Energy Intelligence

VOL. 45, NO. 40
OCTOBER 4, 2022
WWW.ENERGYINTEL.COM

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OUR TAKE

Diverging Views on Policy vs. Price

Western oil firms have historically opposed government interference, but unprecedented intervention amid the current energy crisis — and wider incentive structures driving the energy transition — see them now favoring government direction over price signals to guide investment decisions. Some leading national oil companies (NOCs), on the other hand, still view conventional price signals as the key indicator of industry investment.

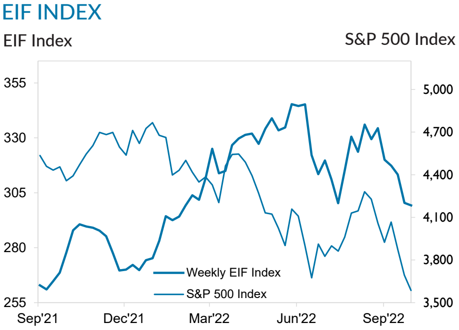
- Speaking at the Energy Intelligence Forum in London this week, Saudi Aramco CEO Amin Nasser suggested crude oil — whose benchmark Brent has fallen by some $30 per barrel over the past four months, to around $90 — was improperly priced despite near-term recession concerns given ultra-tight supply fundamentals. Nasser warned that oil was fast-approaching the same state as global gas/LNG markets, which effectively have no spare capacity. "We see only short-cycle projects coming on with quick profits, but not long-term projects that will sustain a plateau for a longer period of time," he told delegates. Aramco's own 1 million barrel per day capacity expansion will take until 2027 to complete.

- Nasser acknowledged that pressure from investors and policymakers was keeping a lid on wider upstream investment independent of prices, but his emphasis on price signal disconnects misses the more fundamental shift in play around how Western companies decide how to direct capital. Shell CEO Ben van Beurden said that energy infrastructure and capacity shortages could not be solved by consumers simply paying an energy security premium for oil or gas. "You don't get there by paying a little bit more for Saudi crude — you get there by a deliberate policy that prepares that," he told the Forum.

- We note that even when oil prices were riding high above $100 earlier this year, international oil companies were still holding off on committing funds to longer-term projects, with Van Beurden pointing out that multibillion-dollar hikes in capex were not something that could be done overnight. US shale companies have similarly detached from tying higher investment to higher prices. Further complicating matters are recent increases in interest rates — of which there are likely more to come — which raise the cost of capital for project developers, as noted by former BP CEO Bob Dudley, now chairman of the Oil & Gas Climate Initiative.

- Approvals for energy infrastructure projects in Europe are being held up. Cepsa CEO Maarten Wetselaar noted how the continent was looking to import more LNG to replace Russian pipeline gas but that LNG projects took five-six years to bring onstream and needed to be underpinned by a 20-year supply contract. There is plenty of capital willing to help address this issue but there is a "bottleneck" in permitting and regulatory issues, Wetselaar said. "It's a very boring topic but that is what politicians need to do to help us to get this transition going with urgency."

EIF INDEX



EIF Global Oil and Gas Index of 22 traded equities

PEER STRATEGY

Majors Learn Lessons of 2013, Reap Rewards in 2022

At just under $108 per barrel, oil prices in the first half of 2022 averaged roughly the same as they did nine years previously. Yet the world's five leading oil majors made almost twice as much in adjusted earnings this time around, some of them while producing less oil and/or gas. The improved numbers are the result of an almost decade-long focus by BP, Chevron, Exxon Mobil, Shell and TotalEnergies on portfolio rationalization and efficiencies that are — quite literally — paying dividends in the higher oil price environment.

- **The majors turned to 'value over volume' during the 2014 oil price downturn.**

Across the big five majors, capital expenditure peaked at an eye-watering $177 billion in 2013, the year that is often seen as the end of the megaproject era. Nine years on and the same companies are guiding for capex of only around half that amount — a much more conservative $87 billion-$99 billion in 2022. The high oil prices of 2013, propped up by Saudi Arabia cutting production from record highs, did not last long. Surging US shale output saw the market drown in oversupply and sent benchmark Brent crude plunging toward $50/bbl in the second half of 2014.

The majors moved quickly to deal with the low oil price pressures and began preaching the "value over volume" mantra that saw them seek to improve discipline, cut costs, drive down per barrel break-evens and focus on return of capital. The cost cuts were not only made in operations but also on a corporate level, as the majors retrenched tens of thousands of employees in restructuring drives aimed at making them more nimble in lean times.

- **They have been rigorous and ruthless when deciding which projects to sanction.**

Operationally, value over volume has meant rationalizing refining capacity downstream, for the European majors at least, and an increased focus on cycle times upstream. Companies now choose to pursue short-cycle projects, including shale plays and tie-backs, instead of megaprojects, and execute smaller developments at a faster pace.

All the majors now have rigorous break-even criteria that should be met for a project to be sanctioned. For Total, the name of the game is low-cost projects with capex and operating expenses combined of less than $20 per barrel of oil equivalent, or an after-tax break-even of less than $30/boe.

The targets are moving all the time. CEO Patrick Pouyanne noted on a strategy briefing last week that Total had managed to lower its break-even cost from $100/boe in 2014 to $25/boe now. Discipline on sanctioning new projects was "fundamental" to him, he said, even in light of industry cost inflation, and a key lesson to learn from the exuberances of the past.

Total has been ruthless in this regard, opting to exit the North Platte field in the US Gulf of Mexico in February, just 14 months after earmarking the project — which seemingly had good economics — for an FID. The reason? Total had "better opportunities" in its global portfolio for allocation of capital, a statement said.

- **The discipline has cranked up cash flow and driven down debt.**

Pouyanne lauded the tight ship that Total has become since he took the helm in 2014. "You can see at the same level of price of the barrel, we generated $15 billion more in cash flow than 10 years ago," thanks to improvements in efficiency, he said. This has enabled the company to more than halve net debt since 2014 and it aims to reach zero net debt by mid-2023.

BP, which uses a $40/bbl break-even to ensure its dividend is funded, had pledged in 2014 to "make investment choices that play to our strengths, increase sustainable free cash flow and grow our distributions to shareholders." Eight years on and the UK major is doing that with room to spare, allocating 40% of surplus cash flow to debt reduction. Even so, "now is not the time to lose discipline," BP CEO Bernard Looney told investors in August.

Shell CEO Ben van Beurden drew a comparison between 2013 and 2022 on his company's second-quarter earnings call: "[I]n the same period, comparatively, our organic free cash flow tripled, and we have doubled our shareholder distributions," he said, noting how divestments of around $80 billion of assets and a high-grading of Shell's portfolio had strengthened the company.

- **Divestments have helped define core areas.**

Divestments, another overriding theme at all five companies since 2013, have spelled out which regions the majors consider core. Chevron, after selling off upstream assets in the North Sea and Azerbaijan, is now heavily focused on the US Permian Basin and Kazakhstan, where it leads the Tengiz field and has a stake in the Karachaganak deposit, while retaining some assets in the US Gulf of Mexico and promising plays in Canada and Argentina.

There has also been an abundance of caution in M&A. Chevron had the chance to expand on a number of fronts by acquiring Anadarko but decided in 2019 not to raise its $50 billion offer, including debt, for the company to match a bid from Occidental

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Petroleum. “Winning in any environment doesn’t mean winning at any cost. Cost and capital discipline always matter,” CEO Mike Wirth said at the time. Compatriot Exxon, meanwhile, is looking to complete an exit from the Niger Delta this year, has been linked with the sale of North Sea assets and — like most of its peers — is pulling out of Russia. That leaves the company concentrating its upstream growth in the Permian, in South America — Guyana and Brazil — and on LNG — in Qatar, the US, Papua New Guinea and Mozambique.

• **The pivot to gas has started to pay off.**

Only Chevron and Total produced more gas in the first half of 2022 than they did nine years previously, but all five companies have made it a transition fuel of choice and have a particular focus on expanding in LNG. Shell, the world’s biggest LNG portfolio player, “now sells more than twice as much LNG as it did back [in 2013],” noted Van Beurden. While it is still early days in terms of adjusting production mix, gas has been a boon for the majors recently as Europe scrambles to replace Russian volumes. Oil prices this year may have been similar to those in the first half of 2013, but gas prices have not, with global realizations averaging almost 50% higher.

But even gas doesn’t always make the cut when it comes to majors’ laser-like focus on capital discipline. Exxon boasted more than 12.3 trillion cubic feet of natural gas reserves at the end of 2012 but write-offs in 2016 and 2020 have left the company with barely half that volume, as it decided some could not be developed due to pricing and capex constraints. Whether they will be rebooked now that gas prices are higher remains to be seen. Shell’s reserves of both oil and gas have fallen significantly but others’ have remained largely flat, reflecting corporate priorities as the energy transition gathers pace.

Tom Daly, London

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PEER STRATEGY

For US E&Ps, Consolidation Comes With Big Emissions Task

- *US operators’ absolute emissions of greenhouse gases (GHGs) are increasing as they consolidate assets, adding a level of complexity to the integration process.*
- *But the bigger names with robust sustainability strategies claim consolidation will in fact accelerate emissions reductions, given their focus on the issue.*
- *In some cases, inaccurate inventories of acquired emissions sources have muddled operators’ strategies.*

The Issue

US E&Ps have become more aggressive over the past few years in pursuing emissions reductions. They have also aggressively consolidated assets, resulting in larger overall emissions footprints. That has added a level of complexity to the asset integration process, as operators are, at the end of the day, adding to their overall emissions profiles despite rolling out ambitious schemes to reduce them.

Numbers Game

Operators generally rely on two basic metrics when quantifying emissions: Absolute emissions and emissions intensity (or emissions per unit of production). The sector has been lambasted by green groups for focusing on emissions intensity over absolute emissions but both datasets serve different purposes.

For Pioneer Natural Resources, whose absolute emissions shot up last year after it made two big acquisitions — of Parsley Energy and DoublePoint Energy — emissions intensity “is the best way” to measure progress on short-term goals, “given the dynamic nature” of upstream assets, a spokesperson said. Despite the increase in absolute emissions, Pioneer’s emissions intensity for Scope 1 and 2 — direct and indirect emissions from operations — in 2021 was 11.9 tons of carbon dioxide equivalent per thousand barrels of oil equivalent, higher than the 11.1 reported in 2020, according to its most recent sustainability report. But that was much lower than the 15.2 reported in 2019.

Still, the company uses absolute emissions as the basis for longer-term goals, such as its ambition to reach net-zero Scope 1 and 2 emissions and eliminate routine flaring by 2025. Pioneer also considers absolute emissions benefits when comparing and selecting emissions abatement technologies and measures, the spokesperson said.

Acquire to Accelerate

Operators are also starting to realize that efficiencies of scale, a major reason for consolidation, can apply to emissions mitigation as well. “For these aggregators that are buying up assets, their total emissions are going to increase,” said Travis Wofford, partner at law firm Baker Botts. “But if you look at these publics that are very clearly focused on emissions management, water usage, hazardous waste management, spill prevention, they’re out there and acquiring these assets on a regular basis.” It is clear from their sustainability reports that when these operators acquire assets they start spending to improve operations and upgrade facilities, Wofford added.

One example is Pittsburgh-based natural gas producer EQT, which has touted its consolidation strategy as key to its emissions reduction program. The company, which acquired privately held Alta Resources last year, logged 639,676 tons of CO_2 equivalent in Scope 1 emissions in 2021, lower than in 2020 and in 2019.

But the Alta assets added 357,907 tons, meaning EQT's absolute emissions for 2021 were higher than the previous two years.

EQT claims the acquisition will in fact accelerate emissions reduction efforts in the energy space, since it allows it to assert control of a greater amount of absolute emissions in the short term.

"We believe that other acquisitions, particularly acquisitions where we could replace more meaningful development operations than were present in the Alta acquisition, will allow us to effect even more outsized improvements to our pro forma operations through increased use of combo-development," EQT said in its 2021 sustainability report.

Inventory Checks

Still, operators have hit hurdles when it comes to integrating assets from an emissions perspective. For example, a number of US E&Ps have implemented programs to replace gas-driven pneumatic equipment with devices powered by compressed air in an effort to reduce methane emissions. But some have had to play catch-up after discovering inventory numbers provided by an acquired company were not completely accurate.

Denver-Julesburg (DJ) Basin-focused Civitas Resources, which claims to be Colorado's first carbon-neutral producer, conducted a hand count of pneumatic devices after it discovered one of its legacy companies had dramatically underestimated the number.

"What we found in consolidating five companies' worth of GHG reports is that, although there's structure for what should be included in the GHG report, all five companies interpreted that structure differently," Hannie Fisher, Civitas' ESG (environmental, social and governance) and carbon solutions manger, told Energy Intelligence.

"And every single company did something that was over and beyond — it allowed us to raise the bar on ourselves five times over," Fisher added. "On the flip side of the coin, every single one of the companies made an error that we had to correct when we looked at making consistent data collection and calculation method processes."

Counting the Cost

Inaccurate counts can increase integration costs on the back end for acquirers, since it is up to them to replace obsolete equipment, Baker Botts' Wofford said. And that pressure is even higher now as operators increasingly base their brands on lower emissions footprints. He added that he is seeing buyers try to obtain assurance from sellers to mitigate the risk of problems like inaccurate counts. "But I think right now, for a lot of the acquisitions, it's just incumbent upon the buyers to set expectations with sellers as part of the diligence process," he said.

Pioneer's spokesperson told Energy Intelligence that due diligence procedures were completed to assess the impact of the Parsley and DoublePoint purchases on the company's GHG emissions, as well as its emission intensity reduction targets and flaring reduction commitments. "Consideration was given to how these companies' historical emissions performance aligned with our own and the type of mitigation efforts that would need to be implemented following the acquisitions," the spokesperson said.

Caroline Evans, Houston

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CORPORATE STRATEGY

Total Leans on Latin America for Low-Carbon Growth

- *TotalEnergies' oil production in Brazil has doubled this year after it entered two fields in the pre-salt Santos Basin — and has room to grow further.*
- *The French major, which sold 42 million tons of LNG in 2021, would be well placed to help Argentina achieve its goal of becoming a gas exporter.*
- *A final investment decision on the Vista Pacifico LNG project in Mexico, in which Total has a 16.6% stake, is expected to be taken by the end of 2024.*

The Issue

With a portfolio of projects from Baja California to Tierra del Fuego, TotalEnergies sees Latin America as a key plank of its growth and energy transition strategies. Brazil continues to deliver low-cost oil barrels for the French major, which is also on the lookout for more gas as it starts to accept it may not have a future in Russia. It already produces more than a quarter of Argentina's gas and has moved quickly in Mexico, where its interests in two planned LNG projects make it central to the country's gas export ambitions and could nudge it closer to its target of 50 million tons per year of LNG sales by 2025.

Going Big on Brazil

Brazil, currently in the middle of a tumultuous presidential election, has the lion's share of Total's liquids production in Latin America, accounting for 76% of the group's output in the region in 2021 — and 27% of its Americas liquids production overall.

Brazilian production this year for Total has already doubled from 2021 to 100,000 barrels per day thanks to the start-up in May of the first phase of the sprawling Mero field, located some

150 kilometers (93 miles) off the coast of Rio de Janeiro in the prolific Santos Basin.

"[Our] strategy of focusing on low-cost, low-emissions assets is clearly deployed in Brazil, especially in the pre-salt Santos Basin which is a key growth area for the company," Total said in an email to Energy Intelligence. The French major revealed on a capital markets day last month it aims to double production again to around 200,000 b/d by 2026, generating roughly $1 billion in organic net cash flow at $50 per barrel, and $2 billion at $80/bbl.

In recent years, Brazil has held strategic appeal for international oil companies looking for a source of advantaged oil and gas. The country's pre-salt barrels are considered among the most competitive in the world given the massive scale of the assets, attractive terms and relatively low well count, making for lower-carbon intensity.

Divestments by state oil company Petrobras in the wake of the Operation Car Wash corruption scandal in the mid-2010s have also made these assets more obtainable.

Where's the Competition?

Earlier this year, Total even went so far as to back out of the North Platte development in the US Gulf of Mexico to focus more of its development capital on the Brazilian offshore. Speaking at the capital markets day, CEO Patrick Pouyanne said Total was "a little surprised not to have more competition," when — alongside partners Petronas and QatarEnergy — it picked up stakes in the Sepia (28%) and Atapu (22.5%) fields in last year's pre-salt Transfer of Rights bid round.

Since the production-sharing contracts for the two fields started in May, they have contributed $700 million in operating cash flow, repaying around 25% of the purchase price already, Pouyanne noted. Total plans to deploy additional floating production, storage and offloading (FPSO) units at both fields to roughly double their output to 350,000 b/d each. "One of them should be sanctioned very quickly, if not both of them," the CEO added.

Total remains keen on the Brazilian offshore despite the sale of its stake in the Itaipu field, which it originally acquired as part of its purchase of Denmark's Maersk Oil & Gas in 2017, to Brazilian independent PetroRio. The company said the sale was down to Itaipu "not fitting" its low-cost and low-emissions strategy.

Stepping on the Gas in Argentina

If Brazil has been delivering rapid production growth in oil for Total, then neighboring Argentina is all about gas. Total last month announced it would proceed with the $706 million Fenix offshore gas project in the far south of the country, having in April been granted a 10-year extension on the CMA-1 concession to 2041. First gas from Fenix is expected in early 2025 and at its peak the development is slated to produce around 10 million cubic meters (283,000 cubic feet) of gas per day.

Plans call for the drilling of three horizontal wells in 70 meters of water from a new unmanned platform some 60 km off the coast of Tierra del Fuego.

The gas would then travel 35 km through a pipeline to Total platform at the Vega Pleyade field and to gas-processing plants at Rio Cullen and Canadon Alfa. TotalEnergies will operate the project with a 37.5% interest via its affiliate, Total Austral. Germany's Wintershall Dea and Argentina-based Pan American Sur are partners and will maintain 37.5% and 25% interests, respectively.

As in Chile next door, where affiliate Total Eren has 50% in the 190 megawatt peak Santa Isabel solar power plant, Total also generates renewable electricity in Argentina. But it is the country's renewed ambitions to become a major gas exporter in the region that could be most tempting to Total, the world's second-largest LNG portfolio player.

At a September conference in Houston designed to drum up interest in Argentina's energy sector, President Alberto Fernandez said his government was in the process of drafting energy legislation that would include construction of LNG plants and give "certainty" to energy producers.

Malaysia's Petronas last month inked a joint study and development agreement with Argentina's YPF for an integrated LNG export project that would liquefy unconventional gas resources from the Vaca Muerta shale play.

In the Mix in Mexico

Up in Mexico, meanwhile, plans to ship LNG are far more advanced. Total has taken a 16.6% interest in the 3.25 million ton/yr Energia Costa Azul project in Baja California alongside Sempra Energy, which is aiming to send out its first cargoes in 2025. Total also has interests in several deepwater exploration blocks in Mexico, including in the Salina Basin.

Furthermore, the company in March this year signed a memorandum agreeing to take a 16.6% stake in another Sempra-led project on Mexico's Pacific Coast, Vista Pacifico LNG in the state of Sinaloa, as well as one-third of the LNG offtake. The 4 million ton/yr project is eyeing FID either next year or in 2024, according to Sempra, and is set to target Asian and South American markets.

Michael Deibert, Washington, and Deb Kelly, London

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ENERGY AND EQUITY MARKET DATA For the week ended Sep 30, 2022

EIF GLOBAL INDEX COMPONENTS*

	Close Sep 30	1-Wk Chg.	% Chg. 1-Wk	% Chg. 52-Wk	% Chg. YTD
TotalEnergies (par)	47.30	+2.24	+4.96	-1.18	-6.76
Shell (lse)	25.07	+1.03	+4.29	+12.45	+14.26
Suncor (tse)	28.14	+0.94	+3.47	+35.83	+12.31
Equinor (osl)	32.91	+1.01	+3.16	+29.26	+22.85
BP (lse)	4.83	+0.13	+2.80	+5.43	+8.10
Eni (mise)	10.69	+0.22	+2.14	-20.05	-23.04
Exxon Mobil (nyse)	87.31	+1.56	+1.82	+48.44	+42.69
Saudi Aramco (sse)	9.54	-0.02	-0.26	+9.38	+10.09
Chevron (nyse)	143.67	-1.10	-0.76	+41.62	+22.43
ONGC (bse)	1.56	-0.03	-1.71	-20.13	-18.59
Ecopetrol (bvc)	0.45	-0.01	-1.83	-37.30	-31.92
Petrobras-3 (spse)	6.11	-0.15	-2.35	+58.24	+60.29
Reliance Industries (bse)	29.17	-0.85	-2.84	-14.05	-8.27
Petrobras-4 (spse)	5.50	-0.19	-3.33	+44.77	+60.75
Lukoil (mos)	66.00	-2.93	-4.25	-30.90	-25.10
Sinopec-H (sehk)	0.43	-0.02	-4.81	-13.40	-7.80
Sinopec-S (sesh)	0.42	-0.02	-5.52	-36.47	-36.19
PetroChina-H (sehk)	0.41	-0.03	-6.40	-13.45	-7.84
CNOOC-H (sehk)	1.20	-0.10	-7.93	+18.60	+28.66
Rosneft (mos)	4.41	-0.84	-16.08	-48.06	-45.20
EIF Global Index	**313.58**	**-1.36**	**-0.43**	**+12.82**	**+8.07**

*Converted US$/share.

INDEXES

Equity Indexes	Close Sep 30	1-Wk Chg.	% Chg. 1-Wk	% Chg. 52-Wk	% Chg. YTD
DJIA	28,725.51	-864.90	-2.92	-15.12	-20.95
S&P 500	3,585.62	-107.61	-2.91	-16.76	-24.77
FTSE 100	6,893.81	-124.79	-1.78	-2.72	-6.65
FTSE All-World	659.46	-17.61	-2.60	-21.42	-26.56
EIF Global	313.58	-1.36	-0.43	+12.82	+8.07
S&P Global Oil	1,582.84	+23.09	+1.48	+3.05	+1.97
FT Oil, Gas & Coal	7,746.85	+70.99	+0.92	+32.06	+35.24
TSE Oil & Gas	2,635.49	+20.50	+0.78	+20.73	+15.67
Emerging Markets					
Hang Seng Energy (HK)	21,648.80	-1300.27	-5.67	+21.67	+28.81
BSE Oil & Gas (India)	18,559.11	-497.73	-2.61	+1.40	+6.00
RTS Oil & Gas (Russia)	+174.64	-14.13	-7.49	-31.57	-26.58

COMMODITY PRICES

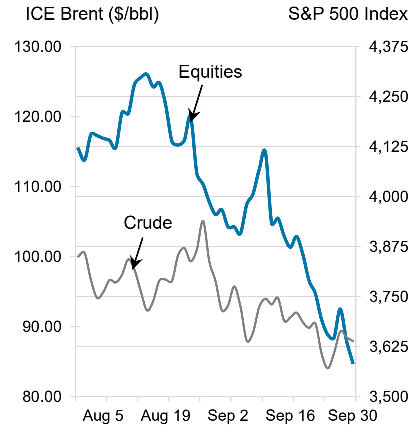
	Close Sep 30	1-Wk Chg.	% Chg. 1-Wk	% Chg. 52-Wk	% Chg. YTD
Dated Brent	89.61	+4.78	+5.63	+15.17	+15.87
Brent 1st ICE	85.14	-1.01	-1.17	+8.72	+9.46
WTI 1st (Nymex)	79.49	+0.75	+0.95	+5.94	+5.69
Oman 1st (DME)	87.05	+0.46	+0.53	+13.90	+13.51
RBOB (Nymex)	2.37	-0.01	-0.55	+5.16	+6.34
Heating Oil (Nymex)	3.22	-0.02	-0.48	+37.58	+38.26
Gas Oil (ICE)	993.25	+30.25	+3.14	+46.88	+48.91
Henry Hub (Nymex)	6.77	-0.06	-0.91	+15.32	+81.39
Henry Hub (Cash)	6.40	-0.34	-5.07	+14.73	+67.44
UK NBP (Cash)	170.00	-45.00	-20.93	-24.78	+30.77

SHARE PRICES IN LOCAL CURRENCY†

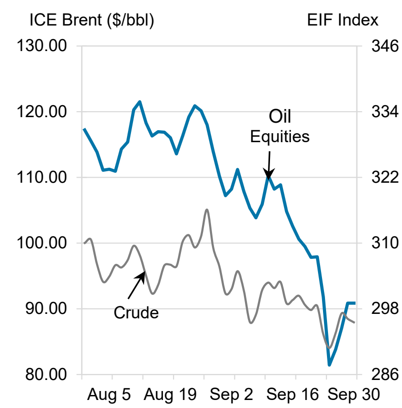
NOCs	Close Sep 30	1-Wk Chg.	% Chg. 1-Wk	% Chg. 52-Wk	% Chg. YTD
Equinor (osl)	358.10	+19.90	+5.88	+60.84	+51.80
Ecopetrol (bvc)	2,074.00	+40.00	+1.97	-24.14	-22.90
Petrobras-3 (spse)	33.08	+0.18	+0.55	+57.44	+55.83
Petrobras-4 (spse)	29.80	-0.14	-0.47	+44.04	+56.28
Saudi Aramco (sse)	34.90	-1.10	-3.06	+6.64	+7.23
Gazprom (micex)	216.11	-8.14	-3.63	-40.23	-37.05
Sinopec-H (sehk)	3.37	-0.17	-4.80	-12.69	-7.16
Sinopec-S (sesh)	2.98	-0.18	-5.70	-29.88	-28.54
PetroChina-S (sesh)	5.13	-0.31	-5.70	-14.64	+4.48
PetroChina-H (sehk)	3.22	-0.22	-6.40	-12.74	-7.20
CNOOC-S (sesh)	15.83	-1.17	-6.88	NA	NA
PTTEP (set)	161.00	-13.50	-7.74	+35.29	+36.44
CNOOC-H (sehk)	9.41	-0.81	-7.93	+19.58	+29.55
Rosneft (mos)	261.00	-37.80	-12.65	-57.63	-56.49
Majors					
TotalEnergies (par)	48.28	+1.77	+3.79	+16.79	+8.17
Exxon Mobil (nyse)	87.31	+1.56	+1.82	+48.44	+42.69
Shell (lse)	2,246.50	+32.00	+1.45	+35.74	+38.52
BP (lse)	433.10	0.00	0.00	+27.27	+31.04
Chevron (nyse)	143.67	-1.10	-0.76	+41.62	+22.43
Regional Integrateds					
Repsol (bme)	11.81	+0.45	+3.92	+4.49	+13.12
OMV (vse)	37.37	+1.35	+3.75	-28.38	-25.19
Eni (mise)	10.91	+0.11	+1.00	-5.51	-10.72
Lukoil (mos)	3,907.00	-13.00	-0.33	-43.64	-40.53
Global Independents					
Kosmos Energy (nyse)	5.17	+0.25	+5.08	+74.66	+49.42
Occidental (nyse)	61.45	+2.72	+4.63	+107.74	+111.97
Hess (nyse)	108.99	+4.39	+4.20	+39.53	+47.22
APA (nyse)	34.19	+1.32	+4.02	+59.54	+27.15
EOG Resources (nyse)	111.73	+2.61	+2.39	+45.63	+30.20
ConocoPhillips (nyse)	102.34	+1.75	+1.74	+51.01	+41.78
Woodside Petroleum (asx)	31.66	-0.12	-0.38	+32.58	+44.37
Refiners					
PBF Energy (nyse)	35.16	+5.28	+17.67	+171.09	+171.09
HollyFrontier (nyse)	53.84	+4.64	+9.43	+62.51	+64.25
Marathon Petroleum (nyse)	99.33	+7.88	+8.62	+60.70	+55.23
Valero (nyse)	106.85	+6.28	+6.24	+51.41	+42.26
Phillips66 (nyse)	80.72	+4.73	+6.22	+15.26	+11.40
Reliance Industries (bse)	2,377.70	-61.65	-2.53	-5.53	+0.40
Eneos (tyo)	465.10	-41.30	-8.16	+2.02	+8.09
Oil-Field Services, EPC					
Saipem (mise)	0.64	+0.05	+7.88	-99.37	-86.23
Transocean (nyse)	2.47	+0.11	+4.66	-34.83	-10.51
Schlumberger (nyse)	35.90	+0.90	+2.57	+21.12	+19.87
TechnipFMC (nyse)	8.46	+0.11	+1.32	+12.35	+42.91
Fluor (nyse)	24.89	+0.14	+0.57	+55.85	+0.48
Halliburton (nyse)	24.62	+0.04	+0.16	+13.88	+7.65
Wood Group (lse)	127.35	+0.10	+0.08	-44.65	-33.36
Baker Hughes (nyse)	20.98	-0.75	-3.45	-15.16	-12.77
Worley (asx)	12.73	-0.54	-4.07	+28.46	+19.76
Petrofac (lse)	101.00	-6.10	-5.70	-37.68	-12.40
Midstream					
Enterprise Products (nyse)	23.78	+0.16	+0.68	+9.89	+8.29
Kinder Morgan (nyse)	16.64	+0.11	+0.67	-0.54	+4.92
Enbridge (tsx)	51.22	-0.42	-0.81	+1.51	+3.66
Plains All-American (nyse)	10.52	-0.13	-1.22	+3.44	+12.63
Williams (nyse)	28.63	-0.52	-1.78	+10.37	+9.95
TC Energy (tsx)	55.64	-3.57	-6.03	-8.73	-5.42

*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

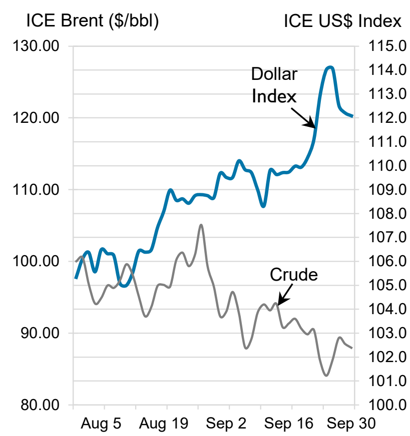
CRUDE VS. EQUITIES



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.