



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

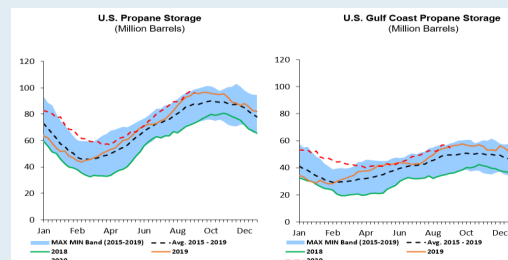
Propane is in for a tough time

It's been a tough Spring and Summer for U.S. propane markets. Netbacks from the international markets have come under severe pressure due to COVID-19. While prices bottomed out in March 2020, most benchmarks have still not recovered to year-ago levels, and export volume levels have only recently rebounded to year-ago levels. Looking ahead, we don't see much good news in the near-term. Netbacks and arbs remain at low levels, lower crude prices are increasing naphtha's competitiveness in Asian petrochemical markets, freight rates are trending higher, and propane storage levels in the U.S. are elevated. Propane may be in for a tough time for the next several months.

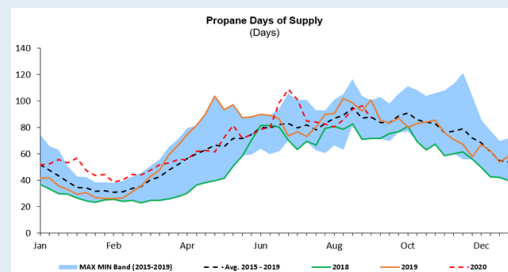
International propane netbacks have trended positive in recent months but aren't safely above spot cancellation levels (which is close to MB + 2-3 cpg). Propane demand is highly seasonal, with Northern Hemisphere demand spiking in the cold winter months. We expect better export margins in the upcoming winter months. Still, propane exports will face significant headwinds.

well below year-below levels and may have some room to run yet. If higher shipping costs materialize propane exports will face more challenging export netbacks and could be "out of the money."

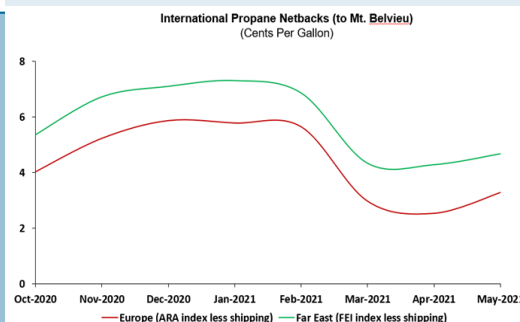
Perhaps the most important near-term factor weighing on propane prices is U.S. (especially Gulf Coast) storage. Propane inventories at the national level and in the Gulf Coast (PADD 3) are close to 5-year highs.



On the other hand, propane days of supply remain well within 5-year averages, according to EIA calculations. There are about 87 days of supply according to the EIA, versus about 92 days in the same year-ago period.



Propane faces significant fundamental near-term pressures. Propane exports, which account for about half of all U.S. propane demand, will prove critical if propane prices are to recover. If U.S. is unable to maintain export levels around the 1.0 Million bpd mark, U.S. propane prices will need to adjust downwards to achieve that level. We suspect Mont Belvieu propane prices will come under pressure soon.



In the petrochemical sector, Naphtha may continue to pressure near-term propane demand. Naphtha and propane substitute for one another, and with crude oil prices currently in the doldrums, naphtha is likely to be a competitive feedstock option for Asian crackers. Naphtha will continue to eat into propane demand, barring a rise in crude prices.

Rising freight prices also threaten U.S. propane exports and pressure U.S. propane exports. Freight prices have rebounded from lows seen in the early days of the pandemic; some indexes have nearly doubled but are still well

Inside this issue:

- Propane is in for a tough time 1
- Will U.S. natural gas exports balance Henry Hub? 2
- U.S. crude exports are just ok, for now 3
- Special Feature: Appalachian Basis: Pipeline Capacity Likely Sufficient 3
- COVID and the Commodity Outlook 4



“The decrease [in LNG demand] is largely attributable to lower demand in Europe and Northeast Asia, as about 80% of U.S. exports are destined for these two locations. Europe has emerged as the single most important market for U.S. LNG, with its share of all exports rising from just 14% in 2017 to nearly 50% in YTD 2020.”

Crude Oil News:

[Enterprise Cancels Midland to Echo 4 Pipeline](#)

[Western US GoM Evacuations Begin Ahead of Tropical Storm](#)

[P66 Announces Open Season for Gray Oak Pipeline](#)

[Number of U.S. Flights Off 51% from Year-Ago Levels](#)

[BP to Shrink Upstream Unit by 600,000 boe/d over 5 Years](#)

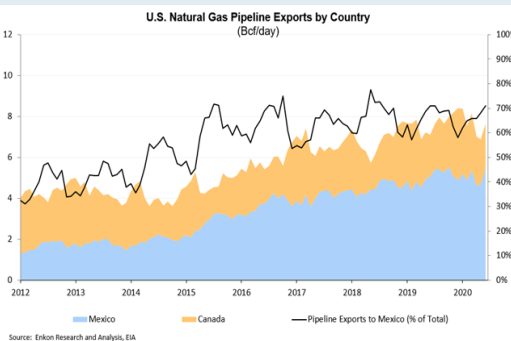
Will U.S. natural gas exports balance Henry Hub?

Henry Hub prices are in flux. In early Sept, spot prices traded around \$2.50/MMBtu, an increase of nearly 80% over lows seen in late June. More surprisingly, the natural gas benchmark was trading about 13% higher than levels seen in the same prior-year period, despite the COVID-19 pandemic and the worst U.S. quarterly economic performance in modern history. As we discussed in a [prior article](#), elevated prices seemed disconnected with fundamental trends in the market. COVID cases are expected to rise across Europe and North America amid school re-openings and the onset of colder weather, while U.S. natural gas storage levels are high and rising. A recent correction has returned Henry Hub prices to about \$2/MMBtu, which we believe better reflects fundamentals.

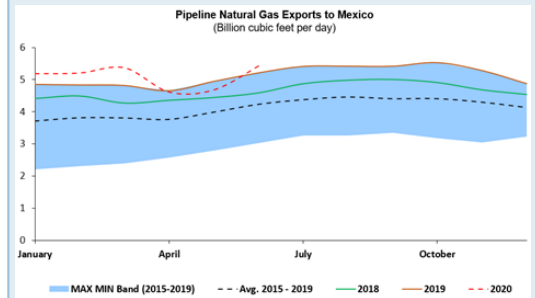
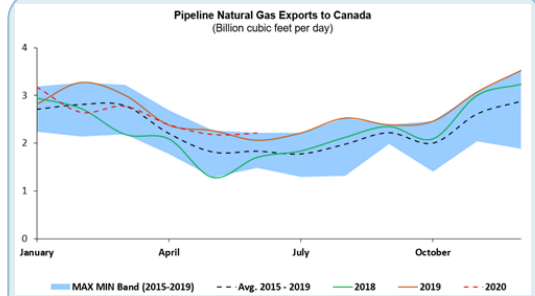
As we noted previously, it’s possible that markets were betting that associated gas production would fall on lower crude oil production, supporting prices. With rig counts in the Permian stabilizing, we don’t find this view very persuasive, so let’s dive into another demand factor that could support Henry Hub prices: U.S. natural gas exports. With LNG netbacks rising, U.S. LNG exports will grow in the near-term; pipeline exports to Mexico and Canada will also likely rise year-over-year. While exports are expected to support Henry Hub prices, domestic demand accounts for the bulk of natural gas consumption and will determine if prices are overvalued.

Pipeline Exports: Growing and Seasonal

Despite severe economic headwinds, year-to-date (YTD) U.S. pipeline exports of natural gas to Canada and Mexico rose slightly from ~7.5 Bcf/d to ~7.7 Bcf/d. Mexico accounts for an increasingly large share of U.S. pipeline exports, particularly during the summer months, when hotter temperatures require more cooling and natural gas burn.

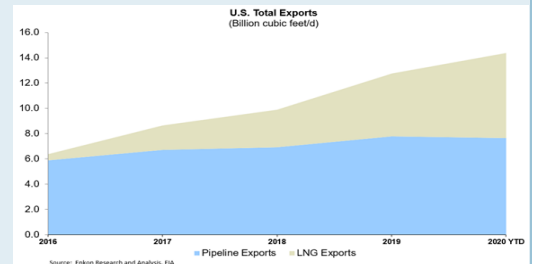


We expect total pipeline exports will continue to rise through the end of the year, albeit slowly. Mexico is developing its ability to absorb natural gas by expanding its pipeline network to cater to an expanding fleet of gas-fired power plants. On the other hand, the country has likely suffered from COVID even more than its northern neighbor, and Mexican natural gas demand tends to peak in the summer. Exports to Canada will very likely rise in the near-term amid winter temperatures. On balance, we expect pipeline natural gas exports to continue to break records this year, and to potentially grow substantially in the post-COVID environment. For a more detailed assessment of Mexican or Canadian natural gas markets, drop us a line.



LNG Exports: Back in business

We are increasingly optimistic that LNG exports will bounce back as netbacks to Europe and Asia improve and two important LNG facilities return online after hurricane-related outages. LNG netbacks show that cargoes to Asia and, crucially Europe, will likely be “in the money” going forward. LNG shipments have led to rising U.S. natural gas exports, with YTD LNG exports standing at 6.7 Bcf/d, up from just 0.5 Bcf/d in 2016.



LNG exports have taken a hit over the summer, of course, with feed gas inflows to U.S. LNG export terminals often falling below 3.0 Bcf/d. The decrease is largely attributable to lower demand in Europe and Northeast Asia, as about 80% of U.S. exports are destined for these two locations. Europe has emerged as the single most important market for U.S. LNG, with its share of all exports rising from just 14% in 2017 to nearly 50% in YTD 2020.

Exports are important, but domestic natural gas demand will be decisive

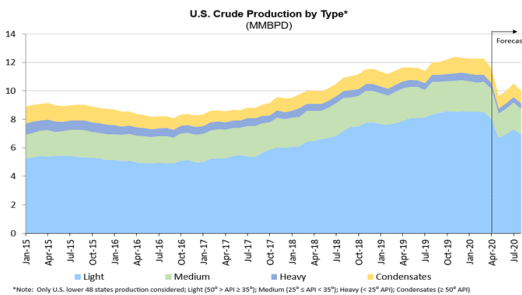
Pipeline and LNG exports have stabilized and will likely grow in the near-term, supporting Henry Hub prices. While exports provide an outlet for U.S. shale production, domestic demand remains critical. With U.S. consumption standing at about 82 Bcf/d, exports account for only 15% of all U.S. natural gas demand. We expect that exports will continue to rise in the near-term, supporting Henry Hub prices, but the surge in the natural gas benchmark’s price perhaps can only be justified by an expectation of high domestic natural gas demand this winter.

U.S. crude exports are just ok, for now

While U.S. crude exports are increasingly important for the health of the oil and gas complex, they have come under pressure amid the COVID-19 coronavirus. In this article, we'll describe why crude exports matter, and why they're probably going to drift upwards in subsequent months.

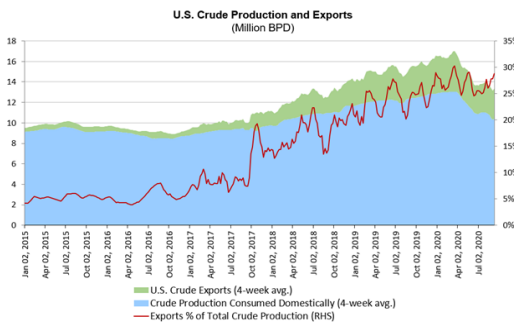
Exports and Production

The story of U.S. crude exports is rather simple: as production increased, supply outstripped the ability of U.S. refineries to absorb this capacity. U.S. refineries are, on average, more complex than their international brethren and are optimized to process heavier grades of crude. This creates a mismatch between domestic supply and refinery demand. As you can see below, U.S. crude production is heavily weighted towards light and medium grade crudes.



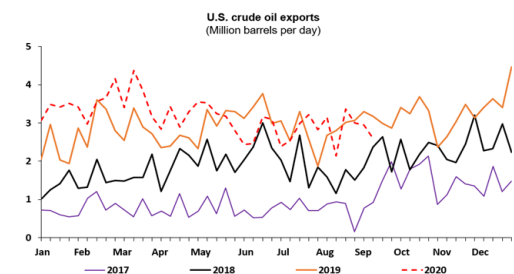
*Note: Only U.S. lower 48 states production considered; Light (DOP > API > 35°); Medium (25° < API < 35°); Heavy (< 25° API); Condensates (> 50° API)

As U.S. crude production increased, barrels were sent overseas – both in absolute numbers, but also as a percentage of total crude production. Incremental crude production is largely absorbed by international markets, not U.S. refineries. The relationship between production and exports is very strong: about 80% of the variation in exports can be explained solely by changes to output in the lower 48 states.

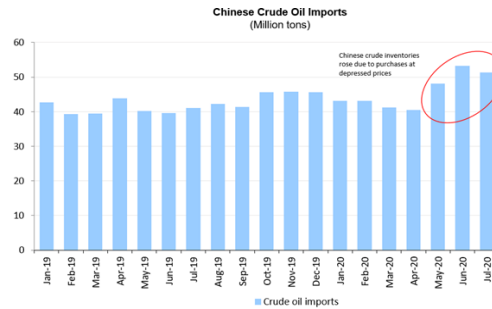


Exports: not great, not terrible (really)

U.S. crude exports have held up decently during the pandemic, but are not showing the significant year-over-year increases seen in past years. Initial data suggests that 2020 YTD export volumes are about 10% higher than in the same prior-year period – which isn't too shabby during a pandemic. Still, y-o-y growth rates are off considerably from 2018 and 2019.



U.S. crude exports have been supported by Chinese crude demand, as about 43% of U.S. May 2020 crude exports went to the PRC. This trend likely won't continue due to bilateral political tensions but also (and more importantly in the near-term), because Chinese crude inventories are extremely elevated. Chinese buyers took advantage of depressed crude prices to send inventories to tank-top.



“U.S. crude exports have been supported by Chinese crude demand, as about 43% of U.S. May 2020 crude exports went to the PRC. This trend likely won't continue due to bilateral political tensions but also (and more importantly in the near-term), because Chinese crude inventories are extremely elevated.”

What does the future hold for crude exports? More of the same, perhaps. The futures curve isn't predicting any dramatic change to Brent – WTI spreads (higher spreads lead to more exports), suggesting that U.S. crude exports will remain in a holding pattern. Still, crude markets face considerable uncertainty – especially from COVID-19. On balance, we expect that crude exports will continue to drift upwards in future months.

Appalachian Basis: Pipeline Capacity Likely Sufficient

The Appalachian basin is likely to have ample pipeline takeaway capacity for the foreseeable future. With abundant spare pipeline capacity, we expect that Appalachian benchmarks will continue to show a narrowing of basis relative to Henry Hub. Appalachia's “basis blow-outs” seen in 2015 and 2016 are probably a thing of the past...at least for the next 4-5 years.

Surplus pipeline capacity from the Appalachian basin (i.e. the gap between Appalachia's net production and take-away pipeline capacity) has widened in recent years, and through the COVID-19 pandemic. Regional net production stood at about ~15 Bcf/d in the first quarter of 2016, just under takeaway capacity of ~16 Bcf/d, leaving only about 1 Bcf/d in total spare pipeline capacity exiting the basin. That gap has widened considerably owing to multiple natural gas pipeline projects that came online over the past three years. Consequently, there was nearly 9 Bcf/d of spare capacity in 2Q2020 (net of local demand). This dynamic cannot be fully attributed to COVID, either. Gas-directed rig counts and shale production showed softness even before the coronavirus.

NGLs News:

[Enbridge Restarts Line 5 in Michigan](#)

[XTO Drops Plan for Two New Mexico Natural Gas Facilities](#)

[Energy Transfer Announces Completion of Lone Star Express Pipeline Expansion Project](#)

[Matador Resources Announces Completion of New Mexico Processing Plant](#)

LNG News:

[BP plans to double its LNG portfolio to 30 Million Tonnes by 2030](#)

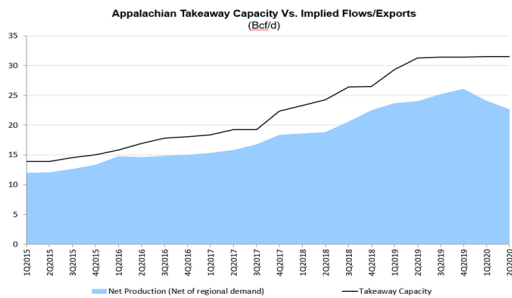
[Tellurian in danger of NASDAQ de-listing](#)

[Shares of Next Decade have almost quadrupled over the past month](#)

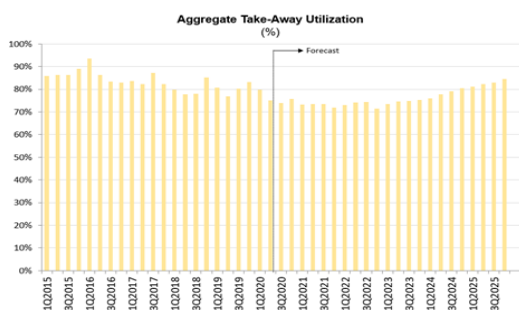
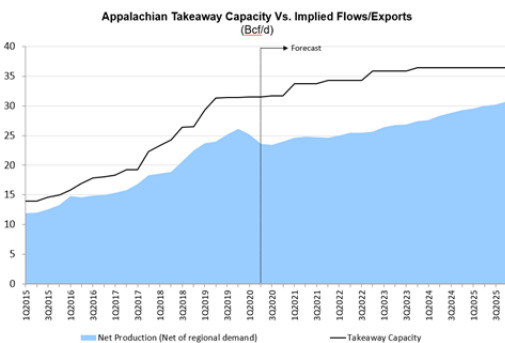
[Costa Azul facing severe regulatory scrutiny](#)

[Chinese LNG storage at tank-tops](#)

Appalachian Basis: Pipeline Capacity Likely Sufficient (Continued)



We expect it will take some time for production to recover and grow in a meaningful manner, but we are currently projecting that pipeline capacity will continue to be built-out as projects that received a positive FID in 2018-19 are now nearing completion. It's also worth noting that capacity utilization varies across different "pipeline corridors" in Appalachia (if you'd like a more fulsome report on these pipeline corridors drop us a line) with the Gulf Coast and Midwest pipeline corridors more highly utilized than others. We expect that pipeline takeaway capacity will grow from ~31 Bcf/d today to about ~36 Bcf/d by 2025. Nevertheless, we believe that net production's recovery will be somewhat sluggish, with net production not rebounding to pre-pandemic peaks until 2023.



How will greater spare capacity impact prices and natural gas marketing strategies? Is this a big play for marketers and traders to provide AMA services to the producers – esp. producers that have overcommitted to pipeline take-away capacity? Given that overall take-away utilization will likely show softness, we suspect that Appalachian benchmarks, as a whole, will enjoy narrower basis to Henry Hub than in years past. Some corridors could face constraints, but the basis blowouts are likely behind us.

COVID and the Commodity Outlook

We're increasingly concerned about COVID and its impact on commodity markets. COVID cases are rising across the United States, European Union, and South Asia. Many scientists have warned for months that Northern Hemisphere could spike in the winter. In a worst-case scenario, local hospital systems could be overwhelmed, again, which would alarm consumers and curtail economic activity.

We see some warning signs that COVID cases are already rising in colder climates. Most states are showing rising cases after Labor Day, but northern states appear to be disproportionately affected.

If colder temperatures are indeed predictive of rising COVID cases, then energy demand will likely take a hit. While consumers and businesses better understand the virus and have improved their ability to manage risks since the spring, they have also repeatedly demonstrated that they will curtail some activities in the face of rising levels of COVID infections.

To be clear, it is not inevitable that COVID cases will continue to rise. And another outbreak would (hopefully) prove less disruptive than in the spring, as hospitals have become more adept at treating COVID patients. We are just flagging this (again) as a major potential risk for all commodities.

Oil Market Movers:

Demand worries could re-emerge if COVID levels continue to rise across the U.S. and Europe. Tropical Storm Beta is not expected to significantly dent U.S. crude complex operations *as of this writing*. We will monitor the storm and write updates [here](#), if warranted.

LNG Market Movers:

As we predicted, U.S. LNG exports are picking up pace again as netbacks re-enter "in the money" territory; LNG feed gas flows have even eclipsed 7.0 Bcf/d for the first time since May. But we aren't out of the woods—remember that 50% of all LNG exports go to Europe, which is having COVID troubles.

NGL Market Movers:

6-7 ethylene plants remain inoperable across the U.S. Gulf Coast and are facing troubles connecting to the electricity grid. Tropical Storm Beta is only going to compound these problems.

Natural Gas Market Movers:

As we noted last month, Henry Hub prices seemed disconnected from fundamentals. The past month (and especially the past week) has witnessed a ~25% decrease in the natural gas benchmark. Lower HH prices will support LNG—but keep an eye on European demand.

"How will greater spare capacity impact prices and natural gas marketing strategies? Is this a big play for marketers and traders to provide AMA services to the producers – esp. producers that have overcommitted to pipeline take-away capacity?"

Natural Gas News:

[EQT second-round curtailments pull Appalachian September production lower](#)

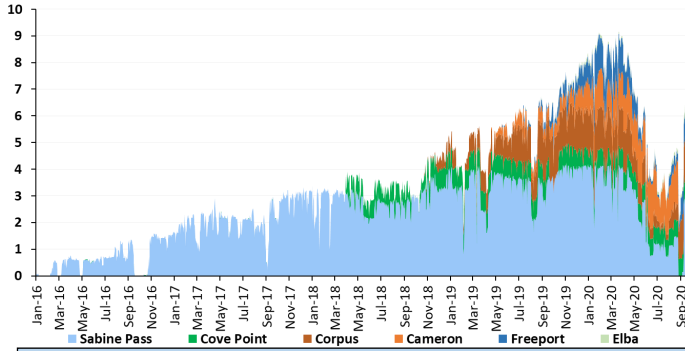
[Joint solar-natural gas project with TETCO begins construction in New Jersey](#)

[Industrial sector consumption of natural gas falls amid slowing economy](#)

[Gas-directed rig count falls after showing strength](#)

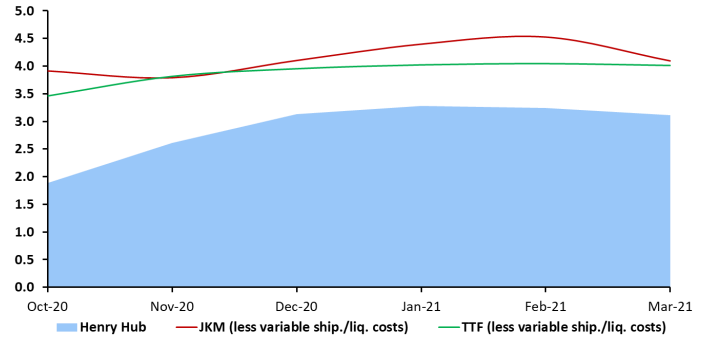
Key Market Dashboards

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



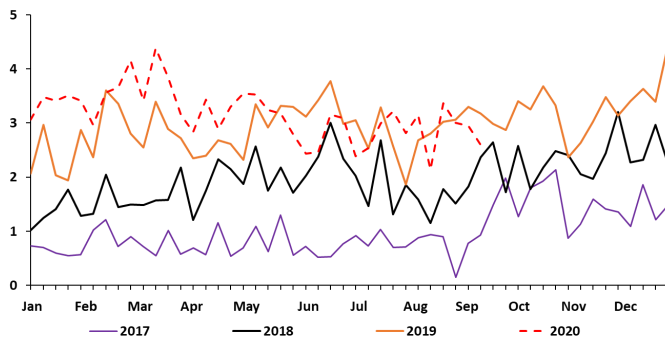
U.S. LNG feed gas flows growing on positive netbacks to Europe and Asia; European COVID cases presents downside risks

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



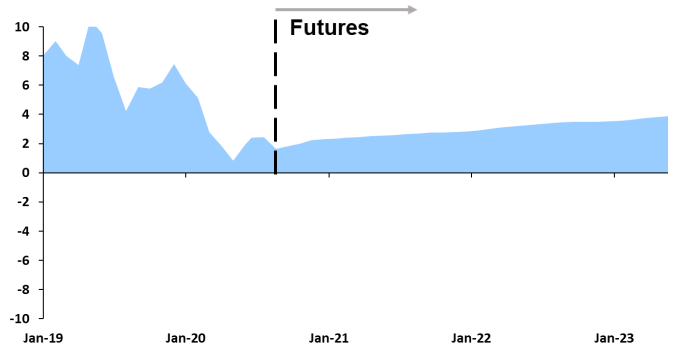
Fewer cargo cancellations expected in future months; winter months will be key; COVID injects uncertainty

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



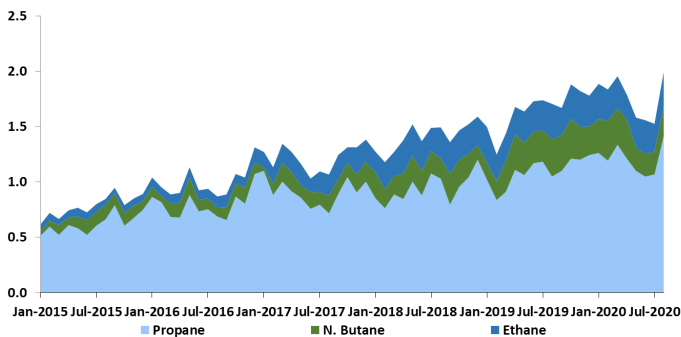
Crude exports have been hit by storms in the Gulf Coast

Brent—WTI Spread
(\$/Barrel)



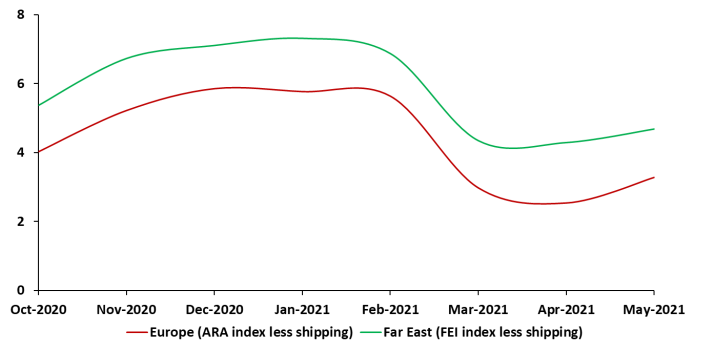
Brent-WTI spread is projected to rise gently, but overseas COVID dynamics could threaten this trend

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



U.S. LPG export remain above 1.0 MMBPD, the level required to balance domestic market

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

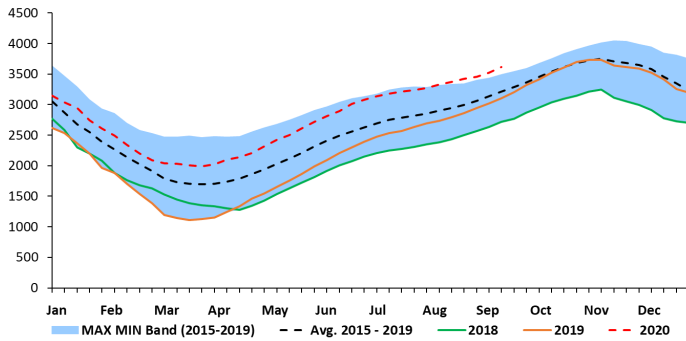


Netbacks expected to rise in winter months, but we see downside risk for propane

Key Market Dashboards

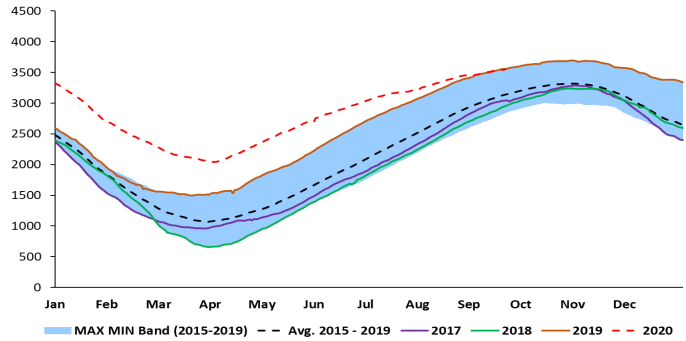


Natural Gas in Storage, Lower 48
(Billion Cubic Feet)



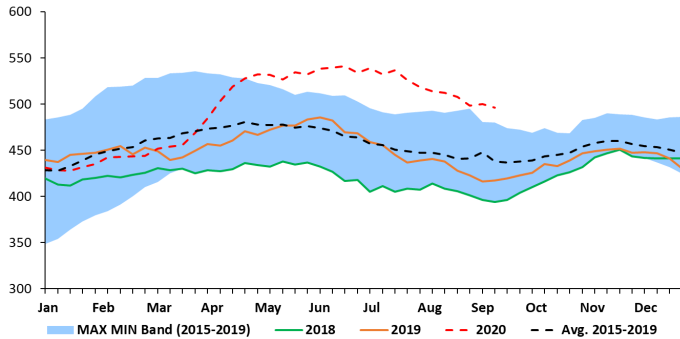
Henry Hub prices are – finally – beginning to reflect the risks of a storage max-out, particularly if LNG exports disappoint

European Storage
(Billion Cubic Feet)



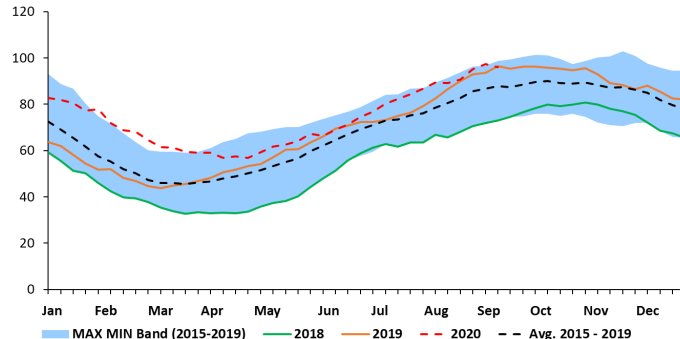
European storage levels are within 5-year averages, but European demand/COVID remains a real concern

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



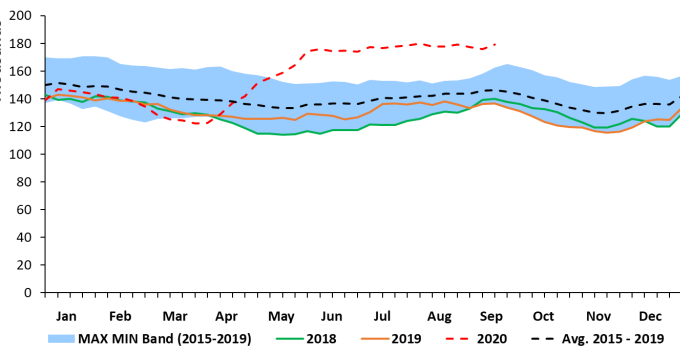
Crude storage is elevated and may have risen slightly on hurricane dynamics and refinery outages

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



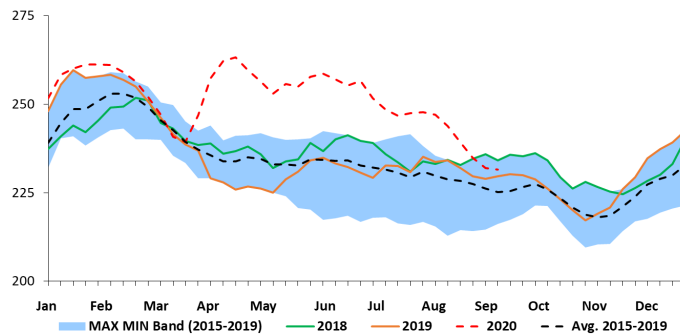
Propane inventories

U.S. Diesel Storage Inventory
(Million Barrels)



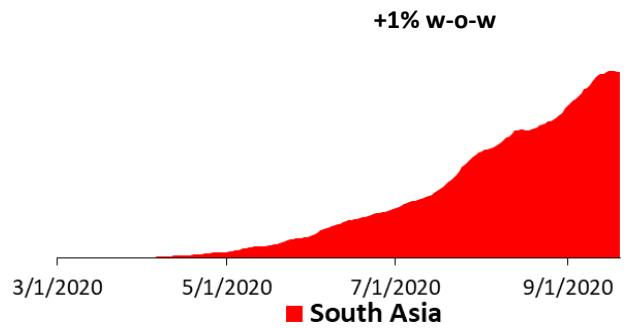
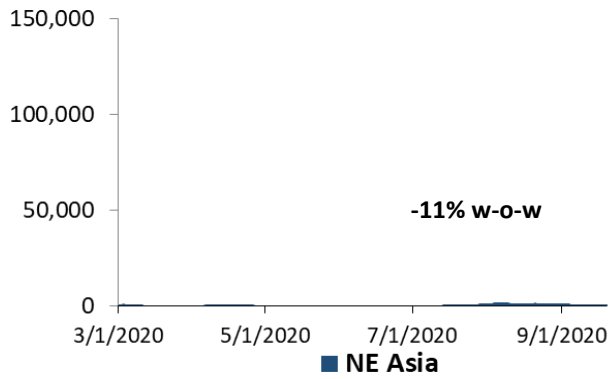
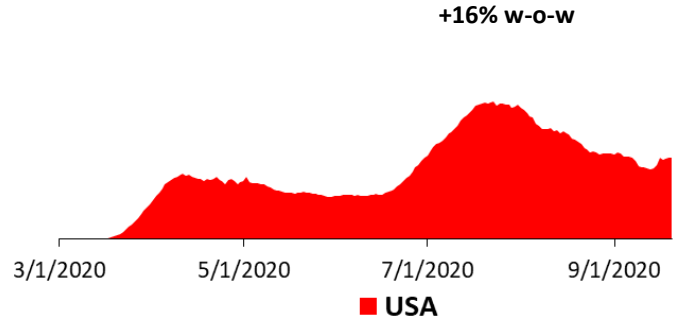
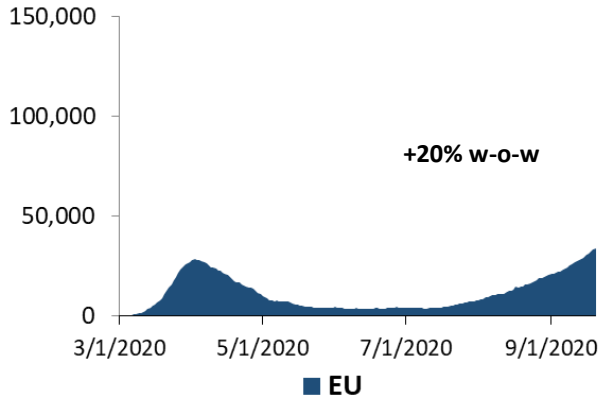
Refineries have effectively managed their distillates inventory

U.S. Gasoline Storage Inventory
(Million Barrels)



Gasoline days of supply (as calculated by the EIA) remain well above year-ago levels

Key COVID Dashboards (7-day averages)



Our Subscription Product Offerings

Regional NGL Benchmarking

(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

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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		Louisiana Cavern Coverage	
Barbers Hill (Mont Belvieu)	Hull	Sulphur	Bayou Choctow
Stratton Ridge	Spindletop	West Hackberry	Napoleonville
Markham	Fannett	Arcadia	Sorrento
Clemens	Sour Lake	Pine Prairie	Venice
Pierce Junction	Boiling	Anse La Butte	Section 28
West/Panhandle Texas	East Texas		

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Regional Fractionation and NGL Export Terminal Benchmarking

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

(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.