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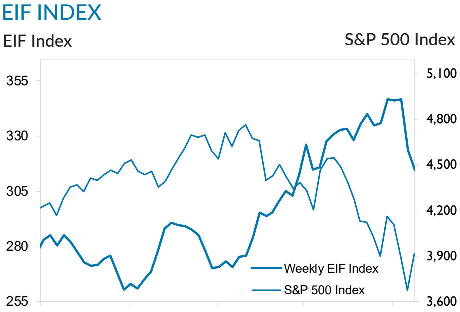
EDITOR'S NOTE

To ensure *Energy Intelligence Finance* readers have full use of graphics functionality, one-off graphics will no longer be included in PDF issues of EIF. Instead, each report that has accompanying graphics will include a link to an online version where graphics can be viewed in a more detailed and interactive format.

EIF INDEX



EIF Global Oil and Gas Index of 22 traded equities

OUR TAKE

Where East Beats West

Eni's postponement of the IPO of its Plenitude unit shows that Western energy firms are once again struggling to tap equity markets, as the economic upheaval driven by the war in Ukraine shutters what had looked to be a window for companies to pull forward value. Energy Intelligence sees continued difficulties for offerings on large Western exchanges but listings in other markets, particularly those in the Middle East, could continue to provide monetization opportunities for national oil companies (NOCs).

- Eni announced its intention to take Plenitude public on Jun. 9 but was forced to backtrack and delay its listing just two weeks later. Analysts estimated that Plenitude, which includes Eni's renewable power generation assets as well as its retail power and natural gas sales, could have been worth some $10 billion. The Italian giant was looking to sell 20%-30% of Plenitude but said the "volatility and uncertainty currently affecting the markets require a further phase of monitoring." Shares on Italy's stock exchange in Milan are down some 20% over the last six months, mirroring other Western indexes, with energy transition businesses, which had soared in recent years, especially hard hit.

- High energy prices had been seen as opening a window for traditional oil and gas assets. But even these are struggling to gain their footing. ProFrac, one of the largest hydraulic fracturing companies in the US priced its May IPO at $18 per share, below an expected range of $21-$24/share. A plan by Israel's Delek Group to offer shares in its UK-focused Ithaca Energy subsidiary in London could be a key test of market appetite. An earlier plan to list the company was put on ice in 2019.

- In some cases, the IPO drought could boost the case for private transactions. Repsol chose to sell a 25% stake in its renewables business, Repsol Renovables, to Credit Agricole Assurances and Energy Infrastructure Partners rather than pursue an IPO. Private investors may have longer timelines and different appetites for risk than their public counterparts and could be more willing to transact despite market volatility.

- Exchanges outside the traditional Western powerhouses could be more resilient, offering a particular advantage to NOCs. IPO activity globally has crashed but Western markets have been especially slow as investors grow wary of the risk of recession. Markets in the Middle East have held up much better and oil companies have taken advantage. Abu Dhabi National Oil Co. recently listed its Borouge downstream joint venture, raising over $2 billion in an offering that saw demand for more than $80 billion in shares. China's CNOOC Ltd. raised more than $4 billion with its listing on the Shanghai Stock Exchange and saw shares close more than 25% higher on the first day of trade in April. Kazakhstan's Kazmunaigas will hold a domestic IPO this year, according to its sovereign wealth fund owner, while Saudi Aramco is eyeing a flotation of its trading arm.

INDUSTRY TREND

Scotland Independence Row Imperils UK Investment Plans

- *Deepening political divisions between the UK and Scottish governments could undermine confidence in the North Sea energy sector.*

- *While oil and gas were central to debate ahead of Scotland's 2014 independence vote, the renewable energy agenda will figure prominently this time around.*

- *Regional operators are monitoring developments, having recently outlined plans to make huge investments in the UK energy system.*

The Issue

Scotland's First Minister Nicola Sturgeon and her Scottish National Party (SNP) government have launched a new campaign targeting a second independence referendum in October 2023. A maritime boundary with England would likely give Scotland the lion's share of UK oil and gas in the event of a "Yes" vote, while major North Sea operators such as BP and TotalEnergies could see their assets change jurisdiction. Whether a referendum takes place or not, wrangling over energy policy, driven by tensions over the Union, could jeopardize billions of pounds of planned investment in upstream and transition projects.

Second Time Lucky?

In launching this month's renewed push, the Scottish government published the first in a series of papers articulating its new vision for an independent Scotland. The SNP has said it will go into granular detail over the next 18 months to answer key questions about the costs, risks, challenges and trade-offs involved.

In the first independence vote in 2014, 55% of Scotland chose to remain in the UK. Back then, North Sea oil revenues were key to the independence campaign's economic case. But Sturgeon's desire to make Scotland a renewable energy powerhouse will figure prominently in debate this time around, along with the carve-up of offshore energy resources, fiscal and regulatory policy, and choice of currency.

Under international law, coastal states have sovereign rights to exclusive exploration and exploitation of the natural resources within their exclusive economic zone, as well as over offshore wind, wave and tidal energy, and carbon capture and storage (CCS) projects. There is currently no agreed maritime boundary between Scotland and England. But experts, for example, have suggested that if it were based on the median line between Scotland and England, it would give Scotland over 90% of oil and roughly 60% of gas produced.

Major Production Hub

The UK remains a core part of European energy majors' portfolios and companies have earmarked north of $50 billion of investment there through 2030, most of it for transition projects. Total has the highest exposure to the UK upstream with around 159,000 barrels of oil equivalent per day in 2021, or 7% of the French major's group production. BP had about 130,000 boe/d of basinwide output last year, or 6% of group production, while Shell had roughly 130,000 boe/d, or 5% of group output.

BP intends to invest £18 billion ($22 billion) in the UK through the end of 2030, or roughly 15%-20% of its planned global capital spending budget of $14 billion-$16 billion through 2025. About 25% of the UK spending will be allocated to oil and gas projects, and 50% to low-carbon energy solutions, such as offshore wind, CCS and hydrogen. Shell has earmarked £20 billion-£25 billion for UK investments over the next 10 years — some 10% of its projected annual capex. About one-quarter of these funds will be directed toward upstream projects and the rest to low-carbon schemes.

But some industry experts warn that the political instability caused by the tensions over Scottish independence and the devolved Scottish Parliament's position on future upstream development risk undermining investor confidence. The UK government's decision last October to again reject funding for the Acorn CCS project in Aberdeenshire — backed by Shell, Harbour Energy and Storegga — in favor of two CCS schemes in northern England riled Scottish politicians and business leaders. Acorn had been billed as one of the most mature, scalable and cost-effective UK CCS and hydrogen projects with the potential to be ready mid-decade and crucial to Scotland's 2045 net-zero target. It was instead put on a reserve list.

The decision led one Scottish lawmaker, Allan Dorans, to ask: "Do major Scottish projects only have priority in the months ahead of an independence referendum?" In the lead-up to the 2014 vote, Acorn was one of two projects in the running to win £1 billion of UK government funding for CCS before the competition was scrapped the following year.

Taxing Times

The risk of political instability comes on top of investor concern over the UK government's sudden windfall tax on profits, introduced last month, and what that says about fiscal stability. BP, Shell and Harbour have already said they will review their investment plans in light of the new tax treatment. An independent Scotland might also be tempted to seek a boost from North Sea revenues as it looks to accelerate the shift away from fossil fuels.

The significant worsening of Scotland's implicit budget deficit relative to the rest of the UK during the last five years is broadly attributable to the decline in North Sea revenues, according to UK-based law firm Herbert Smith Freehills (HSF). If those revenues are excluded, Scotland's underlying fiscal position relative to the rest of the UK has remained stable over 20 years, with average deficits around 7% higher during that period.

The Sustainable Growth Commission report in 2018, commissioned by the Scottish government, advised that "oil revenues should be treated as a windfall fiscal bonus" rather than relied on for maintaining fiscal management. "That remains a sensible assumption," said Paul Butcher, head of public policy at HSF.

So What Is Going to Happen?

Since 2014, Britain's departure from the EU — which most Scots did not support — and the coronavirus pandemic may have led to an uptick in public backing for independence but not substantially moved the dial. "Support for independence has lagged for the last year," said Butcher, adding that the SNP may be seeking to shake things up with its new campaign.

It remains to be seen whether the SNP can legislate for a vote in the face of UK government opposition, and how negotiations might then play out. But Butcher said it has generally been understood, albeit not accepted by the SNP, that legislation for any referendum on Scottish independence falls outside the Scottish Parliament's legislative competence. "The Scottish government could refer the question to the UK's Supreme Court, but most legal commentators predict it would lose," Butcher said. Even that may not be the end of the matter, however, he noted. "In the longer term, politics is likely to play a greater role than the law."

Deb Kelly, London

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PEER STRATEGY

Majors, NOCs Step Up Interest In Southeast Asian CCS

- *A growing number of companies are pursuing carbon capture and storage (CCS) projects in Southeast Asia thanks to its infrastructure and relatively lower costs.*
- *Shell has jumped on the Southeast Asian CCS bandwagon, and is looking at projects in Brunei, Malaysia and Singapore.*
- *Energy firms are exploring CCS hubs to achieve economies of scale and generate new revenue as they increasingly see carbon dioxide as a commodity.*

The Issue

Southeast Asia is increasingly proving a fertile ground for CCS projects, not only for regional players such as Thailand's PTT Exploration and Production (PTTEP) but also for international oil companies (IOCs) like Exxon Mobil. Operators are aiming to strike a balance between hydrocarbon production and decarbonization targets while seeking new revenues from CCS — which involves capturing CO_2 emissions at source and storing them underground — as a service to third parties. In addition, Asia's growing demand for LNG and high gas prices provide a strong incentive to develop high CO_2 content fields.

Capturing Potential

Southeast Asia benefits from lower CCS development costs relative to the rest of the world and the number of projects planned in the region has continued to grow over the past year. It already has infrastructure, extensive geological data that can identify low-risk reservoirs and mature technology to separate CO_2 from gas. Geographically, it is also well positioned as roughly 85% of its known suitable CO_2 storage is either in onshore basins or on the continental shelf, not in deep waters, says Rystad Energy analyst Sohini Chatterjee.

That is a boon for energy companies seeking to maintain or even increase fossil fuel production — which is still their main cash engine — while reducing their emissions footprint. CCS is increasingly seen as a viable solution for the development of new fields, particularly those that have a high CO_2 content and are at risk of becoming stranded. This is key for national oil companies with a mandate to develop domestic oil and gas reserves and milk them for every dollar to feed state budgets and fulfill energy security strategies — a priority since Russia's invasion of Ukraine.

As a result, several projects are now expected to start up over the next three to six years. Malaysia's Petronas and PTTEP are planning to use CCS at their Kasawari and Lang Lebah gas fields, respectively. The high CO_2 assets are among the three largest greenfield projects under development in Malaysia. As such, they are key for Petronas and PTTEP to reach their upstream production targets: Petronas aims to produce 2 million barrels of oil equivalent per day in 2030, up from approximately 1.8 million boe/d at present, while PTTEP aims to boost output by over 40% to 700,000 boe/d by 2030.

Gaining Global Traction

Southeast Asia's aptness for CCS is not lost on IOCs. Spain's Repsol plans to use CCS at its 2 trillion cubic foot Kali Berau Dalam gas discovery onshore the Indonesian island of Sumatra, while BP intends to deploy CCS at its Tangguh LNG plant in Indonesia's West Papua province.

Another convert is Shell. The UK-based supermajor is looking at using CCS in Brunei, where it has a "huge footprint" from both its upstream and gas operations, its general manager for CCS Asia, Yu Li P'ing, said at a recent media briefing. The company is likewise weighing CCS for upstream projects in Malaysia, one of its nine core upstream locations.

Operators are increasingly looking at developing CCS hubs to achieve economies of scale for their own decarbonization efforts and to create new revenue streams by offering CCS to third parties. However, these larger projects will take time to materialize as companies need to secure CO2 feed and find partners to share the higher costs and risks.

One of the most advanced projects is Shell's Asia-Pacific CCS hub in Singapore, where the company plans to capture 5 million-15 million tons per year of CO2. The project is expected to be in operation at the end of the decade as Shell targets having 25 million tons/yr of CCS capacity globally by 2035. The hub is designed to decarbonize operations at the company's 250,000 barrel per day Bukom refinery and petrochemical plant and help third parties, such as Singapore's power sector, reduce their own emissions.

Customers Are Keen

"A lot of our customers are very keen all around Asia, looking for storage solutions for their emissions but also enabling them to start producing low-carbon products" such as hydrogen and biofuels, Shell's Yu said. Shell is seeking partners for its Asia-Pacific CCS hub as it will take care of capturing the CO2 itself, while transport and storage activities could be conducted by another company.

Energy Intelligence understands the CO2 would most likely be transported by pipeline, which is cheaper and easier than by boat, although Shell is also exploring that option. The company declined to say where the CO2 will be stored, but depleted gas reservoirs in Malaysia and Indonesia are likely to be used due to their proximity.

Several companies have projects at a less advanced stage of development. Exxon, for instance, is planning to capture CO2 from manufacturing facilities in Singapore as part of its Asean CCS Hub. The project would also help the US major decarbonize its operations in the city-state, where it operates a 592,000 b/d refinery — Exxon's largest — and chemical plant.

In Indonesia, BP sees an opportunity to store third-party emissions in the Tangguh reservoir, which has a CO2 storage capacity of more than 500 million tons, while in Thailand PTTEP has identified five power plants and industrial complexes it could offer CCS to.

Regulations Required

The pace at which CCS will progress in Southeast Asia will greatly depend on regional governments' ability to create a conducive environment by introducing robust regulatory and legal frameworks, as well as some form of carbon pricing. CCS projects will also need social license but local public opposition to them remains low.

Operators are still very much in the dark when it comes to practical, yet critical questions and requirements such as monitoring, reporting and long-term liabilities, such as how long a company owns the CO2 for. Until answers to those questions are provided, development will be hampered.

While slow, some progress is being made on carbon pricing, however. Malaysia intends to introduce a carbon price and domestic emissions trading scheme as early as 2023, while Indonesia has plans to introduce its recently minted carbon tax on coal-fired power plants, although no firm date for implementation has been set. Its proposed tax rate is 30,000 rupiah ($2.02) per ton of CO2 equivalent.

Singapore is also planning to progressively raise its carbon tax from S$5/ton CO2e (US$3.60/ton CO2e) currently to S$50-S$80/ton by the end of the decade. Compared to the likes of Norway, that rate of increase is "perhaps not sufficient enough to incentivize and push forward massive scaled-up CCS," Yu says. Alternatives to robust carbon mechanisms such as grants, tax credits and subsidies could provide the right impetus.

Marc Roussot, Singapore

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PEER STRATEGY

East Africa LNG Players Struggle With Security Threat

- *The first of four planned LNG projects in East Africa is due to come on stream this fall but the timing of the other three is uncertain.*
- *Some of Mozambique's LNG could end up in Europe, which is desperate to reduce its dependence on Russian gas due to the war in Ukraine.*
- *Analysts consider a mooted 2029-30 start-up target for an LNG project in Tanzania, involving Shell and Norway's Equinor, to be unrealistic.*

The Issue

East Africa's ambitions to become a new gas and LNG powerhouse will take a leap forward later this year when the first shipment is made from the Eni-led 3.4 million ton per year Coral South floating LNG (FLNG) project in Mozambique. Three more Indian Ocean LNG projects, with much greater capacities, have been lined up and boast major backers including Exxon Mobil, Shell and TotalEnergies. While these could potentially see the region vie for a sizable slice of the global LNG market just as demand grows and some gas consumers look for alternatives to Russian supplies, they will first need to overcome the more local problem of security.

Corralled Into Success

Coral South, Africa's largest FLNG project that was sanctioned in 2017, is shaping up to be a big success story. The scheme has more or less kept to schedule and — because it is all offshore — is insulated from the violence that plagues the Mozambican mainland.

Just six wells drilled in Area 4 of the Rovuma Basin will feed the FLNG vessel, underlining their massive productivity, and the first gas flowed in earlier this month. The project's commercial structure is simple: all of the LNG is committed to BP under a 20-year offtake contract and the UK major is free to sell to whoever it wants.

Since gas prices are likely to remain high for years to come, especially in Europe, Eni and its partners — which include Exxon and China National Petroleum Corp. — will recover their costs more quickly than they had expected, maximizing returns for themselves and Maputo. Banks and multilateral lenders that financed most of the $7 billion-plus cost of the project are also patting themselves on the back.

Elephant in the Room

The one word that gives Western oil executives operating in Mozambique the jitters is "insurgency." That is the reason work on the 13.1 million ton/yr Mozambique LNG project, led by Total, has been suspended since April 2021. For more than five years, Islamist militants have laid waste to parts of the northeastern region of Cabo Delgado, where all the big deepwater reserves are located. They have also targeted onshore facilities along the Afungi Peninsula, home to Mozambique LNG's headquarters.

The violence has pushed back the start-up of the project by at least two years. Total, while hoping for launch in 2026, cannot say for sure when work will resume and insists it will need cast-iron security guarantees from the Mozambique government before redeploying staff. A 1,000-strong Rwandan-led African peacekeeping force deployed to the region last summer has kept the insurgents at bay, but how long the troops are willing to remain there is another matter.

Like Coral South, Mozambique LNG is underpinned by firm funding commitments. These amount to more than $14 billion, with the US Export-Import Bank (Ex-Im, with $4.7 billion) and Japan Bank for International Co-operation (JBIC, with $3 billion) the two largest backers. Commercial banks are also heavily invested in the project. Most of the LNG that will be produced is committed under long-term offtake contracts with companies including Shell, Centrica and Tokyo Gas, making the project commercially watertight despite the security worries.

Similar foundations will need to be in place for Exxon and its partners to be in a position to deliver FID on their 15.2 million ton/yr Rovuma LNG project, also in Mozambique. This still looks a long way off, and Exxon, which will be in charge of the downstream portion of the project — construction of two 7.6 million ton/yr liquefaction trains — appears content to bide its time. The key question is over funding for the $25 billion scheme. Now Ex-Im Bank and other multilateral lenders, including UK Export Finance, have given commitments to stop financing fossil fuel projects, as have several Western banks, who will bankroll Rovuma LNG? Chinese state lenders may be prepared to step in, as they did for Coral South, but it is hard to see where the rest of the funds would come from. The security situation will, of course, weigh on the minds of potential lenders.

Too Little, Too Late for Tanzania?

In neighboring Tanzania, meanwhile, the government this month signed a framework agreement with Shell and Equinor to push ahead with a $30 billion project to build a 10 million ton/yr LNG terminal at the port of Lindi. The project, known as Tanzania LNG, is to be fed with gas from deepwater acreage operated by the two majors. The pact envisages FID in 2025 and a provisional start-up date of 2029-30, although analysts consider that to be unrealistic.

Tanzania LNG is several years behind Rovuma LNG in terms of development and so far only exists as a concept. It will only be taken seriously if and when Tanzania signs a host governmental agreement (HGA) with Shell and Equinor, and other potential partners, that will provide the project with a commercial, fiscal and legal framework. The government hopes this will be done by year-end, but expectations remain low.

Tanzania may pay the price for years of foot-dragging on the project during the reign of former President John Magafuli, who died in March last year. His successor, Samia Saluhu Hassan, has shown much greater urgency, but she has admitted that much more work needs to be done. Rather than pushing ahead with a costly infrastructure project that could, like in Mozambique, become a target for militants and be impossible to finance, Tanzania may be better off downscaling its ambitions and going down the FLNG route. But there is no sign of this happening.

Paul Sampson, London

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ENERGY AND EQUITY MARKET DATA For the week ended Jun 24, 2022

EIF GLOBAL INDEX COMPONENTS*

	Close Jun 24	1-Wk Chg.	% Chg. 1-Wk	% Chg. 52-Wk	% Chg. YTD
Rosneft (mos)	7.41	+0.29	+4.03	-5.58	-7.94
Lukoil (mos)	80.55	+3.11	+4.01	-14.01	-8.59
Shell (lse)	25.60	+0.61	+2.45	+24.01	+16.66
BP (lse)	4.74	+0.10	+2.17	+4.97	+5.99
TotalEnergies (par)	52.30	+0.50	+0.97	+8.90	+3.08
Exxon Mobil (nyse)	86.90	+0.78	+0.91	+34.69	+42.02
Suncor (tse)	34.55	+0.22	+0.65	+38.82	+37.93
Sinopec-H (sehk)	0.44	-0.00	-0.57	-17.06	-4.78
Eni (mise)	12.31	-0.30	-2.35	-2.08	-11.37
Chevron (nyse)	144.77	-3.61	-2.43	+35.12	+23.37
ONGC (bse)	1.75	-0.06	-3.37	+6.63	-8.22
Saudi Aramco (sse)	9.91	-0.35	-3.38	+5.77	+14.34
Sinopec-S (sesh)	0.48	-0.02	-3.78	-17.19	-26.89
Reliance Industries (bse)	31.97	-1.26	-3.78	+10.12	+0.52
Petrobras-3 (spse)	5.52	-0.29	-5.06	+7.44	+19.72
Petrobras-4 (spse)	5.02	-0.29	-5.39	-4.59	+19.31
CNOOC-H (sehk)	1.26	-0.08	-6.27	+8.72	+34.83
Equinor (osl)	32.96	-2.22	-6.32	+53.41	+23.04
PetroChina-H (sehk)	0.47	-0.04	-7.78	-4.23	+5.05
Ecopetrol (bvc)	0.52	-0.19	-26.87	-29.14	-21.75
EIF Global Index	**330.10**	**-9.06**	**-2.67**	**+15.84**	**+13.44**

*Converted US$/share.

INDEXES

Equity Indexes	Close Jun 24	1-Wk Chg.	% Chg. 1-Wk	% Chg. 52-Wk	% Chg. YTD
DJIA	31,500.68	+1611.90	+5.39	-7.88	-13.31
S&P 500	3,911.74	+236.90	+6.45	-8.31	-17.93
FTSE 100	7,208.81	-64.60	-0.89	+1.39	-2.38
FTSE All-World	728.55	+34.05	+4.90	-13.89	-18.87
EIF Global	330.10	-9.06	-2.67	+15.84	+13.44
S&P Global Oil	1,624.38	-29.13	-1.76	+7.05	+4.65
FT Oil, Gas & Coal	7,107.51	-666.63	-8.57	+33.40	+24.08
TSE Oil & Gas	2,761.41	-48.57	-1.73	+27.17	+21.20
Emerging Markets					
Hang Seng Energy (HK)	20,791.03	-1277.71	-5.79	+22.42	+23.71
BSE Oil & Gas (India)	17,350.89	+152.86	+0.89	+2.21	-0.90
RTS Oil & Gas (Russia)	+242.32	+14.87	+6.54	+2.28	+1.88

COMMODITY PRICES

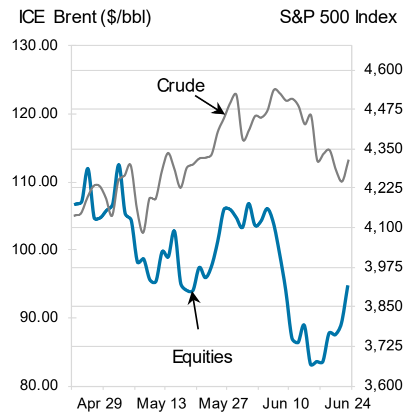
	Close Jun 24	1-Wk Chg.	% Chg. 1-Wk	% Chg. 52-Wk	% Chg. YTD
Dated Brent	117.45	-2.35	-1.96	+54.56	+51.86
Brent 1st ICE	113.12	0.00	0.00	+49.71	+45.44
WTI 1st (Nymex)	107.62	-1.94	-1.77	+46.82	+43.09
Oman 1st (DME)	109.23	+0.07	+0.06	+48.79	+42.43
RBOB (Nymex)	3.88	+0.09	+2.42	+70.32	+74.32
Heating Oil (Nymex)	4.36	+0.02	+0.53	+101.77	+87.24
Gas Oil (ICE)	1,302.00	+8.00	+0.62	+115.83	+95.20
Henry Hub (Nymex)	6.22	-0.72	-10.43	+81.98	+66.76
Henry Hub (Cash)	5.80	-2.08	-26.40	+72.82	+51.67
UK NBP (Cash)	147.00	-78.00	-34.67	+82.38	+13.08

SHARE PRICES IN LOCAL CURRENCY†

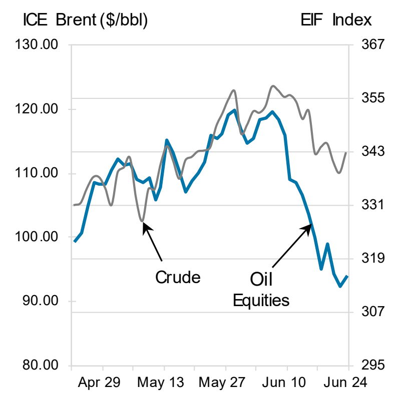
	Close Jun 24	1-Wk Chg.	% Chg. 1-Wk	% Chg. 52-Wk	% Chg. YTD
NOCs					
Rosneft (mos)	377.00	-7.45	-1.94	-33.39	-37.16
Gazprom (micex)	296.00	-19.50	-6.18	+6.94	-13.77
PetroChina-S (sesh)	5.34	-0.58	-9.80	-0.93	+8.76
Equinor (osl)	324.25	-26.35	-7.52	+77.61	+37.45
Sinopec-S (sesh)	3.21	-0.14	-4.18	-14.40	-23.02
Saudi Aramco (sse)	37.20	-1.30	-3.38	+5.83	+14.30
CNOOC-S (sesh)	17.03	-1.58	-8.49	N/A	N/A
PTTEP (set)	153.50	-12.50	-7.53	+28.99	+30.08
Sinopec-H (sehk)	3.48	-0.03	-0.85	-16.14	-4.13
CNOOC-H (sehk)	9.86	-0.74	-6.98	+9.92	+35.75
Petrobras-4 (spse)	26.29	-1.02	-3.73	+2.99	+12.27
Petrobras-3 (spse)	28.91	-1.02	-3.41	+16.36	+12.65
PetroChina-H (sehk)	3.67	-0.42	-10.27	-3.17	+5.76
Ecopetrol (bvc)	2,139.00	-621.00	-22.50	-22.22	-20.48
Majors					
TotalEnergies (par)	49.56	+0.21	+0.44	+23.10	+11.04
Exxon Mobil (nyse)	86.90	+0.78	+0.91	+34.69	+42.02
Chevron (nyse)	144.77	-3.61	-2.43	+35.12	+23.37
BP (lse)	386.50	-40.90	-9.57	+19.18	+16.94
Shell (lse)	2,087.50	-183.50	-8.08	+40.80	+28.72
Regional Integrateds					
Lukoil (mos)	4,100.00	-82.00	-1.96	-39.34	-37.60
Eni (mise)	11.67	-0.34	-2.86	+10.68	-4.53
OMV (vse)	44.62	+0.50	+1.13	-10.33	-10.67
Repsol (bme)	13.75	+0.01	+0.07	+23.90	+31.76
Global Independents					
Woodside Petroleum (asx)	30.61	-1.31	-4.10	+35.56	+39.58
Occidental (nyse)	57.52	+1.84	+3.30	+81.22	+98.41
Kosmos Energy (nyse)	6.25	-0.32	-4.87	+60.67	+80.64
Hess (nyse)	101.69	-1.18	-1.15	+14.90	+37.36
APA (nyse)	36.45	-2.77	-7.06	+63.75	+35.55
ConocoPhillips (nyse)	90.91	-2.83	-3.02	+48.09	+25.95
EOG Resources (nyse)	110.59	-1.08	-0.97	+33.12	+27.30
Refiners					
Reliance Industries (bse)	2,500.75	-88.55	-3.42	+13.41	+5.60
Eneos (tyo)	498.50	-39.80	-7.39	+6.04	+15.85
Phillips66 (nyse)	84.20	-6.31	-6.97	-6.12	+16.20
PBF Energy (nyse)	30.26	-2.72	-8.25	+87.83	+133.31
Marathon Petroleum (nyse)	85.68	-1.61	-1.84	+37.44	+33.90
Valero (nyse)	103.93	-8.51	-7.57	+27.16	+38.37
HollyFrontier (nyse)	43.49	-1.51	-3.36	+29.13	+32.67
Oil-Field Services, EPC					
Saipem (mise)	23.70	-19.30	-44.88	+1021.63	-73.02
Worley (asx)	13.62	-0.21	-1.52	+13.97	+28.13
Petrofac (lse)	119.10	-13.30	-10.05	+6.64	+3.30
Fluor (nyse)	23.72	-0.50	-2.06	+28.01	-4.24
Baker Hughes (nyse)	28.47	-1.49	-4.97	+20.89	+18.38
TechnipFMC (nyse)	6.32	-0.27	-4.10	-31.97	+6.76
Transocean (nyse)	3.49	-0.03	-0.85	-24.62	+26.45
Halliburton (nyse)	30.95	-0.74	-2.34	+30.04	+35.33
Schlumberger (nyse)	35.06	-1.58	-4.31	+5.41	+17.06
Wood Group (lse)	165.95	-25.65	-13.39	-19.68	-13.16
Midstream					
TC Energy (tsx)	66.81	+1.49	+2.28	+6.01	+13.56
Williams (nyse)	30.05	+0.31	+1.04	+12.25	+15.40
Plains All-American (nyse)	9.92	+0.21	+2.16	-12.83	+6.21
Enterprise Products (nyse)	23.99	+0.54	+2.30	-0.58	+9.24
Kinder Morgan (nyse)	16.48	+0.43	+2.68	-9.65	+3.91
Enbridge (tsx)	53.85	+1.14	+2.16	+9.01	+8.99

*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

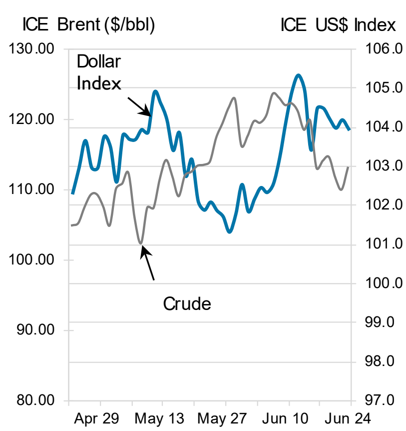
CRUDE VS. EQUITIES



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.