-5.40	+2.75
Oil-Field Services, EPC					
Transocean (nyse)	3.09	+0.62	+25.10	-19.53	+11.96
Halliburton (nyse)	30.41	+5.79	+23.52	+30.07	+32.97
Schlumberger (nyse)	42.59	+6.69	+18.64	+37.30	+42.20
Saipem (mise)	0.73	+0.09	+14.12	-99.26	-84.29
Fluor (nyse)	28.36	+3.47	+13.94	+72.51	+14.49
TechnipFMC (nyse)	9.42	+0.96	+11.35	+20.92	+59.12
Baker Hughes (nyse)	22.89	+1.91	+9.10	-7.66	-4.82
Worley (asx)	13.47	+0.74	+5.81	+29.02	+26.72
Petrofac (lse)	104.90	+3.90	+3.86	-36.62	-9.02
Wood Group (lse)	131.20	+3.85	+3.02	-41.56	-31.34
Midstream					
Plains All-American (nyse)	11.12	+0.60	+5.70	+8.81	+19.06
Enterprise Products (nyse)	24.99	+1.21	+5.09	+8.09	+13.80
Williams (nyse)	29.79	+1.16	+4.05	+7.78	+14.40
Kinder Morgan (nyse)	17.24	+0.60	+3.61	+1.77	+8.70
TC Energy (tsx)	56.59	+0.95	+1.71	-8.22	-3.81
Enbridge (tsx)	50.88	-0.34	-0.66	-0.63	+2.98

*set=Bangkok; bme=Madrid; sehk=Hong Kong; osl=Oslo; bvc=Bogota; micex=Moscow; bse=Mumbai; par=Paris; nyse=New York; lse=London; mise=Milan; tyo=Tokyo; tsx=Toronto; asx=Sydney; spse=Sao Paulo; sse=Riyadh

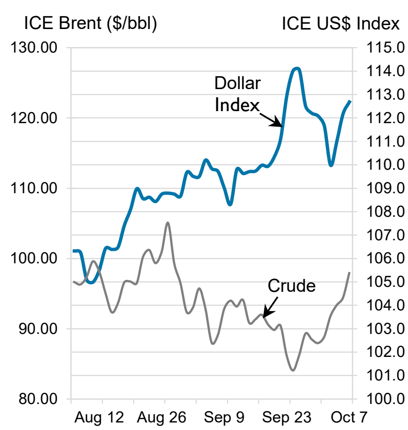
CRUDE VS. EQUITIES



CRUDE VS. OIL EQUITIES



CRUDE VS. CURRENCY



EIF Index based on share prices of the 22 equities listed under EIF components, adjusted for US$ market capitalization. All equities listed are ordered by percentage change over the previous week. Local share prices are shown in local currency. Crude prices in $/bbl; Nymex oil products prices in $/gallon; ICE gas oil in $/ton; Henry Hub natural gas prices in $/MMBtu; UK NBP natural gas prices in pence/therm.