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FUNDAMENTALEDGE 1Q22

Five-Year Supply, Demand and Price Outlook

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FOCUS

What is Enverus' latest U.S. oil, gas and NGL outlook for the medium term?

KEY POINTS

- Our supply growth expectations have been cut slightly despite tight global oil and gas markets in the wake of the Ukraine war and associated sanctions on Russia. We now expect U.S. oil supply to rise [illegible] MMbbl/d exit-to-exit in 2022 and [illegible] MMbbl/d in 2023. Most of the growth will come from the Permian, although operators are now guiding to higher output in Eagle Ford and other secondary regions. Cost inflation and availability of crews are significant headwinds to these forecasts.
- The sharp rally in Henry Hub gas prices has exceeded nearly all price forecasts and reflects strong LNG demand as Europe faces up to Russian supply risks as well as limitations to gas-to-coal switching in the U.S. power generation sector. We expect continued strength for U.S. gas prices until midstream infrastructure is able to meet supply growth or demand buckles under the weight of soaring prices.
- Countering the bullish price outlook for oil are signs that demand is already responding, particularly outside the U.S. in emerging markets where living standards are under pressure from a broader rally for basic commodities including food. We have nearly halved our early 2022 demand growth expectation for oil to [illegible] MMbbl/d Y/Y, and we see further headwinds from rising interest rates and a marked slowdown in the Chinese economy as the country battles a new COVID-19 outbreak in major industrial and population centers. Softer demand signals are less visible in the U.S. where liquids demand remains not far below pre-pandemic levels.
- Tight gas markets have prompted offtakers to sign a record number of SPAs for U.S. LNG since the Ukraine war started, with 23 mtpa signed up. 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.

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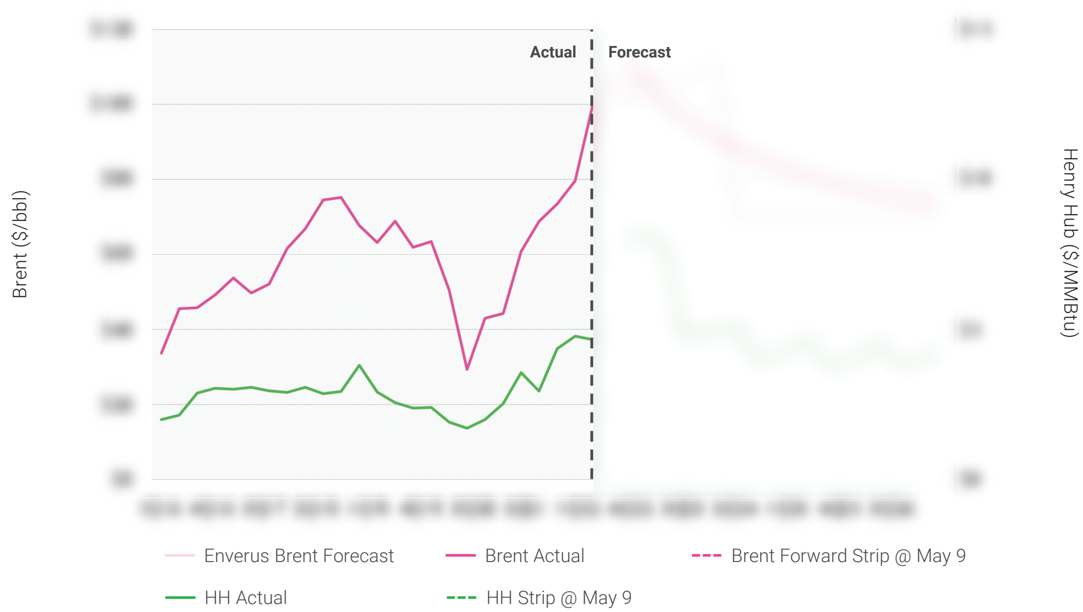
SUMMARY

The Ukraine war has disrupted Russian oil sales and kept global oil stocks close to historically low levels, supporting Brent comfortably well above $100/bbl for much of the first quarter. As formal sanctions on Russian oil loom, the prospect for either a redirection of those flows to Asia or replacement barrels for European buyers is bleak. OPEC is nearing **capacity limits**, little progress has been made **in talks with Iran and Venezuela** on deals that could unlock more supply, U.S. producers continue to grapple with **limited field crews and cost inflation** and the **rest of the world's producers** have hardly responded to higher prices. All the while global oil demand continues to climb out of the abyss that was created by the COVID-19 pandemic, albeit at a decelerating rate as high commodity prices **weigh on emerging markets** energy demand and economic growth slows across the world. We estimate that OECD stocks will remain ~ MMbbl below the five-year average and support prices around $ /bbl for the balance of the year.

Given extraordinarily tight balances, market interventions by governments around the world are on the rise in an effort to combat rising oil prices. In late March, President Joe Biden's administration and other IEA member countries agreed to an unprecedented stocks release of about MMbbl over the next two quarters, translating into ~ MMbbl/d of additional supply. The U.S. Strategic Petroleum Reserve (SPR) release will help keep a **lid on rising oil prices** but is just a temporary Band-Aid solution. We see a tangible risk that oil markets will become volatile again later this year and into 2023 when the stock withdrawals end. The SPR release buys time for producers in the U.S. to push harder on adding volumes and for Iran nuclear diplomacy to bear fruit.

FIGURE 1A | Price Outlook



Source | Enverus Intelligence, Reuters

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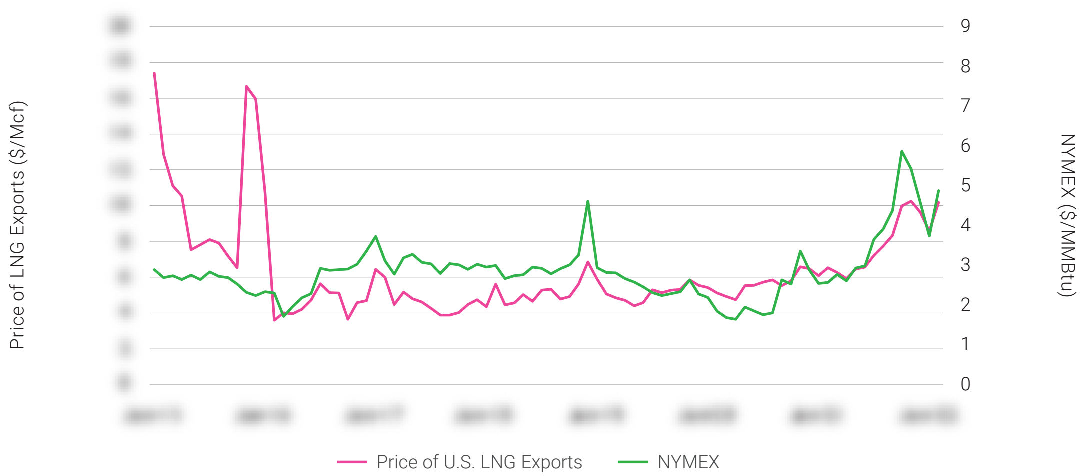
SUMMARY

For North American natural gas, prices have soared well above consensus expectations for the year of $[illegible] MMBtu. The remainder of 2022 is trading close to $[illegible]/MMBtu on NYMEX with little sign of a winter premium. To explain the abnormality of current prices levels and historic fundamentals, it is worth looking at the injection season of 2018, when U.S. inventory levels were comparable to what we observe today but prices were closer to $[illegible]/MMBtu.

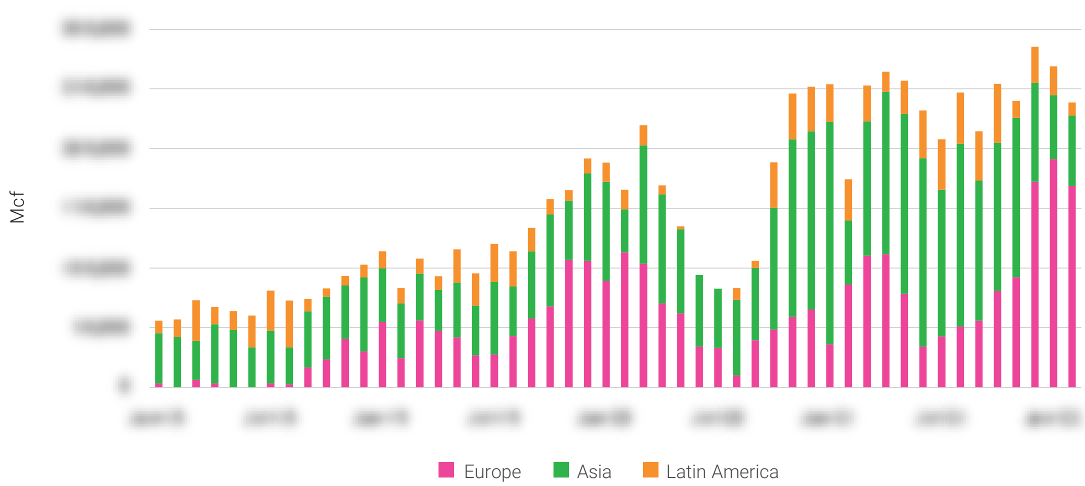
The difference lies in reduced fuel substitution capability in U.S. power markets and increasingly tight global LNG markets, a combination pushing NYMEX gas futures higher (**Figure 1B**). This rally reflects Russian actions to cut gas supply to some European customers and the risk that such cutoffs becomes more widespread in the coming months. U.S. natural gas fundamentals are therefore repricing higher to account for global market tightness. Specifically, LNG cargoes destined for Asia are being rerouted to Europe at higher price points (**Figure 1C**). Neither LNG tightness nor a limited capacity to switch power generation from gas to coal seems likely to change quickly in the near term. This implies that prices are likely to remain elevated until U.S. supply infrastructure becomes able to accommodate supply growth sometime next year or demand buckles under the weight of soaring prices.

FIGURE 1B | U.S. LNG Export Price vs. NYMEX HH



Source | Enverus Intelligence, EIA, Reuters

FIGURE 1C | U.S. LNG Exports by Major Region



Source | Enverus Intelligence, EIA

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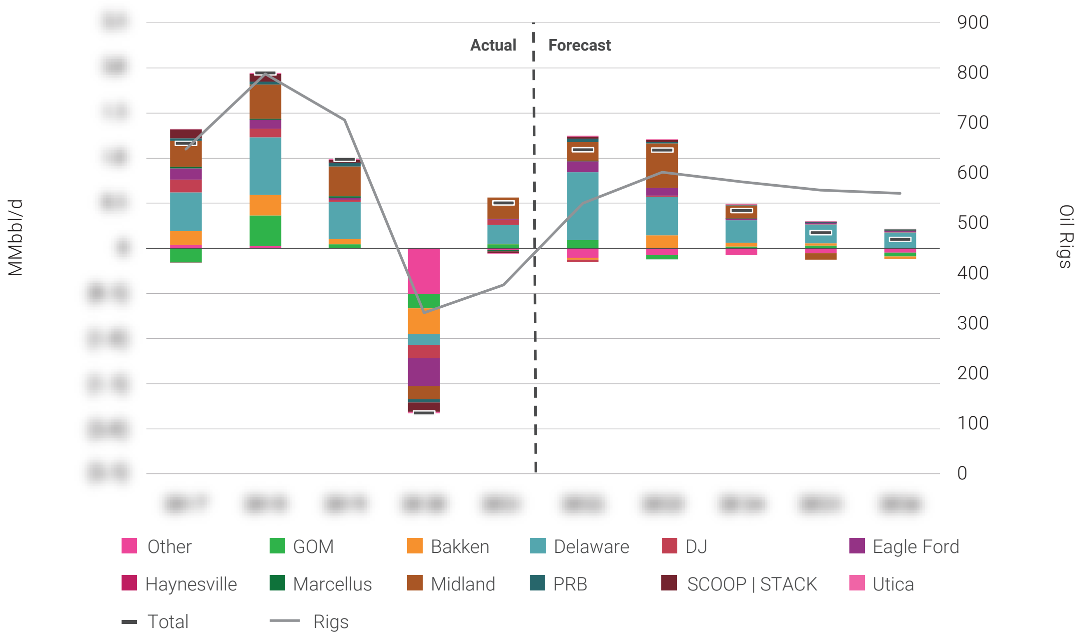
SUPPLY

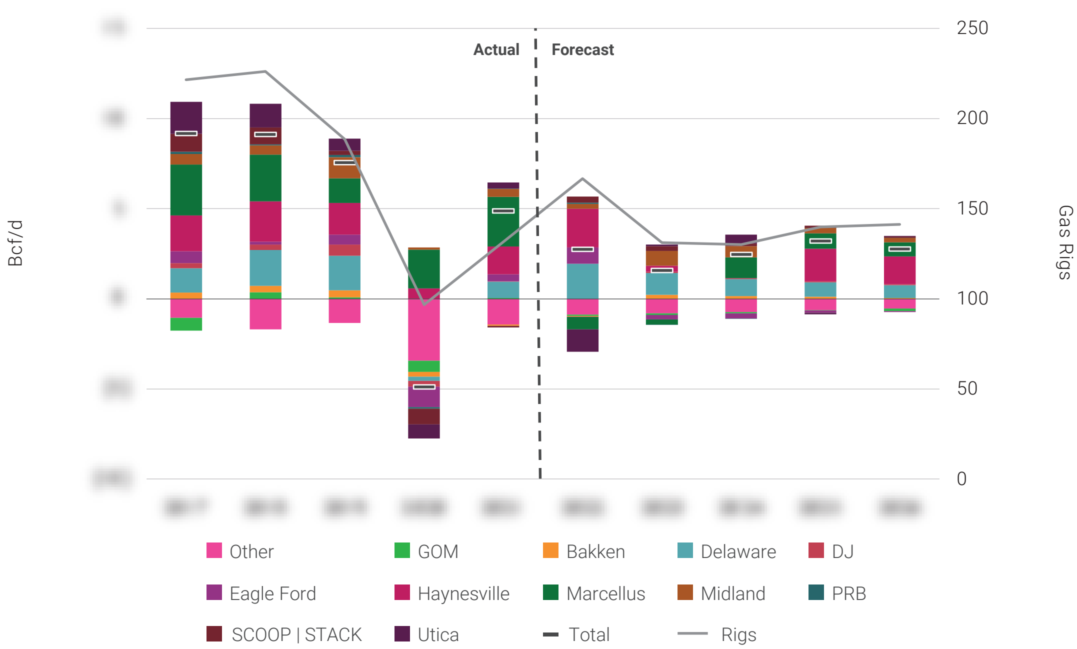
We expect Canadian gas production will rise somewhere between [illegible] annually between 2022 and 2027, driven by the Montney. Some of this expected production growth will supply LNG Canada's requirement of ~1.8 Bcf/d of feedgas by mid-decade.

FIGURE 2 | Exit-to-Exit U.S. Oil Production Growth and Rig Counts



Source | Enverus Production Outlooks

FIGURE 3 | Exit-to-Exit U.S. Gas Production Growth and Rig Counts



Source | Enverus Production Outlooks

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Additional figures shown on FUNDAMENTALEDGE report:

- Annual Global Liquids Demand Growth by Product
- Gas Demand Growth and NYMEX Henry Hub Strip Prices
- U.S. Generation by Fuel
- North American LNG Exports
- Global Liquids Balance
- Average Year-Over-Year Liquids Production Growth
- U.S. Oil Production
- U.S. Dry Gas Production
- Oil Hedge Volume and Price by Contract Month (Aggregate)
- Gas Hedge Volume and Price by Contract Month (Aggregate)
- L48 Horizontal Land Rigs
- Consumer Price Indices for Oilfield Goods and Services
- Oil Takeaway by market
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- Northeast Production Growth and Wells Turned-in-Line
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- Haynesville Takeaway and Production Growth From December 2019
- Heavy Oil Production and Takeaway
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- U.S. NGL Production
- Gulf Coast Natural Gas and Ethane Prices
- Ethane Exports and Capacity
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- U.S. Propane Inventories

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