Oil Market Outlook
Three related bull runs: Global gas and emissions seeping into oil

Daily EUA and TTF price moves
€/t (LHS); €/MWh (RHS)

Bull runs have taken place in both markets, although at slightly different times.

Source: Refinitiv, Argus Media Group Energy Aspects

Brent crude forward curve
$/bbl

Tightness in wider global energy markets has contributed to a $10/bbl rise in the Brent forward curve over the last month.
Energy transition: global E&P Capex is being constrained by ESG mandates

### Global E&P spending

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<tr>
<th>Regions</th>
<th>2022E</th>
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Capex directed toward fossil fuel development is expected to remain constrained despite the uptick in oil prices.

ETF flows by subsector

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ESG mandates are limiting the investment flow from generalist/institutional investors into energy.

Source: Company reports, Bloomberg, Energy Aspects
Oil fundamentals are sound, with hefty stockdraws continuing.

**Cumulative visible crude inventory change vs Jan 20**

In September, global crude stocks fell to 100 mb below January 2020 levels.

**Global crude stockdraws**

Onshore crude stocks have been consistently drawing in both the OECD and non-OECD since April.

Source: Kpler, EIA, PAI, Energy Aspects
OECD crude stocks are below the five-year minimum

Crude stocks have plummeted to below the five-year minimum, led by the US and Europe.

Even adjusting for lower runs, OECD crude stocks are below the five-year average.

Source: IEA, Energy Aspects
OECD products stocks have plummeted on low refinery runs

OECD products (ex other oils) stocks

Product stocks have also fallen below the five-year minimum as demand recovered but runs lagged.

OECD products (ex other oils) stocks forward cover

Stocks are less tight on a forward cover basis, but they still are below the five-year average.

Source: IEA, Energy Aspects
China releases SPR to tamp down inflation, but stocks are low

Crude stocks have been drawing since August 2020 across all tank sites, with majors’ stocks back at 2019 levels.

We expect more SPR releases in early 2022, but Chinese buying will pick up amid low stocks.

Source: Kpler, Energy Aspects
TTF tightness driven by storage adequacy concerns and supply issues

**European gas storage**

- **bcm**
- Three-year range
- 2020
- 2021
- Forecast

With Ukrainian storage also around 12 bcm lower y/y, aggregate storage in Europe is 28 bcm lower y/y in total.

**Imports of Russian gas into the EU market**

- **bcm/d**
- 3 year range
- 2020
- 2021
- Forecast

Russian gas supplies fell after a 25 bcm reduction in Ukraine transit capacity. Net flows stronger given limited backflows.

Source: Energy Aspects
Soaring gas prices are boosting liquids demand at the margin

**TTF forward curve**

€/MWh

- Oct 21
- Mar 21
- Sep 20
- Sep 18
- Sep 16

M1 M12 M23 M34 M45

Soaring gas prices could lead to 0.45 mb/d of incremental liquids demand y/y this winter.

**Oil-fired capacity by fuel in Europe**

GW

- ULSD
- Gasoil
- LSFO
- HSFO
- Unspecified

UK BE FR DE ES IT

There are limits to gas-to-oil switching in Europe, amounting to no more than 0.16-0.24 mb/d of liquids.

Source: Bloomberg, Company websites, Government websites, Energy Aspects
Gas prices are eating into refinery profitability

**Desulphurisation hydrogen cost vs natural gas**

- $/bbl; $/mmbtu
- Urals AGO
- Ekofisk AGO

**Hydrocracking unit margins**

- $/tonne
- Gross
- Adjusted for natural gas

The surge in gas prices is eroding complex margins by raising the cost of hydrogen production.

Rising cost of hydrogen production suppresses hydrocracking unit margins, depending on spot gas value exposure.

Source: Argonne National Laboratory, Energy Aspects
Global oil demand 100 mb/d from September

Global oil demand, y/y
mb/d

- **China**
- **Non-OECD ex-China**
- **OECD**

Vaccination rollouts will unleash significant pent-up demand from Q4 21.

Asian oil products demand
mb/d

- **2021**
- **2020**
- **2019**
- 2015-19 avg.

Asian oil demand is recovering quickly at the start of Q4 21 as restrictions continue to ease.

Source: Energy Aspects
Asia slowly abandoning zero-Covid cases policy

Vaccination rollouts are unleashing significant pent-up demand from Q4 21, two quarters ahead of expectations. Restrictions around Asia continue to ease as governments are slowly reopening the economies.

Source: Google, Energy Aspects
Power crisis in China: buy energy at any cost

Sharply lower coal stocks have spurred a power crisis in China, with the government now ready to secure energy at any cost.

But power curbs on some energy-intensive sectors will continue to meet China's emissions targets.
OPEC+ is only gradually restoring supply

**OPEC+ production (ex exempt countries)**

- **Current forecast**
- **Capacity (no cheating)**
- **New quota**

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**Change in production capacity since October 2018**

- UAE
- Kuwait
- Iraq
- Nigeria
- Kazakhstan
- Saudi Arabia
- Angola
- Others
- Russia
- Exempt-3

Several countries received higher baselines from May 2022, but monthly quota increases will still be around 0.4 mb/d.

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OPEC+ deal now runs to end-2022. Actual production will rise by less than quotas, with option to pause output three times.

Source: Energy Aspects
Impact of stalling Iran nuclear talks

**Iran crude production forecast**

- **mb/d**
- **Previous** and **Current**

Base case in our balances now shows a post-sanctions Iranian recovery starting in H2 22. Diplomatic timeline is uncertain.

**Country-level adjustments to OPEC supply**

- **mb/d**
- **Saudi Arabia**
- **Iran**
- **Kuwait**
- **UAE**
- **Net change**

GCC producers will ramp up more quickly to partly offset this delay, but net impact still tightens 2022 balances by 0.4 mb/d.

Source: Energy Aspects
The focus will shift to spare capacity in 2022

**Ability to use share of 5.8 mb/d quota increase**

- Others
- UAE
- Saudi Arabia
- Russia
- Oman
- Nigeria
- Kuwait
- Kazakhstan
- Iraq
- Azerbaijan
- Angola
- Algeria

Even with higher baselines, a growing number of members will not be able to produce at their full quotas.

**Available OPEC+ spare capacity**

- Saudi Arabia
- UAE
- Kuwait
- Russia
- Iran
- Rest of OPEC+

OPEC+ has enough spare capacity to add more supply in H2 21, but this buffer will become increasingly thin next year.

Note: Production capacity offline because of sanctions, conflict and other involuntary causes excluded from spare capacity.

Source: Energy Aspects
Capital discipline will limit US production growth

Permian completions by operator type

US onshore DUCs and forecast

Large-cap completions have remained stable on a percentage basis, while privates have risen against small caps and IOCs.

DUCs are drawing down rapidly, down to 2017 levels and rigs need to rise to sustain production in 2022.

Source: EIA, Enverus, Energy Aspects
Private operators are adding rigs fastest, while large caps are the most efficient

**US rig count**

IOC
Large-cap
Small-cap
Private

I OCs, large caps have kept oil rigs largely flat in 2021. Private producers have been adding rigs over the same time frame.

**US shale production declines by producer class**

IOC
Large-cap
Private
SmallCap

In the Permian, large caps have the most prolific wells among their peers, based on 2020 type curves.

Source: Enverus, Baker Hughes, Energy Aspects
US rig count will need to continue rising to support increased production

Rig counts will need to continue rising for production to grow through 2022 as DUCs draw down.

Source: Baker Hughes, Energy Aspects

US shale production will decline at a steep rate, so producers must “run faster to stay in place” during recovery periods.
There is more upside to oil prices despite the recent rally

Speculative capital deployed in oil is still $40bn lower than 2018, $30bn lower than 2014 and $20bn lower than 2019.

Roll yields offer significant return for oil investors, many of whom are positioned in gas and power instead.

Source: CFTC, CIE, Energy Aspects
# Crude oil price forecasts

## Energy Aspects crude oil price forecasts (2020–24)

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Source: Argus Media Group (actuals), Energy Aspects
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