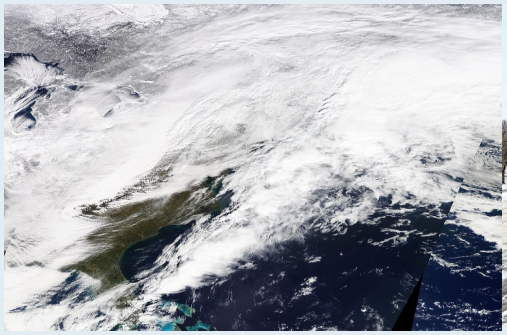
FEBRUARY 2021 EDITION

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:

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Inside this issue:

Winter Storm Uri: commodity implications

It's been tough times in Texas, as the ERCOT market has suffered from sustained electricity outages amid bitterly cold weather. Many individuals went multiple days without running water or electricity. While the full human and economic cost will not be known for some time, the winter storm/electricity outages have led to dozens, probably hundreds, of excess deaths across Texas. Initial estimates suggest that the nearly weeklong involuntary shutdown has cost tens of billions of dollars. The last few weeks have been brutal.

We're not going to discuss the outage's causes at length: for that, we'd encourage you to read this shocking Bloomberg investigation (one of the most insane tidbits: ERCOT employees were forced to bring in portable toilets after *ERCOT's control center* lost water). Instead of discussing the past, we'll focus on the short and longer-term implications for oil, gas, and electricity markets.

How long will upstream and downstream outages last?
Let's start with the short-term implications. Uri brought impassable roads and literally froze significant portions of the supply chain. Domestic oil and gas production will suffer for days or even weeks, while some estimates placed outages as high as 3 million barrels per day. We've heard that even production at some offshore rigs slowed down due to the freezing weather. Warmer temperatures have de-thawed rigs, pipelines, and plants, so production seems to be up and running. ERCOT has stabilized the grid (knock on wood), so upstream production issues will largely be resolved, enabling large industrial users (LNG, petchems, etc) to restart production, if they can.

Downstream issues are a much more serious concern. Dozens of ethylene crackers will face weeks (potentially months) of outages. Around 7.6 MMBPD of crude refining capacity was affected by the storm, and up to 5.4 MMBPD of USGC refining capacity was offline for the week ending February 26. It's expensive to shut down and restart refineries, not to mention technically complex: some of the refineries will take weeks to return to pre-Uri conditions. Uri is hitting retail markets: about 1-in-7 gasoline stations in Texas were without fuel on Feb 24th. Of course, downstream operators that managed to remain open are now reaping the twin windfalls of higher prices and capacity utilization.

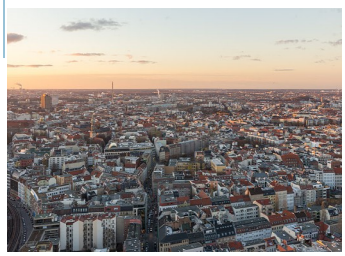
What are the risks from future polar vortexes?
Risk is a function of two elements: consequence and probability. In a Reuters explainer on polar vortexes, Northern Illinois University meteorology professor Victor Gensini said that parts of the United States have been 50 degrees (28 degrees Celsius) colder than usual. Dramatically colder temperatures can affect oil, gas, and electricity production while dramatically increasing demand.

Even while the past week has demonstrated that polar vortexes are enormously consequential, the probability of future polar vortexes is hard to determine. Most scientists are still debating whether Winter Storm Uri is an aberration, or if it foreshadows a new dynamic of frequent and deadly storms. We will keep an open mind about this probability: it is neither 0%, nor 100%.

Are U.S. Natural Gas and U.S. LNG as reliable as we thought?
We are revising some prior assumptions due to new data. First, barring significant and expensive weatherization investments, natural gas may not be as reliable a fuel source as we had previously thought. All aspects of the natural gas supply chain – from upstream dry gas production in the Permian to pipelines to baseload power plant production – were inadequate in Winter Storm Uri. The state of Texas even ordered a halt in Texas natural gas exports to other states, to Mexico, and to LNG facilities. If polar vortexes occur more frequently in the future, and absent any winterization investments in the field, Texas natural gas may again fail to meet demand during critical moments, raising doubts about its reliability.

Despite Winter Storm Uri, we still regard U.S. LNG as more operationally reliable than Australian LNG, less politically risky than Qatari LNG, and more geographically flexible than Russian (often ice-constrained) LNG. Climate risks from hurricanes and polar vortexes are not likely to cast a shadow on the reliability of U.S. LNG supplies, nor reduce offtakers' willingness to commit to long-term contracts with U.S. LNG brownfield, quasi-brownfield, and greenfield projects. There are other commercial factors at play that can trump reliability concerns (if any). Still, Uri has been a negative for U.S. LNG.

Winter Storm Uri: commodity implications (continued)



"A lot of commentary in the media has revolved around the relative performance of Texas's wind and natural gas production. We think, to be blunt, that neither fuel source performed well in ERCOT – but both fuel sources held up better in much colder climates, including North Dakota and Iowa, where the supply chain is weatherized. "

We don't want to overstate Winter Storm Uri's damage to U.S. natural gas and LNG: while reliability is indeed important at the margins, it is hardly the only input buyers consider. Winter Storm Uri is, for now, only a tremor: if Texas/USGC natural gas are to avoid an earthquake, they may need to prepare for more severe winter storms and prevent large-scale outages like this from ever occurring again.

Weatherization for gas (and wind)?

A lot of commentary in the media has revolved around the relative performance of Texas's wind and natural gas production. We think, to be blunt, that neither fuel source performed well in ERCOT – but both fuel sources held up better in much colder climates, including North Dakota and Iowa, where the supply chain is weatherized. Instead of squabbling over which fuel source is better, it may be more productive to weatherize energy production in Texas and Oklahoma. This would be an expensive undertaking, of course, but it could very well prove necessary.

Don't sleep on this

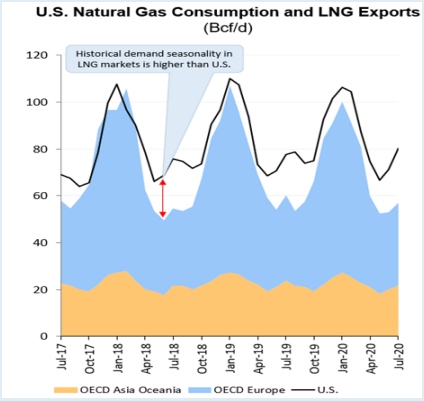
Consumers are unlikely to tolerate another major outage. The entire Texas economy was shut down for days, and some projections hold that the crisis has destroyed $50-100 billion in wealth. If another outage occurs at this scale, policymakers, businesses, and consumers are likely to seek root-and-branch reforms – and not necessarily in ways that will favor oil and gas. If we experience another similar outage, the consequences for the U.S. oil and gas complex could be more damaging.

LNG, Seasonality, and Natural Gas Price Volatility

U.S. natural gas markets may be moving to a new equilibrium. In the future, natural gas markets could face more seasonality, higher volatility, and greater demand for seasonal storage. This dynamic is largely attributable to the growing role of liquefied natural gas, or LNG, in U.S. markets. With U.S. LNG exports expected to rise in the post-pandemic period, international markets will increasingly influence U.S. natural gas demand and prices.

LNG Seasonal volatility

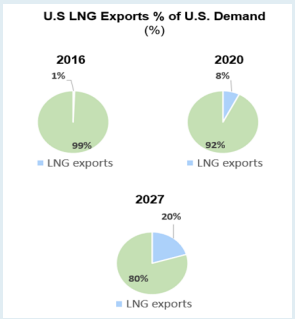
Natural gas demand is highly seasonal, with demand typically peaking during extreme temperatures (i.e. summer and winter). In most Northern hemisphere demand markets, such as the US Midwest or Europe, demand peaks in the winter, falls in the spring on temperate weather, picks up again amid summer temperatures and cooling demand, and is again lowered by moderate fall weather. This isn't true for every market, of course: in Northern hemisphere markets closer to the equator, such as Texas or Mexico, summer cooling demand can sometimes exceed heating demand. Nevertheless, the "shoulder season" of spring and fall typically sees lower demand across the U.S., OECD Europe, and OECD Asia.



As you can see above, OECD Europe (which includes every EU country, plus the U.K., Iceland, Liechtenstein, Norway, and Switzerland) shows more seasonal demand volatility than the United States. OECD Asia Oceania actually shows less seasonal volatility than the U.S., but that is largely attributable to Australia/New Zealand effects: Japan and South Korea have an LNG seasonal demand profile similar to Europe. Overseas demand for U.S. LNG exports therefore is highly seasonal and peaks in winter.

Implications of winter demand

LNG makes up an increasing proportion of growing total U.S. natural gas demand. In 2016, when Cheniere first began exporting liquefied volumes from Sabine Pass, U.S. LNG exports only accounted for 1% of all U.S. demand. By 2020, volumes stood at 8% and would have been much higher, but for the pandemic. By 2027, we believe that about 20% of all U.S. natural gas demand will be attributable to LNG, largely due to LNG export volumes recovering post-pandemic.



As LNG volumes account for a growing share of U.S. natural gas demand, we predict that inter-seasonal storage needs will become increasingly important for U.S. LNG exporters. We expect this to increase seasonal spreads in the natural gas markets and potentially accentuate gas price volatility.

Summer hurricane season?

Was the 2020 hurricane season a fluke, or a new reality that U.S. Gulf Coast LNG exporters must learn to live with? Hurricane seasons appear to be growing more intense on climate change. Sabine Pass LNG feed gas flows shows how disruptive hurricanes can be for LNG exporters.

Crude Oil News:

Exxon, Chevron CEOs discussed merger in early 2020-sources - Reuters

Oil in floating storage at one-year low as market strengthens—S&P Global

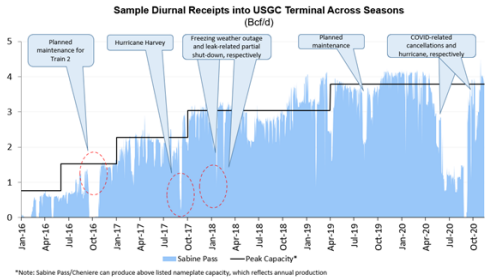
IEA sees tighter oil market despite demand caution, modest supply optimism—S&P Global

Whispers of $100 Oil Return as Crude Shakes Off Covid's Clasp - Bloomberg

Shell Hits Its Own Peak Oil, Plans to Reduce Output—WSJ

Debt-Laden Oil Majors in Retreat Mode Even as Crude Rallies—Bloomberg

LNG, seasonality, and natural gas price volatility (continued)



Cameron LNG's volumes fell even further this summer. If hurricane seasons persist, natural gas storage optionality will become critical for exporters and offtakers seeking to avoid sudden production outages.

Not quite a global gas market, but closer

Many factors will likely prevent a truly global gas market from ever emerging, but Henry Hub and other U.S. natural gas indexes are likely to become more international, and possibly more volatile. With international LNG demand coinciding with U.S. winter demand, we could see persistent winter pricing "peaks" in the future.

Three Scenarios for 2021 Oil Markets

Demand has been the most important element in crude oil markets the past year, due to uncertainty surrounding the COVID-19 coronavirus. That is changing. With the virus likely subsiding, crude oil demand is increasingly predictable: we expect domestic and international demand to continue to increase through 2021. Oil prices in 2021 will largely be driven by supply side movements.

In this article, we discuss three potential scenarios for oil markets in 2021: Sharp Rise; Price War Redux; and Drifting Upwards. We'll discuss each case in detail, but believe that the latter scenario is most likely: crude prices are likely to rise somewhat – but not surge – on strongly rebounding demand and firming supply. Still, we acknowledge that crude supply could surprise in either direction.

Demand assumption: strong, with more upside risks than downsides

Energy markets remain largely if not totally driven by COVID dynamics, which are now largely determined by the pace of vaccine rollouts. U.S. vaccinations are moving at a quicker pace as Moderna/Pfizer/J&J manufacturing picks up. Most importantly, a growing body of evidence suggests that vaccines sharply reduce the probability of severe disease *and* disease transmission. In other words, the vaccines protect the recipient *and* those around them. This is extremely good news: U.S. COVID cases, hospitalizations, and deaths will likely fall dramatically by May.

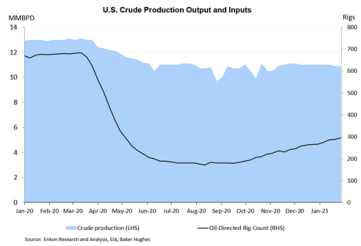
Policy measures will likely drive energy demand higher in 2021. The Federal Reserve is supporting expansion and sees little inflation risk, while a $1.9 trillion stimulus package could lead to new consumer spending, state and local government spending, business investment – and demand for crude and crude products. An infrastructure bill scheduled for later this year could have even larger implications for immediate and future energy demand.

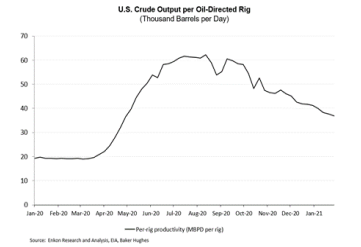
There are some potential downsides. The CDC issued new guidance saying that vaccine protections can wear off after only three months. We believe that guidance is perhaps unduly cautious. Nevertheless, if vaccines provide only short-duration immunity then the United States and other countries will have an extraordinarily difficult time returning to normalcy. Most dangerously, a new COVID variant could defeat existing vaccines. Despite these dangers, we remain broadly confident that the U.S. will defeat COVID through vaccines, and that the U.S. economy will surge this year.

Sharp Rise: Prices surge on OPEC+ and shale discipline

As we discussed in our previous issue, a sharp rise in oil prices is not out of the question in 2021. More recently, some analysts have suggested that markets could be in a new supercycle, with prices reaching $80 or even $100/barrel. Indeed, Riyadh has already shown a willingness to support prices, as it took a surprise voluntary 1 MMBPD output cut earlier this year. In OPEC+'s dream scenario, surging crude demand and restrained (or constrained) production would exceed the world's ability or willingness to supply it, resulting in prices not seen since 2014. This scenario's probability is significant, although we believe it is unlikely.

As in 2014, much will depend on the ability of U.S. shale production to absorb market demand. Total U.S. crude production (outside of Winter Storm Uri) has remained extremely stable at around ~11 Million Barrels Per Day (MMBPD) since late October, according to the EIA. At the same time, the oil-directed rig count has increased from the pandemic-induced summer doldrums and now sits at around 300 rigs, total. With production flat, and rig counts increasing, crude output per oil-directed rig has fallen continuously: more inputs, constant output.





Declining rig productivity is likely attributable to two factors: wells' natural decline rates and less productive rigs coming online. In order to pump out more crude volumes, U.S. producers will likely have to significantly expand rig counts. We do expect U.S. rig counts and tight oil production to rise this year, but U.S. shale production is unlikely to surge as before the last two major price declines in 2014 and 2020, respectively.

"Policy measures are also highly likely to drive energy demand higher in 2021. The Federal Reserve is supporting expansion and sees little inflation risk, at least for now, while a $1.9 trillion stimulus package could lead to new consumer spending, state and local government spending, business investment – and demand for crude and crude products. An infrastructure bill scheduled for later this year could have even larger implications for immediate and future energy demand."

Coal News:

Arch Resources winding down massive US coal mine as customer base dwindles—S&P Global

Nuclear, pumped storage, and coal power plants are more likely to have multiple owners—EIA

Lloyd's insurer Brit says it will not insure Adani coal mine— Reuters

Montana Senate panel OKs study to convert Colstrip coal plant to nuclear—S&P Global

LNG News:

Freeport LNG restarting Train 3 after voluntary shutdown during Texas freeze—S&P Global

Shell eyes LNG expansion—Argus Media

Sempra unit proposes large storage project near Gulf Coast LNG facilities—S&P Global

Texas gas order puts power before exports—Argus Media

Qatar Lays Out Ambition to Be LNG King for At Least Two Decades—Bloomberg

Capital discipline and access to capital (due to ESG issues) may become a significant bar for producers in the United States: price alone may not be sufficient for production to rebound.

There is much more international supply uncertainty. The market consensus is that OPEC+ countries alone hold about ~7.0-8.0 MMBPD in slack production capacity (for reference: 2020 liquids production fell by about 6.5 MMBPD from 2019, according to OPEC). If OPEC+ producers can maintain unity and get some lucky breaks on supply and demand, oil prices could surge this year.

Price War Redux: Prices fluctuate wildly in a production free-for-all

While the Sharp Rise scenario is certainly possible, we're doubtful that OPEC+ producers will be able (or willing) to sustain $80/bbl+ prices for 2021. First, OPEC+ compliance may break down. Many oil producers were desperate for funds even before the pandemic, Kuwait has begun tapping its sovereign wealth fund, and (lest we forget) Qatar withdrew from OPEC only two years ago (albeit for political rather than economic reasons). OPEC+ cooperation remains a major wildcard in 2021.

Second, and related to the first point, Iranian and Venezuelan production volumes might also return to the market sometime in 2021 (although their crude grades do not directly compete with WTI). Rebounding Iranian and Venezuelan crude exports would shake up current OPEC+ arrangements, potentially undermining cooperation. Finally, it's also possible that 2021 U.S. and international crude demand disappoints, in which case OPEC+ could oversupply the market. In the Price War Redux scenario, we could see sub $50/bbl prices if OPEC+ compliance breaks down, although we believe this outcome is less likely than the other scenarios.

Drifting Upwards: Prices generally rise, trade within $60-75bbl

The most important factor restraining OPEC+ producers from over or under producing is their own self-interest. As we wrote in our previous issue, 2021 could be an inflection point for EV adoption. Investors, massive multinational conglomerates, consumers, and regulators are all poised to flood the electric vehicle development zone if the economics demand it. A major run-up in oil prices could therefore prove to be a pyrrhic victory for OPEC+: while producers would benefit in the short-term from higher prices, they would also breathe life into world EV and battery adoption and potentially resuscitate U.S. tight oil. Presumably, most OPEC+ producers will not seek to accelerate peak oil demand, or will begin to cheat on their quotas if prices rise. Similarly, we expect OPEC+ producers to maintain some baseline level of cooperation, preventing a race-to-the-bottom price war.

In sum, we think the following scenario is most probable: demand will likely ramp up on vaccination uptake, pent-up "revenge consumption", and fiscal stimulus. Furthermore, OPEC+ will likely maintain an adequate supply throughout the year, drawing on inventories when needed.

Oil prices will vary largely on vaccination efficacy and uptake, Saudi and U.S. production, and Iranian/ Venezuelan volumes re-entering the market, but will likely trade between $60-75 bbl for the rest of the year.

The Infrastructure Bill: What to Watch

Although the stimulus package winding its way through Congress is likely to have the most impact on short-term energy demand, the upcoming infrastructure bill will shape medium and long-term energy market supply and demand forces. While the infrastructure bill will affect all aspects of the energy supply chain, three issues are of immense long-term importance: vehicle electrification; electricity grid modernization, particularly surrounding long-distance direct-current lines; and incentive measures for battery technologies.

There's a battle brewing over the electrification of the federal government vehicle fleet. The USPS awarded its new delivery vehicle contract to Oshkosh. The concept uses both electric and gasoline drivetrains. Two Ohio lawmakers say that the award may have been attributable to "inappropriate political influence" and prefer that USPS use an all-electric concept from Lordstown Motors (which is, coincidentally, located in Ohio).

We suspect the USPS vehicle fight is not over and is only one of many proxy fights in the larger EV/ICE automobile Cold War. The infrastructure bill may not directly address the USPS issue, but we do expect significant action on fleet electrification. The Biden administration says it seeks to install 500,000 charging stations across the United States by the end of 2030. The infrastructure bill may also produce some EV mandate, such as an all-electric federal government fleet by 2035.

Electricity grid modernization funding may target the entire supply chain, from generation to transmission to end-user. Microgrids are likely to receive more attention in the wake of Texas' ERCOT disaster; UHVDC lines appear necessary to connect generation with consumer centers, perhaps leading to some federal government involvement; and there will likely be a new focus on energy efficiency.

Finally, batteries and other relatively incipient technologies are highly likely to receive funding, although the scale of such funding is uncertain. We will look for funding for basic and applied research of lithium-ion and green hydrogen storage solutions. We expect substantial investments in these areas, since batteries are a critical component in US-China strategic competition.

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Utilities News:

ERCOT board members to resign following mass outages - Utility Dive

New FERC Chair's Focus: Environmental Justice and Climate Change Impacts - Green Tech Media

Dominion proposes ending its South Carolina coal generation by 2030 - Utility Dive

FERC 'finally' ends PJM MOPR proceeding, paving way for grid operator's next capacity auction—Utility Dive

Infrastructure Bill News:

Biden team hopes to make 2021 infrastructure year with major package to boost US roads, bridges - Chicago Tribune

After Stimulus, Biden to Tackle Another Politically Tricky Issue: Infrastructure—New York Times

Exclusive: Bernie ready to roll on roads—Axios

Commodity Outlook (90 days out)

Vaccines, COVID, and energy demand
COVID-19 cases continue to fall dramatically in nearly every market. The causes for the decline in cases are hotly debated, as many epidemiologists and public health experts believe that COVID-19 and other coronaviruses experience some little-understood seasonality. The most important news, however, is that vaccines are protecting individuals from serious disease *and* are preventing transmission. Many public health experts are very optimistic about the U.S. COVID trajectory and believe that domestic cases could fall dramatically by April, barring a mutation. While we may see some short-term case increases due to more transmissible variants reaching the US, life in America could begin to return to "normal" as early as May, with small-scale outbreaks only occurring among individuals who refuse vaccination.

Israeli public health data shows that the Pfizer/BioNTech shot is highly effective at preventing serious disease and infections. It is difficult to overstate the significance of this finding. Each vaccine enjoys a "multiplier effect" protecting not only the recipient, but also those around them. If vaccines confer a high degree of protection from asymptomatic spread, then the severity and frequency of cases will decline.

The Johnson & Johnson single-dose vaccine results suggested the vaccine is highly effective at preventing serious illness; Novavax also appears likely to obtain FDA approval in coming weeks. As more vaccines enter the domestic and international market the recovery will accelerate.

If vaccine manufacturing and distribution continues with only minimal hiccups, COVID could be crushed by late Spring or early Summer, leading to surging GDP growth—and soaring energy demand. Some analysts believe that annual U.S. GDP growth of 6%+ is possible for the *next two years.* If that occurs, demand for most commodities will also see a "V-shaped" recovery. International recovery may be relatively softer in Europe and Asia due to slower vaccine rollouts, but we expect most recipients of U.S. energy exports to have achieved substantial levels of herd immunity by the next "coronavirus season" of winter 2021/2022.

Oil Market Movers:
Winter Storm Uri took millions of barrels of production offline, while refineries are facing weeks-long shutdowns.

As of this writing, approximately 1.6 MMBPD of USGC refining capacity is currently offline, and may not fully restart for weeks. Run rates at refineries that managed to stay open will likely edge up, although we have long expected refineries to increase output in response to rising post-vaccination demand. We could see some slight intra/inter-PADD crude flows on refinery shutdowns.

Natural Gas Market Movers:
Winter Storm Uri shook up natural gas markets and poses severe long-term dangers for the commodity, which we discussed at length. In the near-term, however, Henry Hub prices could show some softness if, as we expect, Permian crude production (and associated gas volumes) begin to drift upwards.

Electricity/Renewables:
Due to the increasing unreliability of the CA/TX grids, consumers are taking a look at residential solar + storage solutions. Due to improving economic conditions, easing COVID restrictions, increasing module efficiency, federal incentive programs, and, ironically, consumers' search for reliability, we won't be surprised if residential solar installations approach or even exceed 4 GWdc in 2021. We expect more national/utility-level discussions surrounding residential solar in coming months, particularly as discussions over the infrastructure bill heat up.

There's been a lot of discussion surrounding wind turbine performance in Uri. Many arguments have been poorly informed, bad-faith, sometimes both. For a balanced and nuanced rundown of ERCOT generation fuel performance see Blake Shaffer's thread.

LNG Market Movers:
15-20 LNG cargoes may have been cancelled due to Winter Storm Uri. As we noted above, weather/climate cancellation risks loom larger for U.S. LNG and will restrain buyer enthusiasm, at the margins.

Some of the more marginal international liquefaction players are returning to the market, potentially absorbing post-COVID demand and limiting greenfield LNG projects' ability to ink new long-term agreements. 2021 is a critical year for U.S. LNG projects: any projects that don't take FID this year probably never will.

NGL Market Movers:
Dozens of crackers were knocked offline during Uri: the market consensus is that run rates will be lower for weeks significantly impacting ethane demand.
With relatively stronger gas prices, producers are likely to elect to reject gas while crackers are offline. There is growing downside risk to Mont Belvieu ethane prices
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.

In propane markets, extremely cold U.S. temperatures and robust overseas demand have sent propane inventories below 5-year averages. We expect prices will continue to receive support from diminished inventories in 2Q.

Finally, butane is likely to receive support as it is currently the best margin feedstock amid high demand for USGC cracking. We continue to believe that nC4 will trade at ~85% of WTI in 1Q, while C5+ will reach ~90% of WTI in 1Q.

"We won't be surprised if residential solar installations approach or even exceed 4 GWdc in 2021. We expect more national/utility-level discussions surrounding residential solar in coming months, particularly as discussions over the infrastructure bill heat up."

Renewables News:

Chip Shortage Hits Solar Sector With Enphase Citing Constraints—Bloomberg

Curtailment Tracker: Solar, wind generation curtailments fall 55% year on year—S&P Global

How the race for renewable energy is reshaping global politics—FT

'Green bubble' warnings grow as money pours into renewable stocks—FT

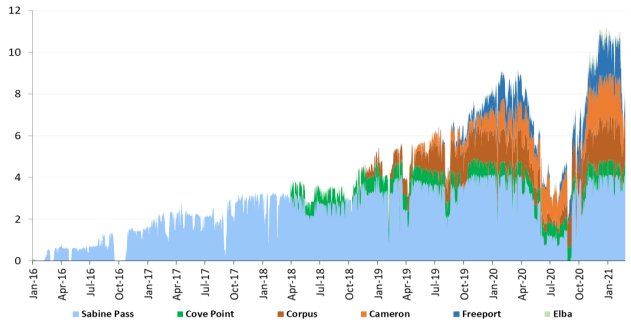
Photos from Wikimedia Commons:

Texas Army National Guard courtesy of Staff Sgt. Yvonne Ontiveros; Arild Vågen

Basile Morin; RegionalQueenslander

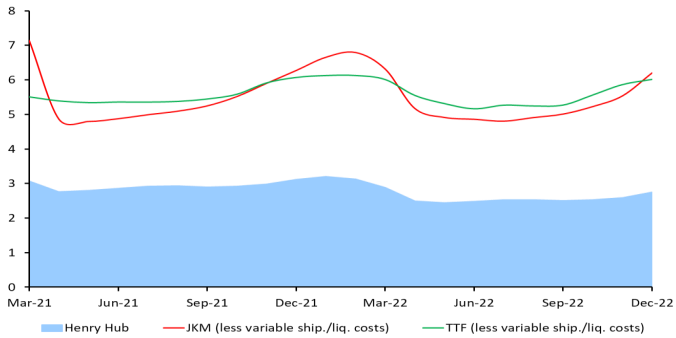
Key Market Dashboards

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



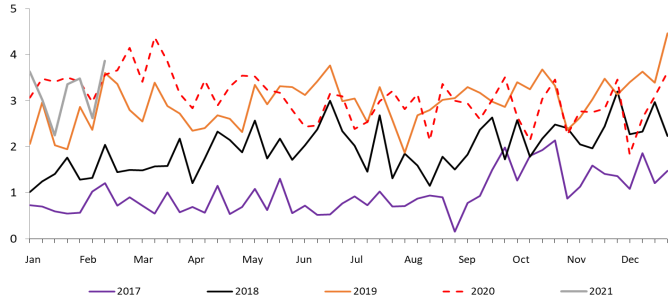
U.S. LNG feed gas flows have largely recovered from Uri, but over a dozen cargoes were cancelled

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



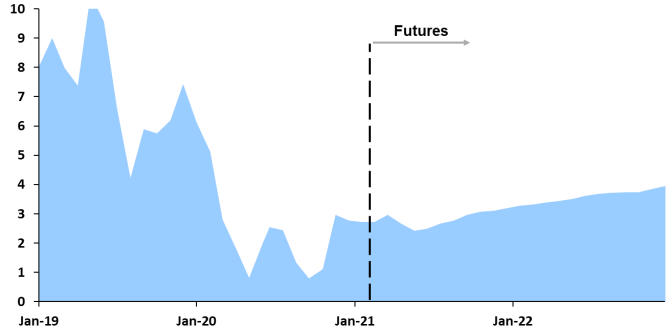
Few cancellations are expected in the shoulder season

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



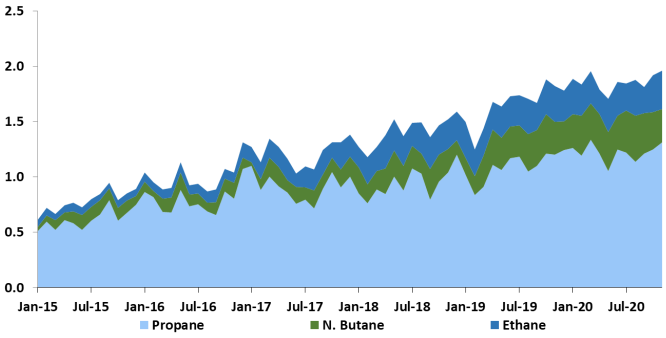
Stronger demand pull could keep domestic barrels in-market, although refinery outages complicate dynamics

Brent—WTI Spread
($/Barrel)



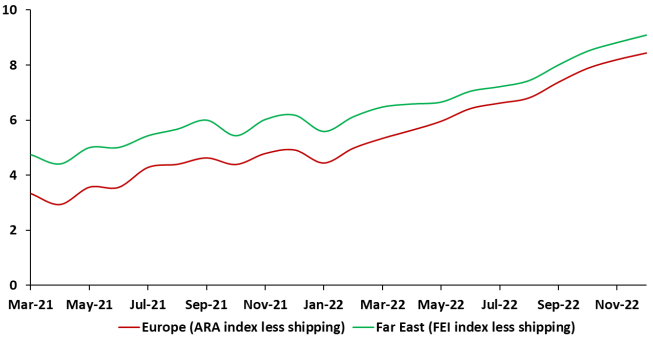
Futures market suggests a rising Brent-WTI spread, but exports could be pressured on COVID vaccination differentials

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



U.S. LPG exports remain strong despite internal demand pull

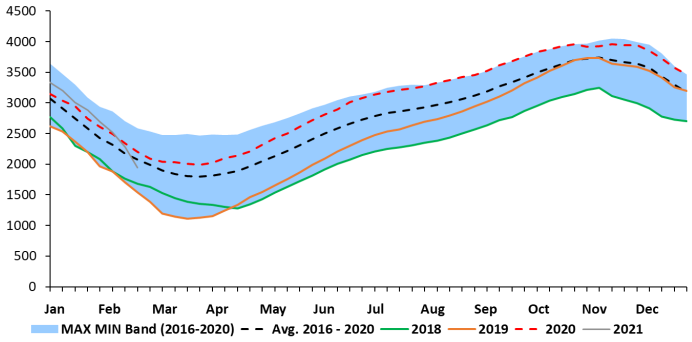
International Propane Netbacks (to Mt. Belvieu)
(Cents Per Gallon)



Netbacks are expected to rise with time as freight costs have declined (at least for now)

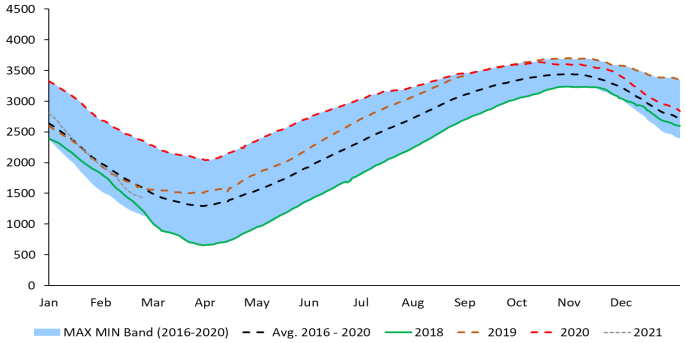
Key Market Dashboards

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



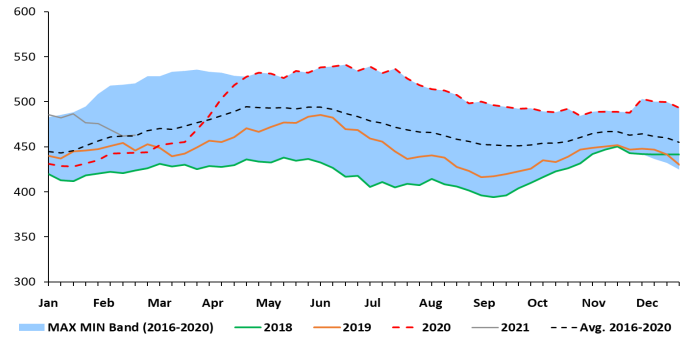
Sharp drop in natural gas inventories on cold snap was felt most acutely in USGC

European Storage
(Billion Cubic Feet)



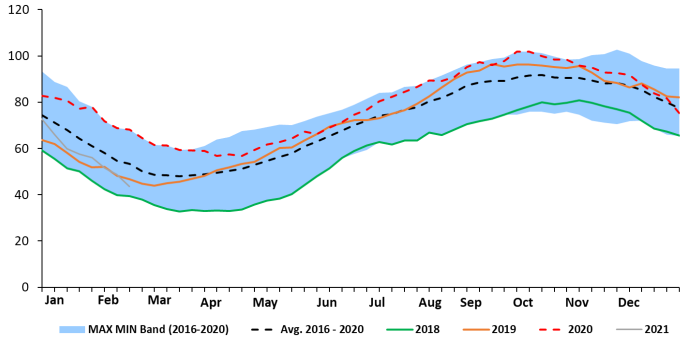
Europe's relatively low storage levels could provide price/volume support for U.S. LNG exports

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



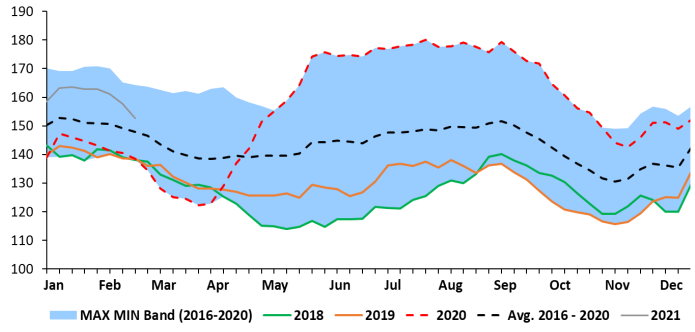
Inventories sharply declined due to Winter Storm Uri, although supply chain issues in the downstream have yet to be worked out

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



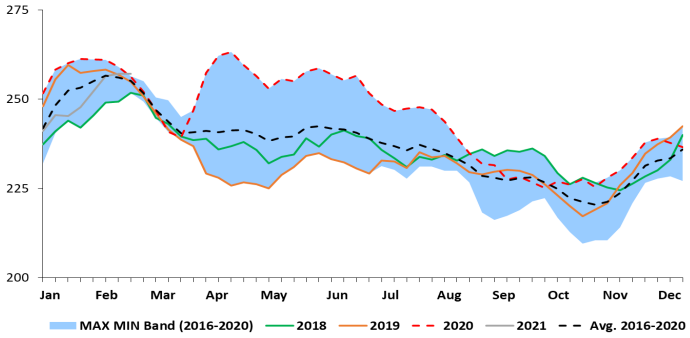
U.S. propane inventories under pressure from strong domestic and international demand

U.S. Diesel Storage Inventory
(Million Barrels)



Diesel demand is expected to rise, but inventory days-of-demand remain high

U.S. Gasoline Storage Inventory
(Million Barrels)



Products inventories could fall in future weeks on recovering end-user demand and refinery outages

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		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		

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.

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