Orchid Insights

The way out - bright spots in uncertain times

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Since the explosion of unconventional oil and gas production began in 2013, the US has faced a new energy challenge: too much of everything. This has become increasingly true over time, particulary following the post-2015 low price cycle that temporarily slowed production growth but led to greater efficiencies and reduced breakeven prices, enabling a new surge in growth.

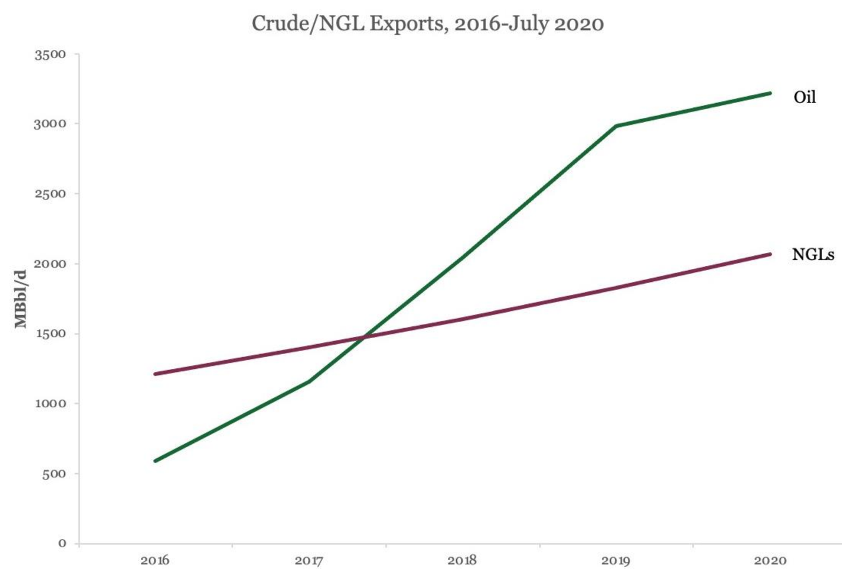
The US has more oil, more natural gas, more ethane and more LPGs than it can consume on its own. Heavy Investment in ethane crackers, particularly along the Gulf Coast, has soaked up some of the increased ethane production. However, for crude oil, natural gas, ethane, and LPGs, exports play a crucial role in balancing supply and demand.

In December 2015, the US government lifted the ban on crude oil exports to enable US producers to grow and create more jobs. This was a major change. Before this time, US crude exports were restricted to production from the Cook Inlet and North Slope (Alaska), exports to Canada and US territories, and limited exports of California crude oil.

At the same time, oil and gas production continued to increase, particularly in the Permian and DJ Basins, as well as the Marcellus/Utica leading to an abundance in NGLs and a resulting need for more export infrastructure.

“…exports play a crucial role in balancing supply and demand.”

Crude oil and NGL exports have steadily grown since 2016. We expect NGL exports to continue to grow on a more steady and sustainable level for the long term compared to crude. The following graph shows average barrels per day of crude oil and NGL exports, by water and pipelines.

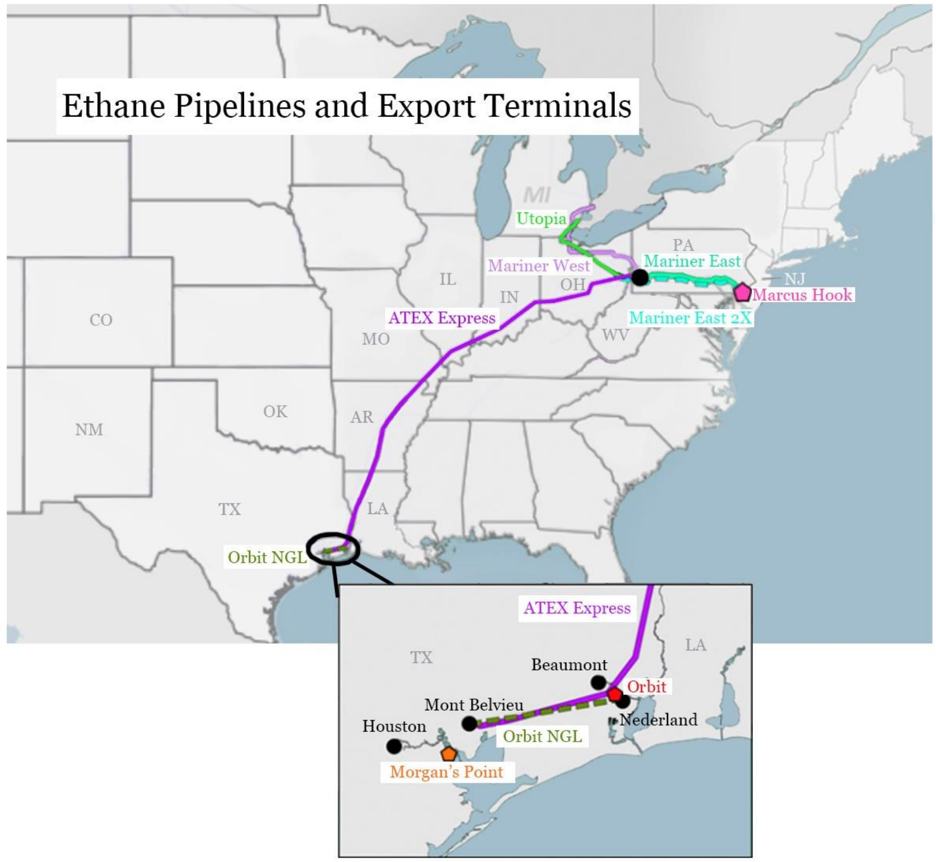


Appetite for export related projects was strong while companies cancelled or suspended other major oil and gas midstream projects to conserve cash.

What’s new

As operators and owners cancelled, suspended, and delayed numerous major capital projects in the first nine months of this year, certain US companies continued to allocate precious capital for export related projects. At the Texas Gulf of Mexico ports, millions of barrels of additional storage and terminalling capacity were completed or are under construction in 2020 alongside deepwater docks. For example: Energy Transfer quietly and steadily constructed a multi-billion dollar proprietary ethane supply chain for Satellite Petrochemical’s complex in East China. Energy Transfer announced the first cargo of ethane for Orbit will be commissioned in 4th quarter 2020, loaded onto Very Large Ethane Carriers (VLEC) built in China.

Orbit is a joint venture between Energy Transfer and Satellite Petrochemical, formed to build a proprietary ethane supply chain for export from Nederland, Texas to East China. In spite of the ongoing USA-China tensions, the facilities will be finished on schedule to the surprise of industry critics. The joint venture plans to export up to 150,000 Bbl/day of ethane, tripling Energy Transfer’s average daily ethane exports to date.



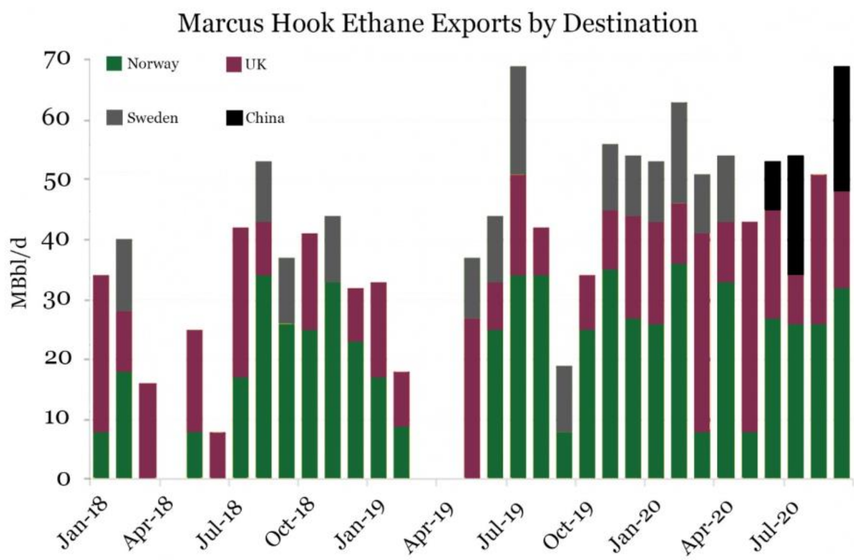
Expansions are in progress at the USA ethane export terminals.

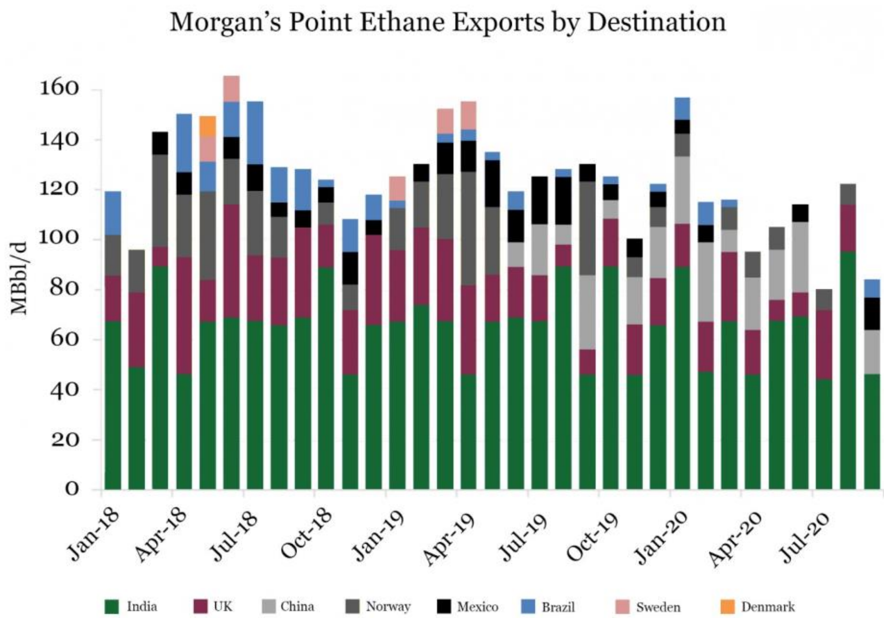
Exports growth

There are currently only two ethane export terminals in the USA: Marcus Hook terminal sited near Philadelphia and Morgan's Point terminal located in the Houston metropolitan area. Marcus Hook is owned and operated by Energy Transfer and began exporting ethane in March 2016. LPG and ethane supply from the Marcellus/Utica reach the Marcus Hook terminal through two (soon to be three) pipelines ranging in capacity from 70 MBbl/d to 275 MBbl/d. Export capacity is currently about 70 MBbl/d for ethane and 275 MBbl/d for LPG (multiple expansions and new facilities are in progress).

USA export growth for WTI light sweet crude, ethane and LPG (liquid fuels) shines as a bright spot in the best and worse of times.

Enterprise Product Partners (EPD) operates the Morgan's Point terminal, which began exporting ethane in September 2016 and ethylene in January 2020. Multiple mixed NGLs (Y-Grade) pipelines from the Permian and DJ Basins deliver supply to EPD's fractionation and storage complex at Mont Belvieu, where the Y-Grade is split into ethane, propane, and other purity products. EPD converted a large diameter, long haul oil pipeline to ethane only (ATEX) to bring supply from the Marcellus/Utica area to Mont Belvieu. The short story is the same – expansions are in progress for pipelines, fractionation, and storage to meet export demand.





Future growth and opportunities

Given the pre-pandemic ramp up at Gulf Coast terminals was primarily crude driven; combined with reduction in supply from curtailments by producers, current takeaway oil pipeline capacity exceeds current demand and operators are competing aggressively for supply from creditworthy customers. A sign of how rapid change can occur in the USA – In September 2020, EPD cancelled its greenfield Midland-to-ECHO 4 oil pipeline development from its Permian Basin storage to the crude oil terminal in Houston (M2E4).

Who wants long term, back to back, commercially sensible deals, with logical fundamentals?

M2E4 was just announced in November 2019 as a 450,000 Bbl/d capable of expanding to nearly 1 MMBbl/d, anchored by long term service agreements with major producers. EPD renegotiated commercial arrangements with key customers to take over unutilized capacity in EPD's operating pipelines and reduced its capex for 2020-2021 by $800 million. However, the ethane story is totally different because of the worldwide appetite for downstream derivatives in the ethylene chain - lighter, stronger and durable plastics - along with speciality chemicals, including resins and solvents, for commercial and industrial applications.

What should be most comforting to foreign investors seeking a way back to certainty and normal risks: export capacity is fully or nearly fully anchored with long term supply deals between multinational petrochemical companies (such as Ineos) and super majors (such as Shell and Exxon) targeting US and international ethane only steam crackers, new builds and existing crackers reconfigured from naphtha feedstocks to consume ethane. Exported ethane has one use – feedstock for steam crackers designed to crack only ethane. At Mont Belvieu, by the end of 2020, EPD's 11 fractionators will total about 1 MMBbl/d gross capacity, its NGLs underground salt dome storage increases to 130 MMBbl, while the company continues to develop and construct bolt on facilities.

Going, going, gone

Much like the Permian Basin in terms of supply, for exports to the world, Texas dominates for many reasons: largest state with contiguous land, pro-industry attitudes, longest coastline with access to deep water locations, corporate friendly tax structures, and vast availability of supply. Nevertheless, the amount of land and access to water are finite. The Texas Gulf of Mexico coastline is well developed; dotted with refineries, fractionators, crackers, storage and related facilities at Port Arthur, Beaumont, Houston, Corpus Christi, and other heavy industrial zones. By now, the export drivers and companies dominating this value chain segment, US liquid fuels commodities export growth, are known. So where are the opportunities for foreign investors and lenders?

"… the best investment opportunities are not advertised, marketed, or broadcasted."

What's next

For foreign strategic and financial investors, finding the right partner and location should remain the most important in achieving desirable returns on capital and long-term success. Regardless whether the industry is in high or low price cycles, it remains true that the best investment opportunities are not advertised, marketed, or broadcasted.

We originate and create the optimal deal from understanding what sellers and buyers need and want, in addition to capital. The strategic opportunities are found with knowledge on the ground and presence in the market, and the ability to separate the 'pitch' from the facts…the talkers from the doers.

For more informative insights and productive discussions, contact the authors. After all, if we share everything we know in this newsletter, that would not be exciting!

Authors

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Lilly is a partner and General Counsel of Orchid Group based in Houston. She has worked in the energy industry for 39 years as an attorney, marketer, developer, and adviser. Her primary areas of expertise include the oil and gas supply and value chain covering crude, natural gas and LNG, NGLs, petrochemicals, and conventional and renewable power generation in the USA and Asia. Prior to co-founding Orchid Group, Lilly worked for US independent upstream producers, Enron, Texaco, Chevron, and Suez.

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Orchid Group

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