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MACRO
GLOBAL

FUNDAMENTALEDGE

Prices to Come Down, Eventually

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What is Enverus' medium-term outlook for oil and natural gas?

KEY POINTS

- The surging dollar, signs of weakening U.S. and Chinese economies, and building recession risks ex-North America have prompted a price correction with Brent falling below $100/bbl. Demand headwinds are building but supply remains tight with no relief on the horizon. As the downside risks build, we expect Brent to consistently trade in the low $[illegible]/high $[illegible] next year.
- We expect U.S. oil supply to grow by [illegible] MMbbl/d E/E, concentrated in the Permian. Cost inflation and availability of crews remain significant headwinds to this forecast.
- Rising risks to global economic growth have prompted us to downgrade our 2022 E/E forecast to [illegible] MMbbl/d from [illegible] MMbbl/d. Similarly, we have downgraded our expectations for 2023 to [illegible] MMbbl/d Y/Y from [illegible] MMbbl/d Y/Y growth.
- Hot summer weather has kept gas demand strong and inventories low relative to the five-year average, despite the Freeport LNG outage (2 Bcf/d). Limited options for fuel switching and strong industrial demand support current prices (~$[illegible]/MMbtu) until spring of next year when we anticipate supply growth will push prices lower (~$[illegible]/MMbtu).
- U.S. industrial demand continues to increase, up [illegible] Bcf/d Y/Y as the U.S. threatens to replace uncompetitive European industrial production. This provides a structural advantage to the U.S. industrial sector and is bullish for natural gas demand domestically.
- Demand for U.S. oilfield goods and services continues to outpace the ability and desire to grow supply, leading to increased pricing power for service companies. As recession fears grow and oil prices start to come down, the pace of rig additions in oil plays will slow.

Oil and Gas Price Forecast

Elevated Prices to Ease

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OIL PRICE OUTLOOK

Breaking Below $ /bbl

We have downgraded our Brent oil price forecast from $ /bbl to the high $ s/low $ s by 1Q23 due to demand headwinds and outperforming Russian supply. Rising risks to global economic growth, as shown by slowing U.S. and Chinese economies and the risk of a European recession, increase bearish sentiment towards oil demand.

Recently, the strong backwardation in the forward curve has receded and is back to pre-war levels as weak economic data brings demand risks to the immediate horizon, while Russian oil supply appears to have defied sanctions so far and found buyers.

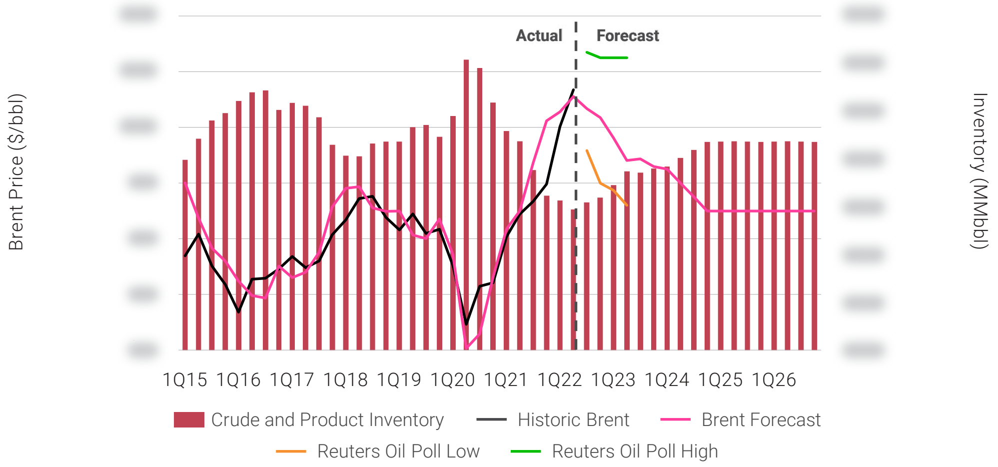
GAS PRICE OUTLOOK

Price Relief Expected Next Spring

We expect NYMEX Henry Hub natural gas prices to remain elevated at ~$ /MMbtu until spring 2023, when we forecast ~$ /MMbtu as U.S. supply grows. Prices are expected to be volatile as gas supply and demand are inelastic in the near term given takeaway constraints at the wellhead and limited options for fuel switching.

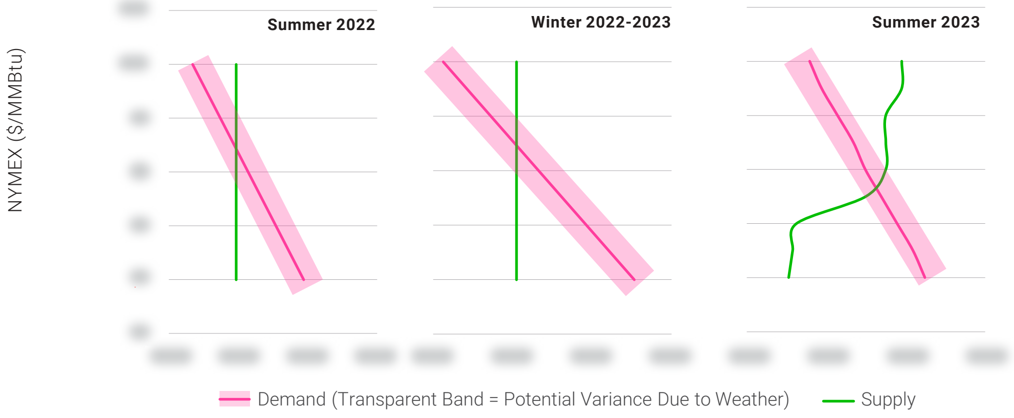
Despite the Freeport LNG outage easing U.S. balances by Bcf/d, storage inventories have failed to close the deficit to the five-year average. The natural gas injection rate has been declining for two months as the U.S. continues to experience hotter-than-normal temperatures across population centers in the south and northeast. As this trend of light injections continues, our expectation that U.S. storage reaches ~ Tcf looks increasingly optimistic.

FIGURE 1 | Inverse Correlation Between Inventories and Price



Source | Enverus Intelligence

FIGURE 2 | Back to Basics – Supply/Demand Curves = Price Expectations



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Oil Supply and Demand Fundamentals

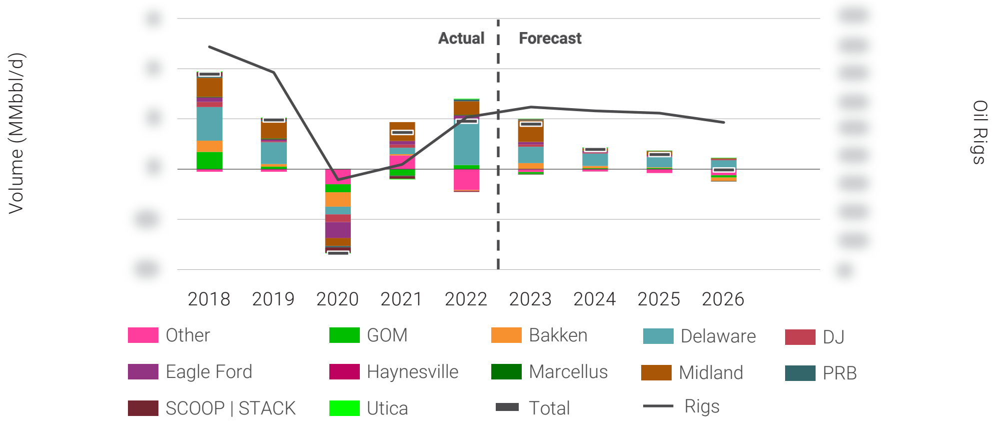
U.S. Supply Constrained, While Demand Downgrades Cloud Forward Picture

OIL SUPPLY

Still Expecting E/E ~ [illegible] Mbbl/d of U.S. Growth in 2022

The Biden Administration's decision to release an additional [illegible] MMbbls from the SPR should extend the SPR release by about one month to end of October based on the present release rate. We lowered our U.S. supply growth expectations since our last report, from [illegible] MMbbl/d to [illegible] MMbbl/d E/E on the back of weaker actuals, but still expect ~ [illegible] Mbbl/d of growth this year with [illegible] % of that coming from the Permian. We see cost inflation as a headwind to this forecast amid constrained infrastructure and the struggle for operators to find rig crews. Supply gains have been capped globally with OPEC still under-shooting its supply ramp since mid-2021. The [illegible] Mbbl/d increase agreed upon by OPEC at the request of the U.S. and other major consumers emphasizes the group's inability or unwillingness to increase production. The deployment of Iran's significant shut-in capacity remains contingent on a new nuclear deal and we remain skeptical of that outcome despite efforts to restart talks.

FIGURE 3 | E/E U.S. Oil Production Growth and Rig Count



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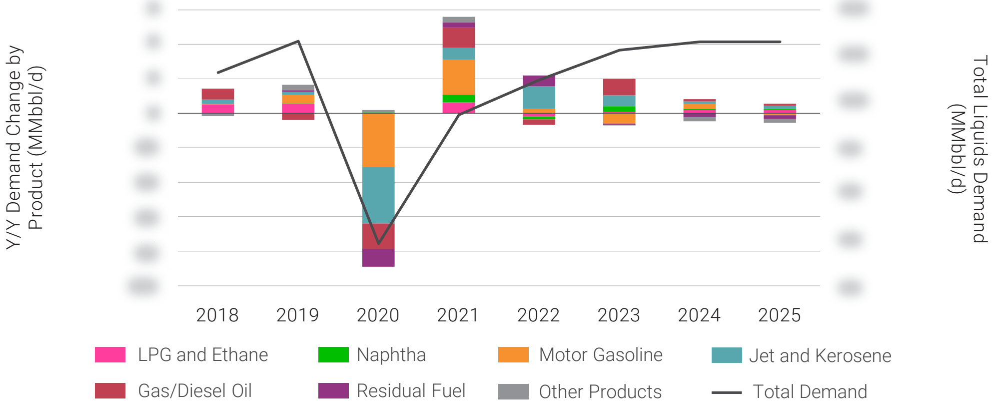
OIL DEMAND

Our Bearish Expectations Are Coming to Fruition

Weakness in the global economy as well as war-driven commodity price inflation prompted us to downgrade our 2022 E/E oil demand growth forecast to [illegible] MMbbl/d from [illegible] MMbbl/d. Similarly, we adjusted our 2023 forecast from 1.6 MMbbl/d to 1.3 MMbbl/d Y/Y growth. Our forecast is bearish in comparison to the IEA, which is calling for growth of [illegible] MMbbl/d in 2022 and [illegible] MMbbl/d in 2023. Even as the weakness in economies grows, we see central banks raising interest rates to control inflation. The U.S. Federal Reserve continues to raise rates aggressively. The lack of growth in the Chinese economy due to continued COVID-19 lockdowns puts Chinese oil demand under pressure, increasing the downside risk to oil demand.

FIGURE 4 | Annual Global Liquids Demand Growth by Product



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Gas Supply and Demand Fundamentals

Inelastic Supply and Demand has Driven Prices Higher

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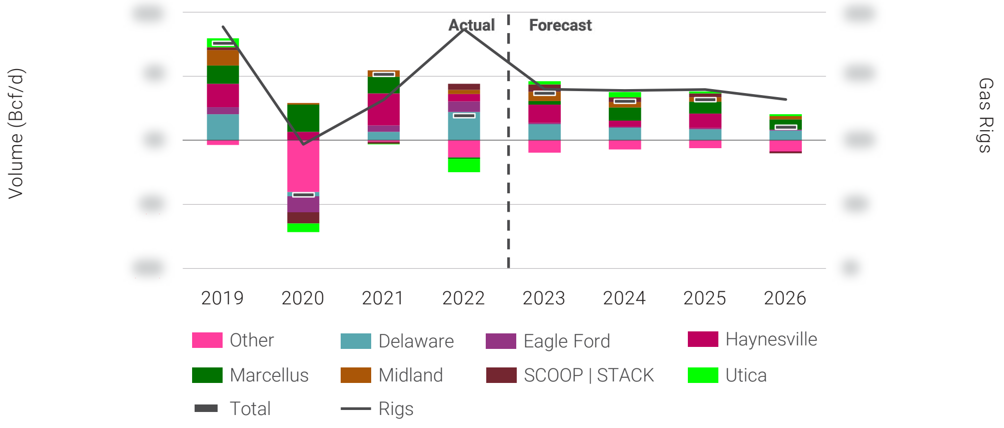
GAS SUPPLY

Supply Growth Equals Pipeline Constraints

Exit-to-exit we expect L48 production growth in 2022 to be [illegible] Bcf/d and a whopping [illegible] Bcf/d in 2023. Our forecasts for supply growth have been constrained by available pipeline capacity. Expectations for supply growth in 2022 are based on guidance while 2023 is based on Enverus Production Outlooks (economic dispatch model). Our 2023 outlook is driven by associated Permian gas, Haynesville and delayed 2022 growth.

FIGURE 5 | E/E U.S. Gas Production Growth and Rig Counts



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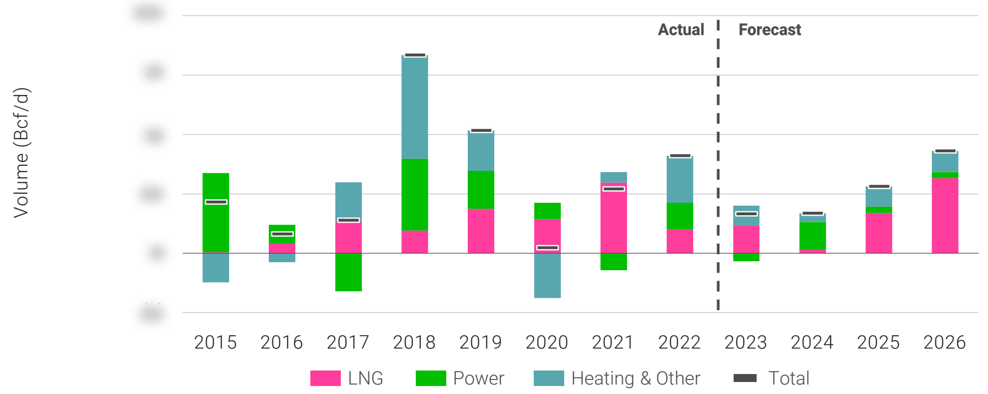
GAS DEMAND

Strong Y/Y Growth

Demand for U.S. natural gas remains strong both domestically and internationally due to June and July ranking among the hottest months on record in the U.S. and with Europe looking to replace Russian volumes as they are progressively shuttered by Moscow. Hot U.S. weather led the July cooling load to be boosted ~ [illegible] Bcf/d. Similarly, U.S. industrial demand continues to increase, up [illegible] Bcf/d Y/Y as the U.S. replaces uncompetitive European industrial production. This provides a structural advantage to the U.S. industrial sector and is bullish for natural gas demand domestically. LNG demand is expected to account for an additional [illegible] Bcf/d of gas supply by 2027, supporting long-dated strength in the gas price curve.

FIGURE 6 | Gas Demand Growth by Sector



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- Refining and Processing
- Natural Gas Liquids
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