Energy Intelligence

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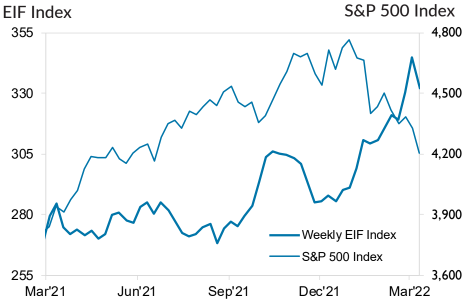


EIF Global Oil and Gas Index of 22 traded equities

OUR TAKE

Regaining a Seat at the Table

Energy security has vaulted to the top of the political agenda. The need to ensure reliable, affordable and clean energy supplies is permeating discussions of economic policy, national security and the energy transition. Energy Intelligence sees a rare opportunity for Western oil and gas companies to regain credibility in the energy debate if they can offer pragmatic solutions that keep the lights on today without slowing the energy transition tomorrow.

- Governments are again turning to Western energy companies for advice. New lines of communication are opening between companies and politicians. Whether this involves direct talks between EU Energy Commissioner Kadri Simson and gas producers like QatarEnergy or phone calls from the Biden administration to US independents, industry has a fresh chance to help shape energy policy.

- Energy security will become a significant election issue in the West for the first time in more than a decade. Energy is now seen as central to debates around national defense and foreign policy, as well as economic policy and inflation. This is already playing out in places like Germany, in debates over the Nord Stream 2 pipeline, plans to phase out nuclear power and the pace of the renewables rollout. In the US, energy policy is set to be a key factor in the upcoming midterm elections.

- Industry has a clear opportunity to secure a more stable place for natural gas in the medium-term energy mix. There is growing acceptance of a more inclusive transition that seeks to hit decarbonization goals with renewables, hydrogen and other technologies, but accepts natural gas in the medium term. But while policymakers acknowledge they need more gas, they want it now, and not forever. The challenge for companies is to mobilize sufficient gas volumes quickly, which don't rely on long-term commitments or paybacks of 20 years or more. A fast-tracked project by Eni and New Fortress Energy off Congo (Brazzaville) is one such example. US LNG projects and shale oil and gas producers also have an opportunity, but will need to move quickly to clinch it.

- Long-term, energy companies can also secure stronger support for their energy transition goals in the name of energy security. Europe clearly views renewable power as the long-term answer to energy independence. Government support for green hydrogen may be easier to come by, as a homegrown alternative to foreign energy supplies.

- But companies must also get the tone right — and signs so far are that they have this right. They should resist temptation to say "I told you so," which could squander their chance to rebuild credibility with policymakers and the public. Aramco CEO Amin Nasser put it well when he said in Houston that executives were "ready to listen, we are willing to engage, and we are eager to help deliver a truly sustainable energy future." Current events have handed the industry an unexpected opportunity to reclaim its seat at the table. But this needs to be a partnership that meets the needs of both sides.

CORPORATE PROFILE

War Hits Gazprom's Export Strategy

- *The war in Ukraine is challenging Gazprom's long-term plans to center is export strategy around Europe and secure more consumers with long-term supply deals.*

- *Gazprom will try to diversify into exports of petrochemicals and LNG and place greater emphasis on pipeline flows to China, which now gets crucial leverage in price talks.*

- *Domestic consumption was once counted on for growth but Western sanctions pressuring the Russian economy put that forecast in doubt.*

The Issue

The European Commission's plan to phase out natural gas imports from Russia by 2027 in response to the invasion of Ukraine creates challenges for state-run pipeline gas exporter Gazprom. Gazprom, and Russia as a whole, will likely have to find alternative ways to monetize its gas and reconsider upstream projects. Such efforts may prove increasingly problematic if Russia's international isolation continues.

New 'New Normal'

It is too early to assess how much Russian gas Europe might buy in the next several years, but like Russia's wider energy strategy, Gazprom's export strategy will likely need to change. The gas giant had planned to send 70% of its gas exports, including LNG, to Europe by 2030 but that may no longer be realistic. The EU seeks to completely phase out Russian energy imports by 2027 and slash gas imports by two-thirds, or some 100 billion cubic meters, as soon as the end of this year. The EU goals may prove to be overambitious but they nevertheless represent a clear intention to reduce reliance on Russian oil and gas.

The EU's push for independence from Russian gas imports suggests Gazprom's exports to Europe (including Turkey) might have peaked in 2018 when they hit a record 201.8 Bcm. In early 2020, Gazprom had described these export levels as a "new normal" that would continue, depending on the weather, until at least 2030. The company called for European buyers to sign new long-term deals to secure supply above existing contracts for about 205 Bcm/yr. However, even before the Russian invasion, Europe had clearly opted to accelerate the energy transition in response to rising natural gas prices.

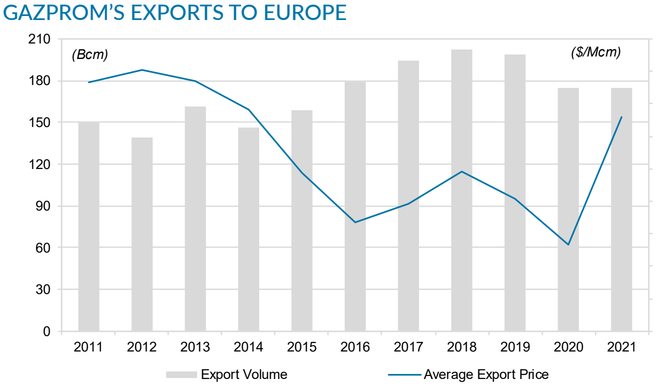
In the near-term, Gazprom's strategy looks safe. It can maintain its contracted volumes and reap the benefits of the record-high gas prices. Neither Russia nor Europe is interested in immediately cutting off all gas flows. High prices give Gazprom windfall revenue to offset declines in export volumes. And it can bolster cash reserves for key projects at a time when its ability to tap foreign capital markets is hindered by the US financial sanctions.

Upstream Rethink

With its key European market potentially shrinking in size, Gazprom might need to reconsider its upstream plans. This could be especially true in the Arctic, its new key production region for supplies to domestic consumers and to Europe. Arctic projects have already been delayed over the past several years due to uncertainty over long-term demand.

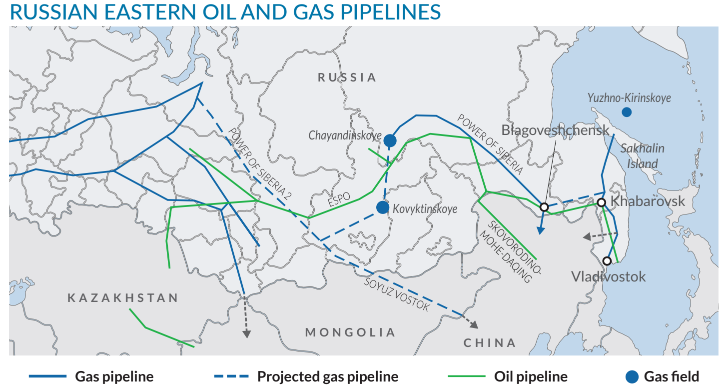
Gazprom said last year, it can keep production above 500 Bcm/yr over the next couple of years without launching new fields, by adding more wells at existing ones. Gazprom produced 514.8 Bcm in 2021, slightly short of its maximal capacity of around 550 Bcm/yr. But with Europe moving away from large volumes of pipeline gas, Gazprom's production looks likely decrease. The

GAZPROM'S EXPORTS TO EUROPE



Source: Gazprom, Energy Intelligence

RUSSIAN EASTERN OIL AND GAS PIPELINES



Source: Gazprom, Energy Intelligence

domestic market cannot accommodate the spare gas while capacity to immediately increase exports to China or LNG production is simply nonexistent.

The exact sanctions impact has yet to be assessed, but the limited access to foreign currency reserves and the exodus of foreign companies could lead to an economic slowdown in Russia, putting domestic gas consumption growth forecasts in doubt. Gazprom last year projected Russia's gas consumption to grow to around 510 Bcm/yr by 2024 and 520 Bcm/yr by 2030 from just above 450 Bcm/yr in 2020. Gazprom accounts for roughly 50% of the domestic market; it sold 257.8 Bcm at home in 2021, up from 225.9 Bcm in 2020. Gazprom's key focus at home will be the nationwide gas grid expansion project, which it believes should add 18.6 Bcm/yr to Russia's consumption by 2025.

Turning to LNG, Petrochemicals

To monetize its gas abroad, Gazprom could intensify its recent strategic shift toward gas processing, petrochemicals and LNG. But these sectors are highly dependent on foreign technology and equipment, putting them at risk from ever-expanding sanctions and the exit of Western companies. There is also a danger that buyers — especially those in Europe — may shun Russian LNG volumes as has already happened at some European ports.

Russia still lacks its own large-scale liquefaction technology and imports a big share of equipment for LNG plants. Moreover, Gazprom has traditionally not emphasized LNG, preferring to focus on pipeline gas exports, meaning it has less experience in developing such projects. Gazprom now controls the 10 million-plus ton per year Sakhalin-2 plant, launched in 2009, which Shell has now decided to quit. It has yet to launch its second plant, the medium-sized Portovaya, initially scheduled for 2018 and in the commissioning stage since late 2021. It is not clear whether it can bring on the 13 million ton/yr Ust-Luga facility on time in 2024.

Pipe Dreams of China

Russia is prioritizing expansion of pipeline gas exports to China amid worsening relations with the West. Moreover, Gazprom does not depend on Western technology to build trunk pipelines like it does in LNG or petrochemicals. During the wave of Western sanctions over annexation of Crimea in 2014, Gazprom signed the 38 Bcm/yr Power of Siberia gas supply deal with China National Petroleum Corp. and began shipping volumes in 2019. Gazprom later said it could export up to 130 Bcm/yr via pipeline to China. So far, however, it has only signed one new deal for an additional 10 Bcm/yr of supply through the "far eastern route" in early February this year.

Given their strategic importance, Gazprom looks likely to approve massive new pipeline construction projects, including the 50 Bcm/yr Power of Siberia 2 link across Mongolia. But getting gas to China is one thing and making money on those sales can be another. With basically nowhere else to go, Gazprom will most likely have to give price concessions to Beijing, calling into question whether those large investments will actually be profitable for Russia.

Staff Reports

GAZPROM'S KEY PROJECTED GAS FIELDS

Field	Location	Plateau Output (Bcm/yr)	Start-Up Date	Date of Plateau Output
Kovyktinskoye	East Siberia	27.2	2022	2026
Semakovskoye	Nadym-Pur-Taz, West Siberia	14.2	2022	2029
Urengoi (Achimov deposits), Block 3	Nadym-Pur-Taz, West Siberia	5.0	2023	2024
Kharasaveiskoye (Cenomanian-Aptian deposits)	Yamal Peninsula	32.0	2023-24	2025-26
Yuzhno-Kirinskoye	Offshore Sakhalin Island, Far East	21.0	2023-25	2029-33
Bovanenkovskoye (Neocomian-Jurassic deposits)	Yamal Peninsula	20.0	2025	2031
Tambei	Yamal Peninsula	55.3	2026	NA
Kharasaveiskoye (Neocomian-Jurassic deposits)	Yamal Peninsula	24.5	2026	2027
West Yubileinoye	Nadym-Pur-Taz, West Siberia	21.0	2026	2027
Kamennomysskoye-Sea	Yamal Peninsula	15.1	2027	2029
Kruzenshternskoye	Yamal Peninsula	33.0	2028	2032-33
North Kamennomysskoye	Yamal Peninsula	14.5	2029	2031
Shtokman	Barents Sea	71.7	Pre-investment feasibility study completed. Pending further study to optimize project costs.	

Source: Gazprom, Energy Intelligence

PEER STRATEGY

Europe's Energy Security Push Creates Opportunities

- *The push to bolster Europe's energy independence by diversifying supplies and stepping up renewable power generation will require support from the private sector.*
- *The shift in Europe's energy supply could help create the markets companies need to accelerate their energy transition strategies.*
- *For Europe's majors, the additional demand for gas, LNG and planned expansion of renewable capacity and green gas production could create a golden opportunity.*

The Issue

Major European producers and their partners are among those scrambling to identify and secure alternative sources of supply to replace Russian energy in Europe. Cutting energy reliance on Russia is seen by policymakers in the UK and EU as a strategic imperative and plans are already under way to slash Russian oil and gas imports. Plans include efforts to diversify gas supplies, accelerate expansion of wind and solar power and boost volumes of biomethane and renewable hydrogen, which will require private investment to bring to market.

Replacing Russian Volumes

The UK intends to phase out Russian crude oil imports by the end of this year, which account for 8% of total oil demand. Whitehall is also weighing options to replace Russian gas, which accounts for less than 4% of its gas supply. But the EU is much more reliant. The European Commission last week set out plans to slash Russian gas imports by two-thirds, or roughly 100 billion cubic meters, within a year. Russia supplied about 45% of the bloc's gas imports in 2021. That means replacing 60 Bcm of Russian gas with 50 Bcm of additional LNG and 10 Bcm of pipeline gas from other sources by the year's end.

Additional Gas and LNG

For LNG-focused European companies, the strategic shift in supplies could open up a new market right in their backyard and they are already moving to help the continent diversify its supply base.

"Together with the Italian government, we are working with our upstream partners and alliances to identify and secure alternatives to the Russian gas that we require for our energy security," Eni CEO Claudio Descalzi said in a post on LinkedIn.

To that end, Eni is seeking to boost gas supplies to southern Europe via pipeline from Algeria, Europe's third-largest gas supplier and a key supplier to Italy. The Italian major, which has long-term gas contracts with Algeria's state-owned Sonatrach, last year signed an accord aimed at increasing output. And it is now said to be closing in on a deal with BP to buy stakes in the country's In Salah and In Amenas gas plants. Italy could become a future strategic entry point into Europe for gas — and green hydrogen — produced in North Africa and beyond.

Equinor will look to maintain natural gas output over the summer, boosting flexible production through increased quotas at Troll and Oseberg and prioritizing gas sales over gas reinjection at Gina Krog to help refill Europe's depleted storage. Norway, Europe's second-largest gas supplier, is looking to deliver more gas supply this year after record earnings from gas sales in 2021. Equinor is also due to restart its Arctic Hammerfest LNG plant in mid-May after it was damaged by a blaze in 2020.

In addition to Equinor, Shell is seen as likely to benefit from additional gas and LNG demand analysts at RBC Capital Markets said in a note to clients. They also highlighted US LNG exporter Cheniere Energy.

Biomethane Boost

Europe's plan to get off Russian oil and gas, dubbed "REPowerEU," also seeks to scale up biomethane production to 35 Bcm — or 350 terawatt hours — by 2030, up from 3 Bcm now, using sustainable biomass sources such as agricultural wastes and residues. That's double the current EU ambition. The target represents over 20% of current EU gas imports from Russia.

European majors Shell, TotalEnergies, Eni, and BP are all well-positioned in the growing European market. In the UK, BP recently took a 28.6% stake in Gasrec, which supplies biomethane in the form of bio-LNG and bio-CNG to the country's heavy goods vehicles industry. "This is a sector that we're increasingly excited about," BP boss Bernard Looney told investors last month. "It is capital light. It is highly modular and capable of rapid growth. It can achieve very low carbon intensities." And it creates value for BP through strong integration and trading while delivering high returns and very fast paybacks on investment, he said.

Consultancy Common Futures reckons biomethane can be produced at scale for €60 per megawatt hour and is therefore cheaper than current natural gas prices and about three to four times cheaper than green hydrogen right now. In France, Total is a leading player, with close to 500 gigawatt hours of production capacity. Earlier this month, the French major forged an agreement with the French Federation of Farmers' Unions to produce biomethane from agricultural waste. And it is developing and co-investing with Veolia in a portfolio of international projects. It aims to produce at least 2 TWh of biomethane per year by 2025.

Green Hydrogen Ramp-Up

REPowerEU would also create a Hydrogen Accelerator, developing integrated infrastructure, storage facilities and port capacities. The commission estimates that an additional 15 million tons of renewable hydrogen can replace 25-50 Bcm/yr of imported Russian gas by 2030. This would include around 10 million tons of imported renewable hydrogen from diverse sources and 5 million tons of renewable hydrogen produced in Europe above the 5 million tons already planned.

That could create opportunities for Repsol, which is making the leap straight to renewable green hydrogen, while some of its peers plan to use fossil fuels and CCUS to create blue hydrogen. Repsol is heading a multisectoral consortium that will invest over €3.2 billion in renewable hydrogen production using solar and wind power across Spain by 2030. By then, it aims to have installed hydrogen capacity equivalent to 2 GW. Repsol plans to install electrolyzer plants at some of its industrial complexes on the Iberian Peninsula. The first will be installed at its Petronor refinery in Bilbao later this year, with a capacity of 2.5 MW.

Other European majors pursuing green hydrogen projects include Equinor and Shell — consortium members of the NorthH2 project in the Netherlands, one of the biggest proposed green hydrogen projects in the EU. BP has the Hygreen project at Teesside in the UK that could be scaled up to 500 MW electrolyzer capacity by 2030, up from an initial 60 MW.

Deb Kelly, London

Q & A

Ecopetrol Looks to Future Growth

Ecopetrol has refashioned its strategy to pivot the company into the energy transition. It has been one of the first national oil companies to pledge net zero emissions, entered into the utility business with the takeover of ISA and revitalized its oil and gas business both in Colombia and abroad. Below are excerpts from Energy Intelligence's recent conversation with Ecopetrol CEO Felipe Bayon.

Q: In 2021, your reserve replacement ratio was 200%. How much of that was related to price?

A: I think probably 40% is price, so which means that if we strip out the price effect, we would have replaced 120%, which is great news. In recent years I've said that achieving a reserve replacement ratio over 100% was something that we wanted to achieve and we've demonstrated we're capable of doing that. Ecopetrol, [which ended 2021 with 2 billion barrels of oil equivalent of reserves], has always been sort of mentioned in terms of saying, look, you don't have enough reserves, and you're on the low end. People are now saying you're delivering. The track record is there.

Q: Is it possible to accelerate organic growth?

A: We're ramping up the number of wells, so in the next three years we want to have 1,800 development wells plus 60 exploration wells. Our capex is going up by 50%, and most of it will be deployed in Colombia. So, from that point of view, there's an opportunity organically to continue to bring barrels, reserves and then production and value from Colombia. There's a lot of work just to keep production flat. Per our three-year plan we want to go to 730,000 barrels per day and if we look at 2030 we could be between 800,000-850,000 b/d. And if there is upside in price, there could be a lot more opportunity. Directionally we think it's possible but it's a combination of maintaining the base but also ensuring that EOR [enhanced oil recovery] and recovery work.

Q: Ecopetrol wants to focus on priorities including growth, short-cycled hydrocarbons, returns and debt reduction. Amid such priorities, are more extraordinary dividends envisioned in the future?

A: We've said in the dividend policy that we can distribute between 40% and 60%. Stepping back to 2020, we distributed 41.41%, so it was in the low end of the range. Here we're saying look, we can go to 60% ... I can go to 59%. I think there's a possibility to tell our shareholders we want to give them something back, we want to produce value for them. With prices at $110, $120, $130, discipline is very important. We'll be receiving a lot more from our sales, clearly but we don't want a knee jerk in terms of investments. I could accelerate on the margins some projects and bring some production forward. I could do some inorganics. I could prepay debt, which is very important if I have the opportunity. Optionality is very important and sort of using our balance sheet to be able to deal with some of these things is critical. But, in that menu of options is there the possibility of returning more to shareholders? The answer is yes.

Q: Would you consider acquisition opportunities in Colombia if they arose?

A: We're constantly assessing our portfolio and remember this activity is not only buying things, but also ensuring that if somebody else can do something better with an asset that you have, you can put that into the market. It has to be part of the churn and rotating your portfolio has to be part of what you do. We already have 70% of the market and I wouldn't want to be 90%. Why? I want competition. I want to learn from others. I want to have their capabilities, knowledge and technology. It's good for us, and good for the country.

Q: Shell, the operator and your partner, is planning to spud the Gorgon-2 well offshore Colombia later this month. How big could this well be?

A: It's an appraisal well that will help us delineate and sort of better understand and assess potential for both volumes and production. There are a lot of expectations. It will be a big well and probably in some 90-100 days we'll have results. Depending on that, we'll be able to then think about the development plan. It's near the border with Panama and in an area which could become a quite interesting hub. Our view in Ecopetrol is that there could be north of 6 trillion-7 trillion cubic feet. Today, Colombia has probably around 3 Tcf of of reserves, so this could be quite significant, and again, if there's one well and it's successful, there will be more wells to come.

Q: You've been in the Permian now for two years. How would you rate your experience?

A: We've managed to go from November 2019 to the end of last year from zero production in the Permian to gross 50,000 b/d. We have more than 100 wells that are producing. We're very happy with the results in terms of the operations. Oxy continues to demonstrate their desire to have safe operations and they continue to break records. Last year alone, the Permian provided us with $250 million of Ebitda and an Ebitda margin that's north of 80%. These short-cycled projects have the ability to react very quickly and they're very profitable. The other thing that's interesting is that our carbon intensity in the Permian is a third of that of our average operations. If you look at water recycling and reuse, it's more than 60% of the water we use. The Permian hits on things that are important to us: reserves and production. The other thing is that when we went into the Permian we booked 164 million barrels. Today, we have 200 million bbl. So, it's accretive in terms of reserves, production, Ebitda, value and knowledge.

Q: How important are the US and Asian markets for Ecopetrol's exports?

A: Asia and the US are very important markets to us. Asia now is the end market for almost 60% of our exports. We're actually opening our offices in Singapore as we want to be connected 24/7 to the markets. We sell crudes to China, we'll sell crudes to India. We've done deals with South Korea and Brunei. We've sold to Europe as well. So, we're open to doing different bits and pieces. The most important thing is we've managed to establish long-term relationships with these customers, our clients. And I think that's how I want to view it.

Q: How did your first sale of carbon compensated oil work out?

A: We wanted to test the markets and offer 1 million bbl of Castilla blend. We got north of 10 interested companies, and PetroChina [agreed] to take the barrels and pay for the offset. So, basically from production in the well, transportation, storage and then taking those barrels all the way from Covenas in Colombia to China, everything is being compensated. It's a project in Antioquia and is a generating opportunity at a very small dam.

Q: Gustavo Petro is leading many of the presidential election polls ahead of elections later this summer. Petro has said he would favor halting new exploration. Is that something that worries you and Ecopetrol?

A: Right now we have north of 250 opportunities for exploration lined up. Let's assume I did 25 per year, I have 10 years of activity. Even if he blocks exploration for one, two, three or four years for one term, assuming he'd be president ... I have a lot of things I can do. Today, we have our own gas. If we didn't have gas in Colombia we'd have to import gas from the US. [Amid high gas prices in Europe], Colombia is not suffering because we have gas and have fixed long-term gas prices in dollars. We're processing our own crude, and we're paying probably $2.20-$2.30 per gallon. If we had to import that would be easily two times [the cost]. So, from that point of view and the reality around economics in the country, somebody like Ecopetrol brings into the economy royalties, taxes and dividends and has become a leader in the transition, not only regionally.

Pietro Pitts, Houston

ENERGY AND EQUITY MARKET DATA For the week ended Mar 11, 2022

EIF GLOBAL INDEX COMPONENTS*

	Close Mar 11	1-Wk Chg.	% Chg. 1-Wk	% Chg. 52-Wk	% Chg. YTD
Chevron (nyse)	170.90	+12.25	+7.72	+53.70	+45.63
ONGC (bse)	2.30	+0.14	+6.29	+45.90	+20.17
Shell (lse)	25.60	+1.35	+5.57	+16.53	+16.66
Reliance Industries (bse)	31.36	+0.93	+3.05	+4.49	-1.39
TotalEnergies (par)	49.73	+1.11	+2.29	-0.57	-1.97
Ecopetrol (bvc)	0.89	+0.02	+2.06	+33.70	+34.65
BP (lse)	4.70	+0.09	+2.04	+5.06	+5.07
Eni (mise)	14.22	+0.18	+1.26	+15.21	+2.37
Exxon Mobil (nyse)	84.92	+0.83	+0.99	+38.51	+38.78
Suncor (tse)	31.77	+0.31	+0.97	+38.05	+26.84
Rosneft (mos)	2.44	-0.11	-4.23	-68.56	-69.71
PetroChina-S (sesh)	0.88	-0.04	-4.26	+28.73	+13.88
Lukoil (mos)	38.90	-1.76	-4.32	-54.80	-55.85
Equinor (osl)	31.85	-1.50	-4.49	+53.92	+18.89
Petrobras-4 (spse)	6.40	-0.36	-5.32	+80.52	+25.36
Petrobras-3 (spse)	6.86	-0.44	-6.07	+102.68	+24.47
CNOOC (sehk)	1.25	-0.08	-6.23	+4.32	+21.41
Saudi Aramco (sse)	10.96	-0.85	-7.21	+14.45	+14.88
PetroChina-H (sehk)	0.50	-0.04	-7.89	+28.77	+13.35
Sinopec-S (sesh)	0.59	-0.05	-8.19	+7.93	-10.37
Sinopec-H (sehk)	0.45	-0.05	-9.92	-19.62	-3.44
EIF Global Index	**332.66**	**-11.54**	**-3.35**	**+16.81**	**+13.91**

*Converted US$/share.

INDEXES

Equity Indexes	Close Mar 11	1-Wk Chg.	% Chg. 1-Wk	% Chg. 52-Wk	% Chg. YTD
DJIA	32,944.19	-670.61	-1.99	+1.41	-9.34
S&P 500	4,204.31	-124.56	-2.88	+6.73	-11.79
FTSE 100	7,155.64	+168.50	+2.41	+6.21	-3.10
FTSE All-World	793.38	-15.76	-1.95	+0.46	-11.65
EIF Global	332.66	-11.54	-3.35	+16.81	+13.91
S&P Global Oil	1,688.58	+14.62	+0.87	+16.03	+8.78
FT Oil, Gas & Coal	6,681.30	+364.40	+5.77	+21.35	+16.64
TSE Oil & Gas	2,863.13	+24.06	+0.85	+44.69	+25.66
Emerging Markets					
Hang Seng Energy (HK)	19,090.64	-1522.30	-7.39	+19.86	+13.59
BSE Oil & Gas (India)	18,105.12	+386.45	+2.18	+14.08	+3.41
RTS Oil & Gas (Russia)	151.47	0.00	0.00	-31.91	-36.32

COMMODITY PRICES

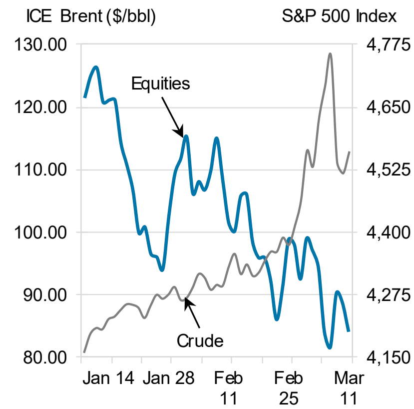
	Close Mar 11	1-Wk Chg.	% Chg. 1-Wk	% Chg. 52-Wk	% Chg. YTD
Dated Brent	117.65	-5.94	-4.81	+69.62	+52.12
Brent 1st ICE	112.67	-5.44	-4.61	+61.81	+44.86
WTI 1st (Nymex)	109.33	-6.35	-5.49	+65.60	+45.37
Oman 1st (DME)	112.09	-3.99	-3.44	+65.15	+46.16
RBOB (Nymex)	3.31	-0.23	-6.54	+54.92	+48.62
Heating Oil (Nymex)	3.42	-0.36	-9.50	+74.42	+46.67
Gas Oil (ICE)	1,012.00	-172.25	-14.55	+90.76	+51.72
Henry Hub (Nymex)	4.73	-0.29	-5.80	+77.10	+26.68
Henry Hub (Cash)	4.79	+0.04	+0.95	+82.63	+25.13
UK NBP (Cash)	313.00	-155.00	-33.12	+569.52	+140.77

SHARE PRICES IN LOCAL CURRENCY†

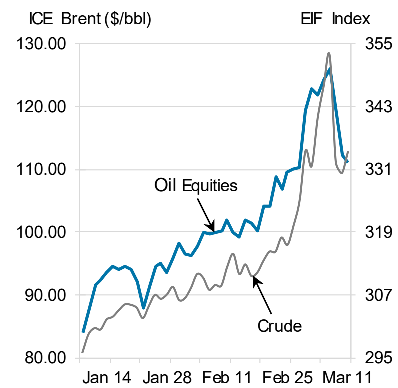
NOCs	Close Mar 11	1-Wk Chg.	% Chg. 1-Wk	% Chg. 52-Wk	% Chg. YTD
Ecopetrol (bvc)	3,400.00	+60.00	+1.80	+43.58	+26.39
Gazprom (micex)	238.00	0.00	0.00	+2.81	-30.67
Rosneft (mos)	308.00	0.00	0.00	-45.77	-48.66
PTTEP (set)	149.50	-1.00	-0.66	+25.10	+26.69
Equinor (osl)	286.65	-11.85	-3.97	+64.51	+21.51
Petrobras-4 (spse)	32.49	-1.74	-5.08	+65.48	+14.20
CNOOC (sehk)	9.79	-0.63	-6.05	+5.27	+21.92
Saudi Aramco (sse)	41.10	-3.20	-7.22	+14.48	+14.80
PetroChina-H (sehk)	3.95	-0.33	-7.71	+29.93	+13.83
Sinopec-H (sehk)	3.52	-0.38	-9.74	-18.89	-3.03
Majors					
Chevron (nyse)	170.90	+12.25	+7.72	+53.70	+45.63
Shell (lse)	1,963.60	+130.20	+7.10	+25.05	+21.08
BP (lse)	360.40	+12.25	+3.52	+12.75	+9.05
TotalEnergies (par)	45.59	+1.09	+2.45	+9.22	+2.15
Exxon Mobil (nyse)	84.92	+0.83	+0.99	+38.51	+38.78
Regional Integrateds					
OMV (vse)	42.61	+2.11	+5.21	-2.98	-14.69
Repsol (bme)	11.63	+0.17	+1.47	+8.22	+11.48
Eni (mise)	13.04	+0.18	+1.42	+26.56	+6.68
Lukoil (mos)	4,921.00	0.00	0.00	-21.98	-25.10
Global Independents					
Kosmos Energy (nyse)	6.24	+0.61	+10.83	+77.78	+80.35
Occidental (nyse)	57.95	+1.80	+3.21	+87.06	+99.90
Woodside Petroleum (asx)	31.98	+0.56	+1.78	+29.21	+45.83
Apache (nyse)	39.05	-0.43	-1.09	+78.39	+45.22
EOG Resources (nyse)	116.68	-2.07	-1.74	+60.55	+31.35
ConocoPhillips (nyse)	98.41	-1.86	-1.85	+64.48	+36.34
BHP (asx)	47.69	-2.25	-4.51	+1.90	+14.92
Hess (nyse)	94.61	-6.56	-6.48	+29.27	+27.80
Refiners					
PBF Energy (nyse)	25.28	+5.07	+25.09	+41.47	+94.91
HollyFrontier (nyse)	35.68	+5.53	+18.34	-13.54	+8.85
Valero (nyse)	91.67	+5.69	+6.62	+11.14	+22.05
Reliance Industries (bse)	2,398.50	+73.15	+3.15	+9.94	+1.28
Marathon Petroleum (nyse)	78.51	+0.78	+1.00	+35.36	+22.69
Eneos (tyo)	451.60	-17.30	-3.69	-8.60	+4.95
Phillips66 (nyse)	80.77	-3.53	-4.19	-7.93	+11.47
Oil-Field Services, EPC					
Fluor (nyse)	28.52	+5.07	+21.62	+36.20	+15.14
Baker Hughes (nyse)	37.65	+4.43	+13.34	+55.84	+56.55
Transocean (nyse)	4.73	+0.49	+11.56	+3.96	+71.38
Petrofac (lse)	110.90	+11.15	+11.18	-13.25	-3.82
Schlumberger (nyse)	42.90	+3.96	+10.17	+45.92	+43.24
Halliburton (nyse)	37.41	+3.28	+9.61	+56.92	+63.58
Wood Group (lse)	173.35	+15.05	+9.51	-45.83	-9.29
Worley (asx)	12.70	+0.51	+4.18	+18.58	+19.47
Saipem (mise)	0.97	+0.02	+2.41	-60.40	-47.44
TechnipFMC (nyse)	7.47	+0.02	+0.27	-15.97	+26.18
Midstream					
Enbridge (tsx)	56.66	-0.24	-0.42	+24.50	+14.67
Plains All-American (nyse)	10.80	-0.06	-0.55	+12.03	+15.63
Enterprise Products (nyse)	25.22	-0.21	-0.83	+8.24	+14.85
TC Energy (tsx)	69.66	-2.07	-2.89	+19.22	+18.41
Kinder Morgan (nyse)	18.10	-0.74	-3.93	+11.73	+14.12
Williams (nyse)	31.90	-1.57	-4.69	+33.47	+22.50

*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

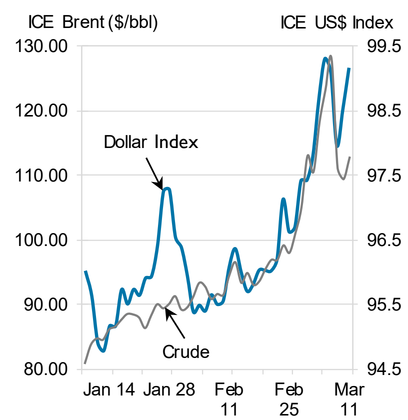
CRUDE VS. EQUITIES



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.