ENKON OIL AND GAS NEWSLETTER

Welcome to the Enkon Insights Newsletter

Every month, we feature three full-length articles, share critical stories in oil and gas commodities, and break down key trends.

Have opinions? Want to talk shop? Need more insights? Drop us a line:

info@enkonenergy.com

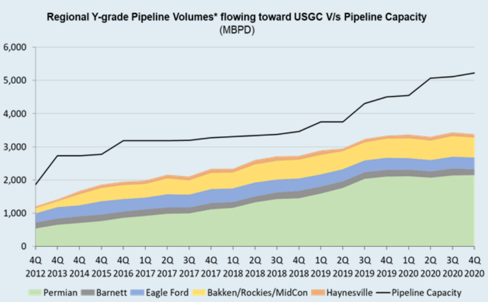
Inside this issue:

Is Mont Belvieu NGL Fractionation Overbuilt?

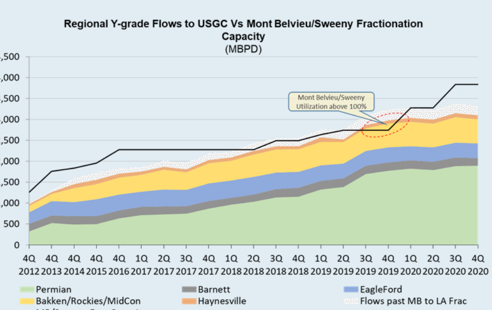
"Mont Belvieu fractionation capacity is not overbuilt – it is ahead of its time by few quarters." At least, that is what one executive from a midstream company with a frac and storage position at Mont Belvieu told me in a recent conversation. While he was directionally correct, he was perhaps a little generous on the timing. While fractionation capacity and Y-grade volumes are moving towards alignment, we think this process will play out across several quarters – probably well over a year.

2020 has changed the growth trajectory and dynamics of hydrocarbon production in the U.S., including in prolific regions like Permian and Appalachia. Forecasts of crude and NGL volume growth 2019 are completely out of date, because of the pandemic: they have been replaced with tamer long-term growth trajectories, and even short-term production declines in economically challenged regions like Bakken, the Rockies and MidCon. As other regions' production declined, however, U.S. Gulf Coast operators brought online significant regional Y-grade pipeline takeaway capacity and NGL fractionation capacity. The pandemic crushed both fuel demand and oil production; neither has recovered fully, and many large oil pipelines had capacity factors of 60% or lower at the end of 2020. Development of a de facto secondary capacity release market is inevitable, where operators can use their marketing arm to buy space on the pipeline per FERC tariff rates and sell it to ad-hoc buyers at discounted rates.

NGL pipelines face a similar dynamic. Reported and anecdotal data both suggest all is not well: it may take a few years to balance production growth and installed capacity among both incoming Y-grade pipeline capacity into Mont Belvieu and Mont Belvieu fractionation balances. By 4Q 2020, five major regions (all west of the Mississippi Permian, Eagle Ford, Mid-con, Niobrara, and Bakken) in aggregate processed ~41 Bcf/d of wet gas, resulting in 3.9 Million Bpd of NGL production (not including ethane rejected in the gas stream). As production rose, NGL pipeline capacity expanded to accommodate greater NGL volumes for transportation to gulf coast fractionation facilities. In fact, aggregate NGL pipe capacity has been adequate for flows to the USGC/Mont Belvieu/Sweeny region for some time now. Even assuming the most aggressive production growth scenarios, we do not find that NGL regional takeaway capacity will be a constraining factor for a few years.



During 2018, Y-grade flows to USGC for fractionation exceeded the Mont Belvieu/Sweeny fractionation capacity, providing price signals for significant fractionation expansion in the Gulf Coast region. Consequently, significant capacity came online in 2019 and 2020 (with a handful of new plants expected online in 2021). The graph below shows a historical snapshot of Y-grade NGLs bound for Mont Belvieu/Sweeny vs the Mont Belvieu/Sweeny fractionation capacity, illustrating past fractionation constraints. The timing of drop in Y-grade volumes and increased fractionation capacity has led to varying levels of spare fractionation capacity across at Mont Belvieu and Sweeny operators.



Is Mont Belvieu NGL Fractionation Overbuilt? (continued)

“There is strong evidence that we have entered a period of fractionation overcapacity, which could pressure near-term fractionation rates. So can persistent $50+/Bbl oil prices, increased call on ethane extraction (from new crackers/higher exports), and deferment of some fractionation expansions turn this situation around?”

In 1Q 2021, the consortium of EnLink, P66 and Targa agreed to close operations at the 135 MBPD fractionation complex in Mont Belvieu – likely because each owner had their own plants to fill and because the plant’s economics did not support continued operations. There is strong evidence that we have entered a period of fractionation overcapacity, which could pressure near-term fractionation rates. So can persistent $50+/Bbl oil prices, increased call on ethane extraction (from new crackers/higher exports), and deferment of some fractionation expansions turn this situation around? We think these factors will help - but the market will continue to talk about being “ahead of its time” for a few more years.

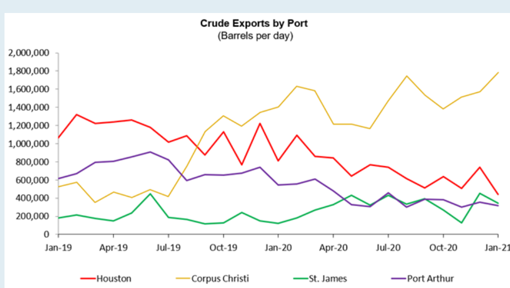
Good Times for Corpus Christi and Moda Midstream

Corpus Christi and Moda Midstream are well-positioned to benefit as the U.S. and world economies recover from COVID-19. Mode's Ingleside Energy Center terminal is the largest export terminal in the Gulf Coast’s hottest market, can partially load more economically efficient Very Large Crude Carriers (VLCCs), appears to enjoy the fastest loading rates in the Gulf Coast, and may be able to expand its draft to 52 feet by late 2021/early 2022, enhancing its competitive advantages. Perhaps just as important as the particular advantages of its Ingleside facility are the broader trends that Moda is riding. Exporters and downstream buyers appear to prefer Corpus Christi, while VLCC-capable projects will probably remain stuck in the water.

Corpus Christi is the new King of U.S. crude oil exports

Construction of the Cactus II, EPIC, and Grey Oak pipelines cumulatively added over 2.1 million barrels per day (MMBPD) of deliverable capacity to Corpus Christi in 2019 and 2020. The results have been pretty staggering: Corpus was the 3rd most prolific crude exporter in July 2019. Now, over half of all U.S. crude exports are sent out from the mid-Texas port.

There are several reasons why exporters and buyers



tend to prefer shipping from Corpus over Houston, Port Arthur, or St. James (where the offshore, VLCC-capable LOOP terminal is located). Corpus is less congested than the Houston shipping channel; is closer to the Permian; has (limited) local refinery capacity as well as pipeline connectivity, enabling optionality; and, finally, is believed to have less “commingling” risk than Port Arthur or Houston. It’s important to note that Moda has easy access to Corpus Christi Bay, strengthening its competitive position vis-à-vis many other Corpus Christi projects.

Competing VLCC-capable projects are in trouble

While the Bluewater Texas Terminal tie-up between Phillips 66 and Trafigura received an approval from the Port of Corpus Christi, most VLCC-capable projects have suffered from a run of bad news. Lone Start Ports LLC’s Harbor Island Terminal Lease has been terminated by the Port of Corpus Christi. The project was originally sponsored by Carlyle but foundered even in the pre-pandemic period. Perhaps the most important developments may be yet to come. It’s not clear to us that federal regulators will approve *any* of the projects with pending applications.

Energy Transfer’s Blue Marlin, Philipps 66/Trafigura’s Bluewater Texas Terminal, Texas GulfLink LLC, and Enterprise Products’ Sea Port Oil Terminal (SPOT) all have pending applications before the U.S. Department of Transportation Maritime Administration, or MARAD. We are, to put it mildly, very skeptical that these projects will receive MARAD approval from the new administration. Although the proposed offshore VLCC export terminals haven’t taken on the symbolic cache of, say, the Dakota Access Pipeline or the Keystone Pipeline, we expect the Biden administration to have little enthusiasm for new hydrocarbon projects.

Besides regulatory problems, VLCCs face much more challenging economic and financial conditions in the post-pandemic world. U.S. tight oil production faces stiff international competition, skeptical shareholders, and a growing ESG trend across boardrooms, broader society, and even its workforce. Scarce capital and low prices will likely limit future U.S. oil production – and the need for the services of crude export terminals. For a deeper look at VLCC vs existing terminal economics, drop us a line at inquiries@enkonenergy.com.

A new challenger emerges

Max Midstream is opening a new 0.1 MMBPD export terminal at the Port of Calhoun (which lies between Corpus Christi and Houston); Max Midstream says it plans to grow export capacity to 0.325 MMBPD in 2022, and to 0.65 MMBPD in 2023 after completing a dredging project. Having seen Harbor Island Terminal’s face dredging problems for years, and the Foreign Dredge Act of 1906, we are highly skeptical that the Port of Calhoun will be able to complete their excavation project as quickly as they hope. The new terminal will likely reduce Corpus Christi’s volumes, but we expect the overall impact to be marginal, especially for 2021.

Corpus Christi Summer

The mid-Texas port, home to the USS Lexington and the Texas State Aquarium, is enjoying some tailwinds from several trends, including stabilizing or even rebounding crude production from the Permian. Moda Ingleside is particularly well-positioned for greater crude volumes: its VLCC-capable competitors are facing growing challenges, it is improving efficiencies at its docks, and Corpus Christi’s advantages are likely to prove enduring.

Crude Oil News:

Max Midstream to start Texas crude exports in May—S&P Global

US Permian explorer Pioneer to acquire DoublePoint Energy for $6.4 billion—S&P Global

Bakken crude to be rerouted in every direction if DAPL shuts—S&P Global

UPDATE 2-China's crude imports jump 21% yoy on robust demand, maintenance season looms—Reuters

U.S. won't shut Dakota Access pipeline during environmental review—Houston Chronicle

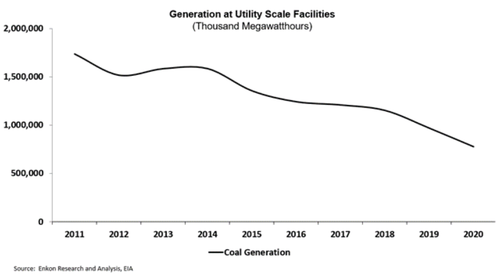
Permian Output Nears Levels Not Seen Since Pandemic Start—Bloomberg

Coal is back, but for how long?

Natural gas' most important competitor for baseload demand, coal, is experiencing a recovery of sorts. U.S. coal production and consumption, along with electricity demand, are rising as the COVID-19 pandemic recedes. While the U.S. coal industry faces immense, probably insurmountable obstacles in the medium and long-terms, coal will continue to battle natural gas for market share in 2021.

Coal: the long view

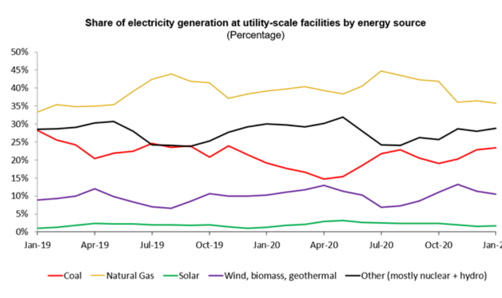
The U.S. coal industry is winding down: it's an open question whether or not it will even exist in a decade. Coal generation at utility scale facilities is down 55% since 2011, investors fled the sector even before ESG became a household name, it seems that a major coal company goes bankrupt every month, and coal is increasingly politically toxic. The long-term trajectory of the coal industry is pretty clear.



That being said, the "long-run" can take years, and coal has recently been experiencing a renaissance, of sorts.

Coal's decline and bounce back

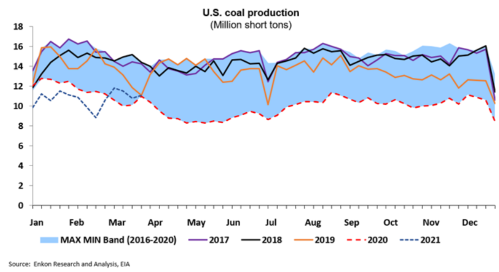
Coal accounted for just 15% of all U.S. electricity generation at utility-scale facilities in April and May 2020, during the height of lockdowns. This phenomenon was due, in part, to the arithmetic and logic of electricity markets and the "merit order" of electricity dispatch. Since the marginal cost of renewable assets such as solar and wind is zero, they are typically the first fuels to be dispatched. Similarly, nuclear and hydropower assets have low fuel costs, they are typically dispatched before natural gas or coal. Due to declining overall baseload demand in the April/May 2020, along with coal's disadvantage relative to alternative base load fuels, coal's share of generation fell to its lowest point in decades.



Coal's share of electricity generation has since rebounded, reaching 23% of all utility-scale generation in December 2020 and January 2021. Several factors have contributed to this trend: returning electricity demand; higher domestic + international baseload winter demand; inventory drawdowns; and, of course, lower coal prices. As people in the energy business are fond of saying, "a cure for low prices is low prices."

It's not clear if coal's share of overall generation will fall this spring amid higher renewables take-up, but most analysts believe U.S. coal consumption will rise in 2021 and 2022. The EIA, notably, forecasts production, exports, and consumption to rise in both years.

We see some evidence that fits this hypothesis. U.S. coal production (pictured) is showing year-over-year growth while the most recent coal inventories data, from 4Q 2020, show a return to their year-ago levels.



Carbon price could help natural gas competitiveness vis-à-vis coal

In sum, we project that natural gas power burn will face more competition this year and next year from coal-fired plants. The American Petroleum Institute recently reversed its opposition to carbon pricing, likely with at least one eye towards coal vs gas competition. Widespread adoption of a carbon price is unlikely but could staunch coal's 2021 and 2022 comeback.

NGPL Gets a New Partner

On February 22, Kinder Morgan and Brookfield sold a 25% stake in their Chicago-to-USGC NGPL pipeline to ArcLight Capital Partners for $830 million. In this article, we discuss two key drivers behind NGPL's current and future demand: Midwest and USGC natural gas demand.

NGPL distributes gas to two key markets: the Midwest, one of the largest heating markets in the U.S. (which we've defined, for NGPL's purposes, as comprising Illinois, Missouri, Iowa, Wisconsin, Michigan, and Indiana), and the USGC, the fastest growing baseload market in the U.S. due to growth in LNG exports. NGPL's Gulf Coast Leg has developed into a large "header" with large and growing markets on both ends (only ANR is in similar position amongst MW pipes).

Let's start with the Midwest market. About 50% of total Midwestern natural gas demand is determined by residential & commercial (R&C) consumption, 30% is attributable to industrial demand, and less than 20% for power generation. NGPL is critical to meet heating demand in this market: NGPL's last mile advantage is significant compared to its peers (ANR, Alliance, Midwestern). We expect Midwest natural gas demand to grow by about 2 Bcf/d between 2020 and 2027, on higher gas-fired generation at expense of coal and nuclear retirements. Growth in intermittent wind generation could open more revenue opportunities for baseload natural gas – and NGPL.

Coal News:

Closing all of Xcel's coal-fired power plants will cost Colorado consumers $1.4 billion—The Colorado Sun

For Mexico's president, the future isn't renewable energy—it's coal—LA Times

4 states weigh plans to rescue coal plants—E&E News

Poland Forges Ahead With German-Style Plan For Coal Spinoff—Bloomberg

Vietnam's coal imports rebound in March—Argus Media

China steps up efforts to avert summer coal shortages—Argus Media

LNG News:

NextDecade, Oxy Sign Texas CO2 Storage Deal—Rigzone

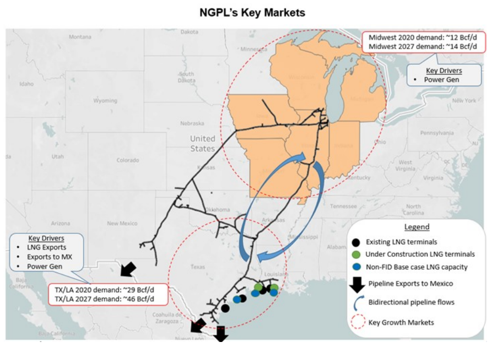
Global LNG Demand Jumps the Most Since Pandemic Dashed Trade—Yahoo Finance

QP to take 100pc ownership of Qatargas 1—Argus Media

Total Suspends Mozambique LNG Project After Deadly Terrorist Attack - Maritime Executive

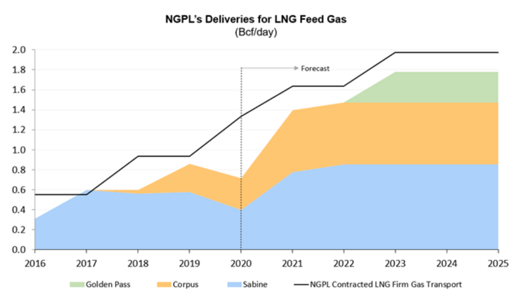
Shell, Equinor Call for Tanzania to Act Quickly on LNG Project

NGPL Gets a New Partner (continued)



The TX/LA natural gas market is expanding rapidly. LNG exports, exports to Mexico, and greater gas-fired power generation are all expected to increase natural gas demand from 2020's levels of ~29 Bcf/d to nearly ~46 Bcf/d by 2027 (it's worth noting that 2020's levels were suppressed, in part, due to LNG's COVID and hurricane-related troubles). If you're interested in a more fulsome view of these trends, please drop us a line at inquiries@enkonenergy.com.

Let's take a look at NGPL's LNG-related deliveries. Our analysis shows that NGPL will have nearly 1.8 Bcf/d of LNG feed gas deliveries by 2023. Due to NGPL's firm gas transport contracts with Sabine Pass, Corpus Christi, and Golden Pass, the pipeline's feed gas flows are expected to sharply rise in coming years. And most near-term risks are to the upside: LNG utilization rates are already running at nearly 100% and the forward strip shows that export netbacks remain firmly in the money for the remainder of 2021 and 2022.



Strong fundamentals provide a competitive edge

In addition to the 30,000 foot analysis above, we've also leveraged data from pipeline EBBs, the EIA, FERC, and the RRC to conduct a comprehensive assessment of pipeline route delivered cost comparisons for NGPL and other pipelines. We found that NGPL is one of the most competitive options for the Midwest market, the most competitive for the LA LNG market, and the lowest-cost delivery for some parts of STX. NGPL's access to low-cost basins (i.e. Appalachia) coupled with favorable FT tariffs supports a low cost delivered cost structure for Midwest shippers. NGPL's ability to offer systemwide storage (on a bundled/unbundled basis) provides a critical insurance policy for LNG exporters (other competing pipeline such as Columbia Gulf, Tennessee Gas and Texas Gas must rely on 3rd party storage to meet LNG feed gas market) For our pipeline route cost buildup analysis, please drop us a line: inquiries@enkonenergy.com

While we take no view – one way or the other – on the valuation and terms of the KM/Brookfield/ArcLight deal, our analysis of NGPL shows that the asset enjoys strong fundamentals.

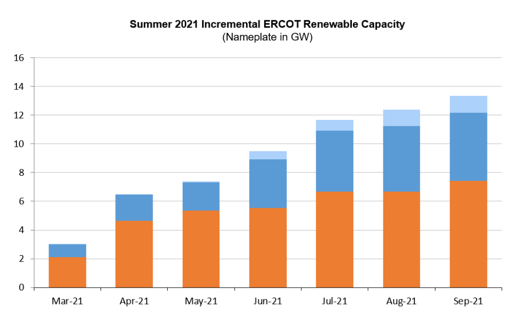
Bonus article: ERCOT summer

ERCOT, the independent grid operator for most of Texas, is facing more scrutiny after February's disastrous performance and a somewhat bizarre April surge in prices as maintenance nearly led to demand curtailments. Can ERCOT meet summer 2021 demand and avoid more $2,000+/MWh blowout prices and even life-threatening power cuts? The short answer: it depends. The longer answer: electricity demand will likely rise sharply from 2020 levels, and let's hope that supply meets it.

NRG wrote a fascinating article called *Why Summer 2020 Surprised ERCOT Forecasters*, noting that ERCOT forecast 2020 electric demand would exceed its all-time peak demand of nearly 75 GW set on August 12, 2019 (February 2021 would have likely set a new record had the grid functioned properly during Winter Storm Uri). As it turned out, however, temperatures were relatively mild and many industrial and commercial customers were closed or operating at partial capacity amid the pandemic (and hurricanes, in late summer).

What will 2021 demand look like? Weather patterns, temperatures (especially in August), and potential hurricane disruptions are huge unknowns. We're confident, however, that demand from LNG, petrochemical, industrial and commercial customers are all set to rise. Freeport LNG requires a little under 0.7 GW to run its electric motors and, unlike last year, will likely run at close to 100% capacity utilization (barring an exogenous event). And Freeport is just one (albeit very important) customer—we suspect electricity demand will rise significantly this summer from year-ago levels.

What about supply and supply-demand balances? Well, if you'd like a comprehensive outlook, drop us a line: info@enkonenergy.com. For now, we'll note two key items: first, significant base load generation capacity is undergoing maintenance but should be ready for summer peak demand. Second, and if everything goes right—a big if, incidentally—ERCOT should add about 12 GW of capacity (not generation) to the grid before August thanks to Wind, Solar, and Batteries. We'll have to wait and see how this summer plays out.



"In addition to the 30,000 foot analysis above, we've also leveraged data from pipeline EBBs, the EIA, FERC, and the RRC to conduct a comprehensive assessment of pipeline route delivered cost comparisons for NGPL and other pipelines. We found that NGPL is one of the most competitive options for the Midwest market, the most competitive for the LA LNG market, and the lowest-cost delivery for some parts of STX."

Utility & Infrastructure News:

Biden budget, infrastructure plan would create standalone storage tax credit—Utility Dive

State of the Electricity Utility—Utility Dive

Power quality issues challenge utilities as solar is added to the grid, survey finds—PV Magazine

Hydrogen:

Pennsylvania's first green hydrogen plant planned for Lancaster County—NPR

Fossil-fuel mainstay Baker Hughes joins Plug Power in green hydrogen fund—MarketWatch

Saudi Arabia's Bold Plan to Rule the $700 Billion Hydrogen Market—Bloomberg

Plug Power, Brookfield Renewable to build green hydrogen plant—Reuters

Giant Copper Mines Start to Get Serious About Green Hydrogen—Bloomberg

Commodity Outlook (90 days out)

Energy demand: COVID receding

U.S. COVID-19 cases have leveled out but are expected to fall as vaccination uptake increases. According to the University of Washington's IHME base case projections, U.S. daily COVID infections will decline to ~65,000 by day on May 1st, and to just ~22,000 by June 1st. For reference, U.S. peak daily infections reached nearly 400,000 in late December 2020. Readers may recall that the IHME projected a lower number of infections last month, but more infectious variants have spread and some states (including Texas) have relaxed restrictions. Nevertheless, the domestic and international vaccination campaigns appear to be going extremely well and are picking up pace, despite recent troubles surrounding the Johnson & Johnson vaccine. (For the record, the present author took his J&J shot two weeks ago and is very grateful for it).

Back in our first edition in April 2020, a million years ago, we said that "things will get worse before they get better" and "COVID-19 will determine energy market outcomes until it is defeated through a vaccine, treatment, or containment." Well, now we not one but (at least) three effective and safe vaccines in the U.S., with a fourth and potentially more on the way. We can confidently say in April 2021—barring the emergence of a new variant or some other exogenous event—that things will get better before they get even better. We expect extraordinarily robust domestic and international economic demand for at least the remainder of the year; energy demand is also likely to prove very strong.

That said, we have some caveats: while overall energy demand will continue to grow, crude products demand will recover unevenly. Many individuals will be loath to travel or return to "normal" activities until they are fully vaccinated and protected. Most individuals who have taken at least one dose will not be fully vaccinated until 6 weeks after their first shot (4-6 weeks for J&J). Moreover, many individuals will not feel protected until a sufficient herd level of immunity is achieved through mass vaccination, and until individuals they interact with are also vaccinated (there's substantial evidence that the vaccines protect both the recipient and people they come in contact with). If vaccine uptake slows or hits a demand wall, consumers and businesses will be slow to resume old consumption habits.

Let's start with jet travel and jet fuel demand. First, we think we've already reached peak domestic business jet travel due to social, economic, and policy factors. Business travel has taken a huge hit, however, due to the pandemic, the rise of videoconferencing, and as ESG concerns move companies to limit carbon-intensive travel. Business travelers accounts for 12% of passengers but 75% of airline profits, according to Bloomberg. So will airline profits and jet fuel demand move lower, permanently? We think it's far too soon to say. Airlines are responding to lower business travel demand by expanding domestic tourist routes, such as more flights to California wine country. If business travel declines as leisure travel expands, the net impact for jet fuel demand is unclear, for now.

Gasoline demand will likely prove robust this summer, especially compared to 2020. U.S. vehicle miles traveled for the week ending April 11th were already higher than in 2019, according to the Javier Blas' analysis of US Department of Transportation data. We expect gasoline demand to be very strong for the remainder of the year.

Oil and Natural Gas Market Movers:

Oil and gas demand will likely remain strong for the remainder of the year. Supply, on the other hand, remains a big question mark. We see more and more evidence of capital and ESG-imposed restraint, including a FT report that shows private equity fleeing shale patch.

Iranian crude is re-entering the market even as the larger OPEC+ cartel announced it would unwind cuts by July by about 450,000 barrels per day. Additional supply, along with substantial spare capacity, is limiting price increases even as oil and energy demand rise. Brent and WTI might be capped at around $65 and $60, respectively, before new supply turns on.

Domestic and international natural gas demand remains very strong: most risks are to the upside, barring an exogenous shock. In fact, we think that Henry Hub prices may not reflect demand growth likely for later in the year, particularly since Texas and other states are expecting hot summers.

LNG Market Movers:

LNG feed gas volumes have dipped due to shoulder season maintenance but remain above 11 Bcf/d. Some analysts predict, however, that limited cargo cancellations are possible in August or September. We expect price and volume risks to remain to the upside for the rest of the year, with minimal cancellation risks.

NGL Market Movers:

The vast majority of ethylene crackers are back online after Uri, supporting ethane demand. Moreover, it remains an open question if upstream supply can keep pace.

We expect ethane to trade under 25 cpg for 1Q2021 but is likely to approach 30 cpg by end of 2Q2021 as inventory is worked through in the USGC.

Propane prices remain strong amid low inventories and favorable netbacks. We expect a tug-of-war between domestic and international demand, with prices tightening over the summer.

Increased demand in USGC cracking due to strong olefins demand will keep butane prices elevated. Exports are likely to increase as well as butane is likely to trade lower than propane on a per btu basis.

Electricity/Renewables:

A funny thing happened in ERCOT this month: due to widespread maintenance of base load generation facilities, the Texas market saw a so-called "duck curve," late afternoon demand nearly exceeded capacity, and prices reached $2,000/MWh in some markets.

As ERCOT solar adoption increases, it may, like its CAISO counterpart, begin to "over generate," or produce more energy than can be used at one time. As overgeneration risks increase, solar prices decline, and curtailment of solar generation becomes more likely. To mitigate this problem, however, many ERCOT players—including Tesla—are building massive battery storage complexes. ERCOT battery storage will be the subject of a future article, especially since most forecasts show a very hot summer in Texas.

"We can confidently say in April 2021—barring the emergence of a new variant or some other exogenous event—that things will get better before they get even better."

Solar and Wind News:

Silicon for batteries moves to commercial production—PV Magazine

Guggenheim Solar Index: PV industry facing headwinds—PV Magazine

Sunrun's CEO Is Selling Peace of Mind With Her Rooftop Solar Panels—Bloomberg

Offshore wind energy is rapidly growing along the coasts. Can the Midwest follow suit? - The DePaulia

What will it take to meet Biden's new offshore wind power targets? - GreenBiz

NGL News:

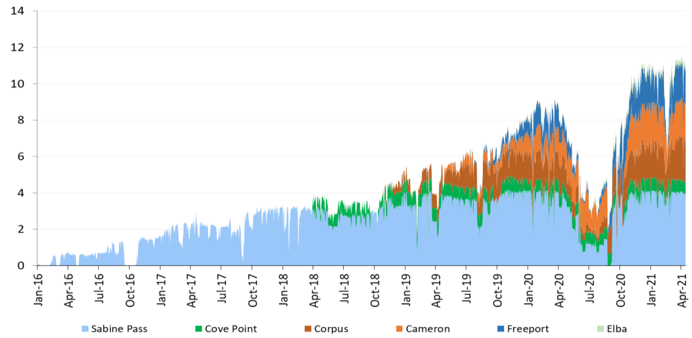
China's PDH plants remain reliant on LPG imports despite rise in domestic output—S&P Global Platts

Pembina LPG terminal expects first load this month—Argus Media

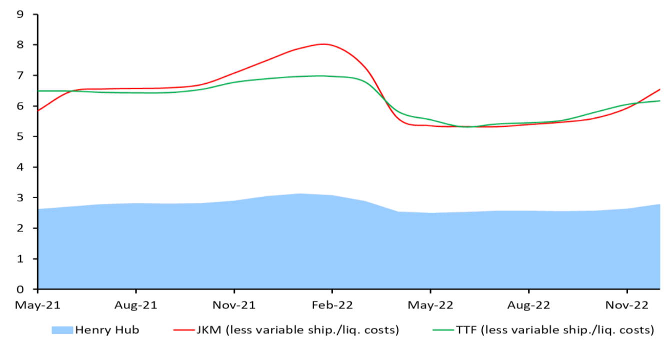
Oxy subsidiary, Cemvita hope to produce bio-ethylene – Houston Chronicle

Key Market Dashboards

Firm Feed Gas Receipts into U.S. LNG Terminals
(Billion Cubic Feet per Day)



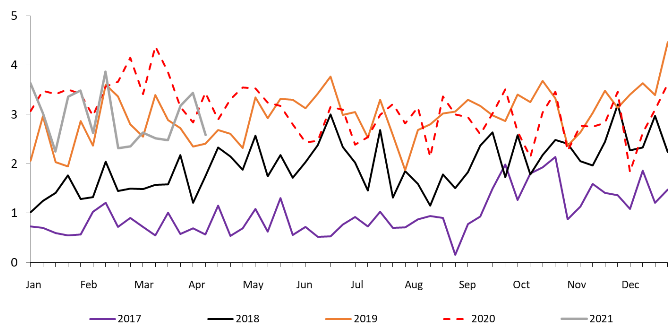
LNG Netbacks to U.S. (on Cash Basis)
($/MMBtu)



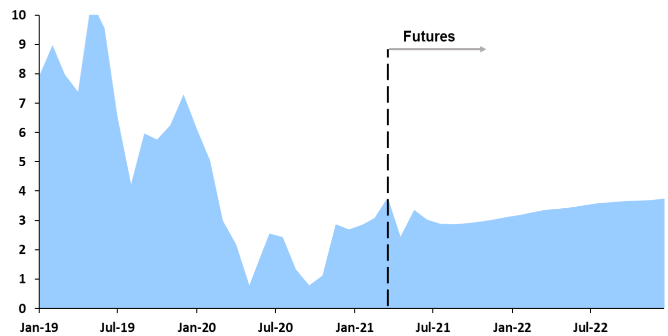
U.S. LNG exports fell slightly on seasonal maintenance but are expected to maintain at close to 100% utilization

Few cancellations are expected in the shoulder season—forward curve indicating another potential JKM price blowout

U.S. Crude Oil Exports
(Million Barrels per Day)



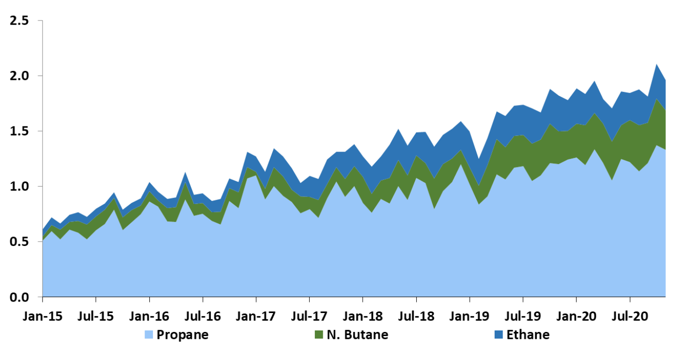
Brent—WTI Spread
($/Barrel)



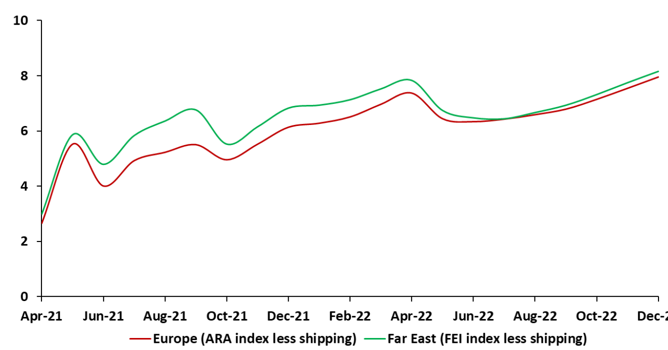
Exports will compete with domestic draw. Refinery utilization rates are at 85% and will likely rise as product demand picks up in the summer

Futures market suggests a rising Brent-WTI spread, but exports could be pressured on COVID vaccination differentials

U.S. NGL Product Exports
(Million Barrels per Day)



International Propane Netbacks (to Mt. Belvieu)
(Cents Per Gallon)

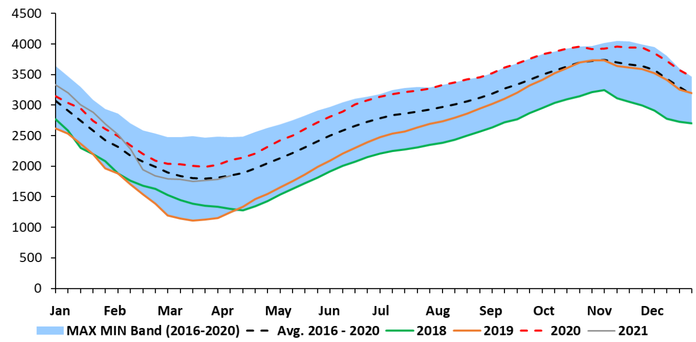


U.S. LPG exports remain strong despite internal demand pull and low domestic inventories. International arbs are supporting exports

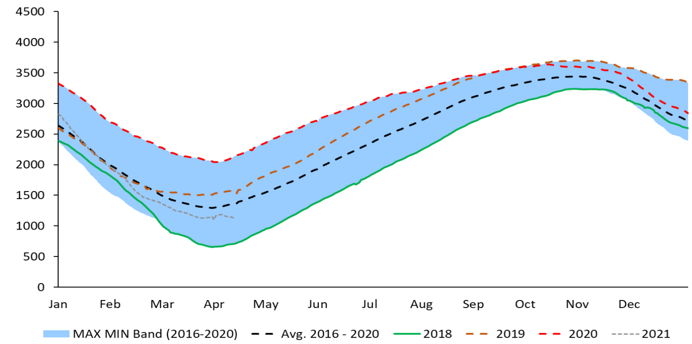
Some seasonal softness is showing, but international LPG netbacks are expected to rise over time

Key Market Dashboards

Natural Gas in Storage, Lower 48
(Billion Cubic Feet)



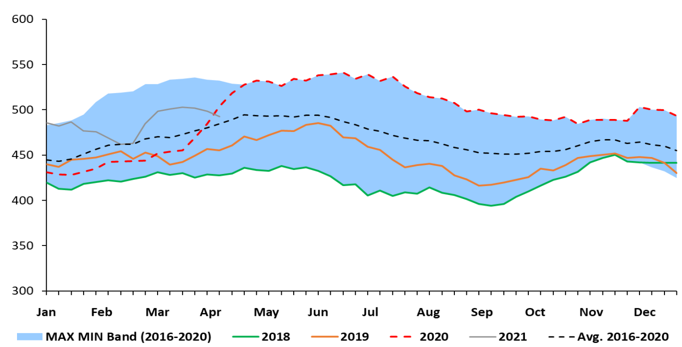
European Natural Gas in Storage
(Billion Cubic Feet)



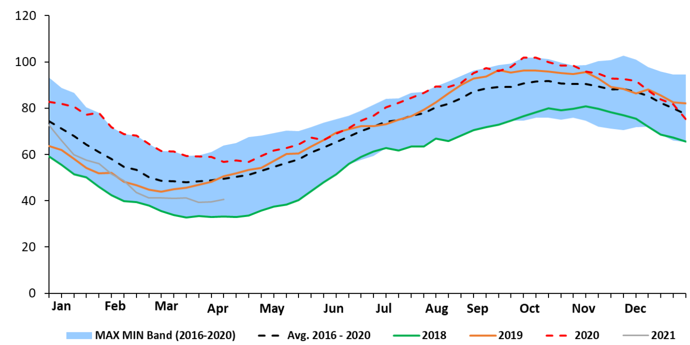
Stronger post-COVID domestic + LNG demand could pressure inventories, for now inventory levels are tracing 5-yr averages

Europe's continued low storage levels could provide price/volume support for U.S. LNG exports in the summer

U.S. Crude Oil Commercial Storage Inventory
(Million Barrels)



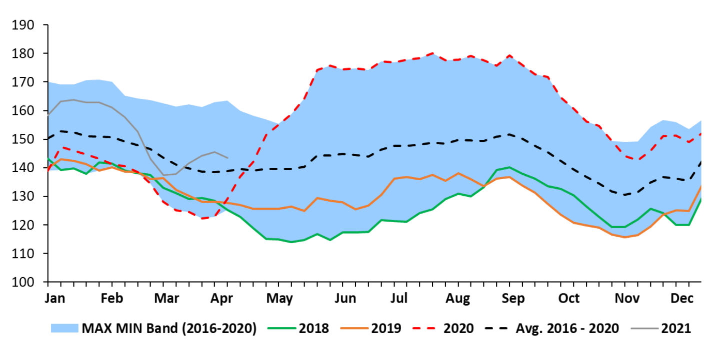
U.S. Propane/Propylene Storage Inventory
(Million Barrels)



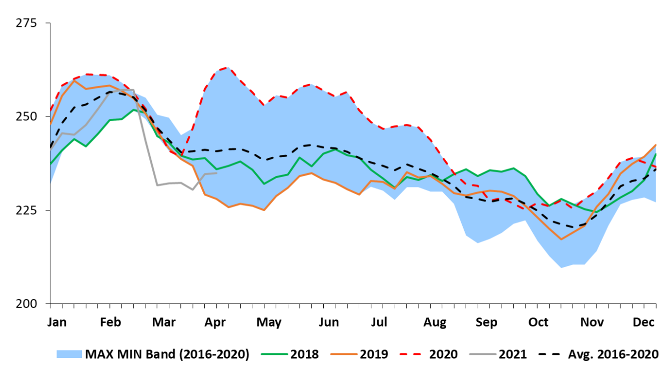
Storage inventories are declining as refineries are back online and as products demand rises post-vaccination

U.S. propane inventories still facing pressure from strong domestic and international demand, growing at a slower pace

U.S. Diesel Storage Inventory
(Million Barrels)



U.S. Gasoline Storage Inventory
(Million Barrels)



Diesel consumption is already above 2019 levels with inventories at or around the 5-yr average

Wild ride for gasoline inventories set to continue as driving season demand looks very robust post vaccination

Our Subscription Product Offerings

Regional NGL Benchmarking & Outlook

(Research, intelligence and insights into Supply, Logistics, Pricing, Disposition and Outlook)

Each quarter, Enkon provides clients a unique, bottom-to-top analysis of NGL supply, logistics, pricing, netbacks, product disposition and outlook for eight NGL producing basins in the U.S. The granularity of the analysis makes this product unique. The analysis identifies NGLs (by purity product) produced at each of the ~700 U.S. gas processing plants as the building block of the analysis to quantify asset utilizations across the midstream value chain.

Appalachian	Rockies	Haynesville- Bossier
Permian	Bakken	Barnett
Eagle Ford	STACK/SCOOP/MERGE	LA Gulf Coast

	Deliverables	Format	Update Frequency
1	NGL Benchmarking	Report (MS PowerPoint)	Quarterly
2	Report discussion & review	In-Person Meeting/Conf Call	Quarterly
3	Supporting data sets	Secured online portal	Quarterly
4	Market insights	Memo	Monthly

U.S. Gulf Coast Liquid Cavern Storage Benchmarking

(Research, intelligence and insights into NGL, Olefins, Refined Product Cavern Storage)

Once a year, Enkon provides clients a one-of-a-kind, comprehensive lay-of-the-land and granular benchmarking for ~250 non-crude liquid-hydrocarbon salt cavern storage wells in Texas and Louisiana. The report provides regional analysis of cavern storage capacity versus brine pond capacity in each of the dome locations. The report also identifies product storage in each of the cavern wells along with historical product injection, withdrawal, inventory and cavern utilization.

Texas Cavern Coverage	
Barbers Hill (Mont Belvieu)	Hull
Stratton Ridge	Spindletop
Markham	Fannett
Clemens	Sour Lake
Pierce Junction	Boiling
West/Panhandle Texas	East Texas

Louisiana Cavern Coverage	
Sulphur	Bayou Choctow
West Hackberry	Napoleonville
Arcadia	Sorrento
Pine Prairie	Venice
Anse La Butte	Section 28

Regional Fractionation and NGL Export Terminal Benchmarking & Outlook

Each quarter, Enkon provides clients a provide a historical benchmarking and comprehensive outlook of Y-grade NGLs in the U.S. Gulf Coast with the objective of quantifying incremental need for fractionation capacity in various locations in US Gulf Coast, namely Mont Belvieu, Sweeny and Louisiana, and adequacy of NGL export capacity in the USGC and Northeast.

North America LNG Export Project Benchmarking & Outlook

(Research, and insights into U.S. Liquefaction Projects)

Each quarter, Enkon undertakes an exhaustive review of over 24 post and pre-FID North American LNG export terminals; summarizing the North American LNG export terminal landscape, LNG nameplate capacity and feed gas forecasts, key market trends, and a competitive assessment of pre-FID North American terminals. For each project, we report terminal attributes, commercial models, key regulatory milestones, risk assessments, and, for existing terminals, historical feed gas receipts (by pipeline), and estimated weighted average landed cost of feed gas into the terminal.

enkon energy advisors

For more information please contact:

12651 Briar Forest Dr.
Suite # 246
Houston, TX 77077

Tel: + 1 (703)-801-8068
info@enkonenergy.com
www.enkonenergy.com

Chief Editor

Joseph Webster
jwebster@enkonenergy.com

LEGAL DISCLAIMERS

THIS DOCUMENT IS PROVIDED "AS IS". NEITHER ENKON ENERGY ADVISORS LLC, THE AUTHORS, NOR THEIR AFFILIATES AND REPRESENTATIVES MAKE ANY WARRANTY, EXPRESSED OR IMPLIED, OR ASSUME ANY LEGAL LIABILITY OR RESPONSIBITLY FOR THE ACCURACY, COMPLETENESS, OR USEFULNESS OF ANY CONTENT OF THIS DOCUMENT. ENKON ENERGY ADVISORS LLC AND ITS AFFILIATES AND REPRESENTATIVES ARE NOT RESPONSIBLE FOR ANY DAMAGE, WHETHER PHYSICAL, ELECTRONIC, FINANCIAL, OR OTHERWISE THAT MAY RESULT FROM THE USE OF THIS DOCUMENT AND ITS CONTENTS. BY CHOOSING TO USE THE CONTENTS OF THIS DOCUMENT, YOU DO SO AT YOUR OWN RISK.

Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not constitute or imply its endorsement, recommendation, or favoring by Enkon Energy Advisors LLC, the authors, or their affiliates and representatives.

This document and its contents should not be reproduced, disclosed, or distributed – in part or its entirety – without the express prior written consent of Enkon Energy Advisors LLC. This document is intended for subscribers and no right or license is granted for use therein. This document is not to be shared on websites or blogs or through other media channels and no right or license is granted therefor. Enkon Energy Advisors LLC retains any proprietary rights, including copyright and the right to any patentable subject matter, that might be contained in the work. If you are interested in licensing this material, please write to info@enkonenergy.com.