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Undone – Global Market Weakness Rattles U.S. LNG Exports

How U.S. LNG Export Terminals, Projects Are Navigating the Downturn



- U.S. LNG exports were hit hard this summer by cancellations after COVID-19 and the oil price crash in the first half of 2020 made U.S. cargoes uneconomical to Europe and Asia.
- Global gas markets were already oversupplied before 2020; the demand loss from COVID lockdowns sent global gas prices to record lows. As a result, U.S. LNG exports this summer fell to about 40% of what they were before the crash.
- Cargo cancellations have likely peaked now, with July and August seeing the most cancellations. Cancellations should ease for fall, and U.S. terminals will potentially be back to full utilization by winter.
- The downturn has also severely impacted new project developments. Liquefaction trains and terminals already under construction or commissioning are progressing as planned. But projects still looking to lock in the commercial agreements needed for taking FID have largely stalled.

1. Introduction

COVID-19 has wreaked havoc on the global LNG market. Lockdowns and social distancing measures cratered gas demand in what was already an oversupplied market, resulting in high storage inventories and all-time low gas prices in Asia and Europe earlier this year. As international LNG prices collapsed, U.S. LNG operators for the first time have had to contend with a relentless stream of cancelled cargoes and low facility utilization rates. More recently, U.S. cargo cancellations are showing signs of easing as international price spreads are improving for fall and winter on expectations of heating demand picking up in Europe and Asia. But the significant disruptions to U.S. LNG export demand in recent months have demonstrated the U.S.'s role as a swing supplier. Moreover, the lingering effects of the market crash likely will be felt for years to

come, given that it already has delayed or sidelined most of the second wave of export projects that were under development but had yet to take a final investment decision.

U.S. LNG exports in recent years have become an integral part of balancing the domestic gas market. From when the first large-scale liquefaction train — Cheniere Energy’s Sabine Pass Train 1 — was completed in May 2016, U.S. LNG developers have added more than 9 Bcf/d in liquefaction capacity across six terminals. Domestic demand for feedgas supplies at the LNG export terminals climbed steadily each year, from an average 400 MMcf/d in early 2016 (blue line in Figure 1) to 1.5 Bcf/d in 2017 (orange line), 2.9 Bcf/d in 2018 (gray line) and 5.1 Bcf/d in 2019 (yellow line), as new trains were completed and offtaker contracts took effect. Once incremental feedgas demand came online with each addition of liquefaction capacity, it generally stayed online, with the exception of short-term maintenance or weather-related disruptions. Utilization of the trains grew even through 2019, when a growing global supply glut pressured destination prices lower. By December 2019, feedgas demand was up to an average 8 Bcf/d. That climbed to an average 8.6 Bcf/d in the first quarter of 2020 (purple line) as an additional 1.3 Bcf/d of LNG export capacity came online. During the winter, feedgas accounted for about 8% of total U.S. gas demand.

Total Feedgas Deliveries for U.S. LNG Exports

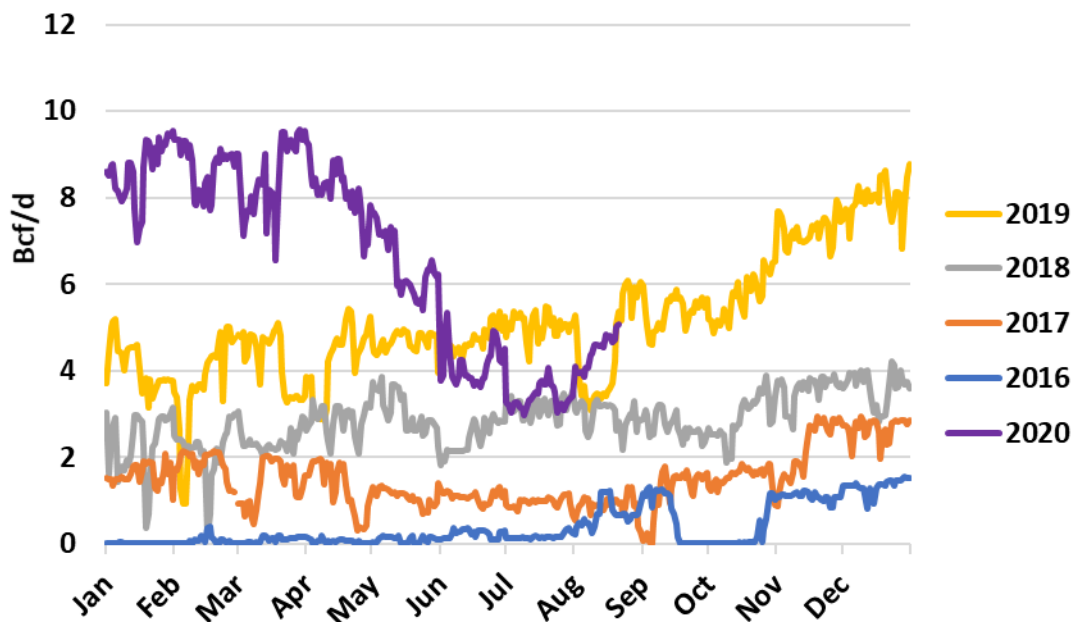


Figure 1 – U.S. LNG Feedgas Deliveries; Source: RBN LNG Voyager

However, the unprecedented market environment brought on by COVID lockdowns and the oil-price crash dealt a severe blow, not just to global LNG demand but specifically to the competitiveness of U.S. LNG. These events crushed international price spreads and wiped out margins on variable costs for U.S. deliveries into Europe and Asia, while also making spot LNG prices from in-region suppliers more attractive on a variable cost basis than shipping contracted cargoes long distances from the U.S. Cargoes sourced from most other countries are also generally bought and sold at oil-linked prices, making them more competitive and less likely to be cancelled than U.S. cargoes in a low oil price environment.

Price spreads for delivering U.S. LNG to Europe and Asia, which had been well above \$1/MMBtu at the beginning of this year, collapsed and even flipped to negative. Europe's UK NBP and Dutch TTF price benchmarks — and briefly also Asia's JKM index — back in May began trading below the U.S. benchmark Henry Hub, for the first time since the U.S. entered the global LNG market in early 2016. The tighter price spreads, even when positive, did not allow offtakers to recoup their variable shipping costs, much less the fixed costs associated with their commercial contracts. That, along with the availability of lower-cost, oil-indexed cargoes in the spot market, put U.S. cargoes squarely out of the money. The more flexible structure of the commercial contracts at U.S. export terminals also made it easier for offtakers with fixed-cost, long-term commitments to cancel cargoes.

The combination of these factors set the stage for a steady stream of cancellations that have suppressed domestic feedgas demand for LNG significantly since May. As we noted above, feedgas deliveries to the terminals started 2020 at all-time highs at about 8.6 Bcf/d and about double year-ago levels. But with widespread cargo cancellations taking effect, they dropped to just 3.3 Bcf/d by July, equal to less than 50% utilization of capacity and about 2.5 Bcf/d below the same time last year (purple line in Figure 1). In recent weeks, feedgas is beginning to show signs of recovering, as cancellations ease for fall — given the voyage times to Europe and Asia, feedgas deliveries in August will be for cargoes scheduled for lifting in September. In mid-August, feedgas flows have been as high as 5 Bcf/d. But that is still just over 50% of the total U.S. capacity.

While domestic export demand collapsed this summer, new liquefaction capacity continued to be added. In fact, the one bright spot during this time has been projects under construction or commissioning. These projects, including the last of the first wave of export facilities and two from the second wave, had already taken FID prior to 2020 and are pushing forward. Since the beginning of this year, Freeport Trains 2 and 3, Cameron Trains 2 and 3, and six of Elba Liquefactions' 10 mini trains have come online, adding about 2.6 Bcf/d of liquefaction capacity to the U.S. fleet. Additionally, Cameron Trains 2 and 3, Freeport Trains 2 and 3, and Corpus Christi Train 2 also started commercial operations, meaning their long-term contracts have taken effect, bringing online 21.44 MMtpa (about 2.8 Bcf/d) of long-term sales and purchase agreements (SPAs) at U.S. terminals.

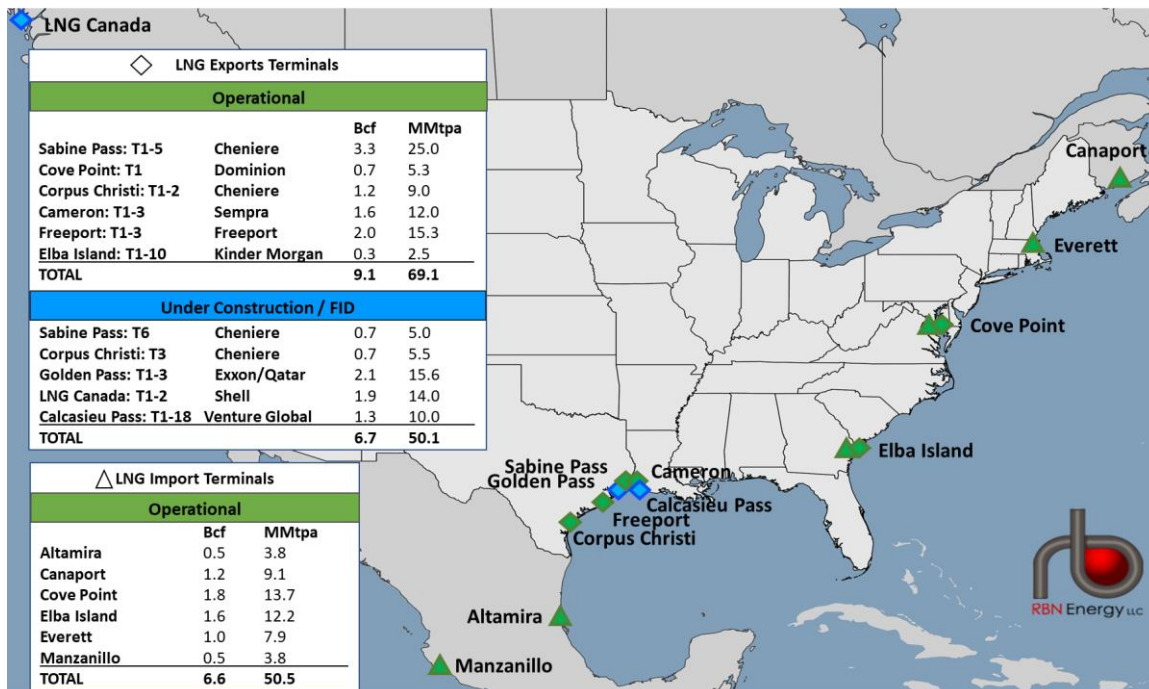


Figure 2 – Map of North America LNG terminals; Source: RBN

The pace of development over the next few years will be slower than what we have seen over the past few years, but projects that had already taken FID prior to COVID are progressing as planned, or even ahead of schedule. Corpus Christi Train 3 started commissioning in July and is on track to begin service in the first half of next year. And, in its second-quarter earnings call, Cheniere moved the timetable for Sabine Pass Train 6, the final train at the largest U.S. terminal, up by half a year to the second half of 2022. Second-wave projects that have already taken FID — Calcasieu Pass, Golden Pass LNG, and LNG Canada — are all under construction and their respective developers have largely affirmed their pre-COVID target start dates.

For the second wave of export projects that were still working to secure commercial agreements and take FID, though, what was already a challenging environment has gotten much worse. It was not long ago that rampant growth in U.S. LNG exports this decade was practically a foregone conclusion, and the last couple of years brought a cascade of announcements for still more U.S. LNG export capacity — the so-called second wave. This included nearly two dozen projects totaling 235 MMtpa (~35 Bcf/d) of liquefaction capacity, primarily along the Gulf Coast. Not all of those were expected to make it across the finish line, but indications were that several would take FID in 2019-20 and come to fruition in this decade, most of those by mid-decade even.

That fervor (and the capital behind it) began to fizzle out in the latter half of 2019 as a global gas supply glut worsened — largely a result of project completions and growing exports from the U.S. and Australia, though other factors like the U.S.-China trade war and high European storage levels exacerbated it as well. And any remaining optimism has since been squashed by the COVID crisis. Many of the second-wave projects have been delayed or deferred. And the list of projects that could take FID in 2020 is whittled down to just one: Sempra’s ECA Liquefaction in Mexico, a small brownfield project whose capacity is fully subscribed with long-term SPAs. And even that project is facing COVID-related challenges, namely the shutdown of the Mexican government, which has delayed the project’s ability to secure the exporting permit it needs before it can take FID.

Other projects that may take FID in the next year or so are mostly brownfield expansions of first-wave LNG projects, but even those projects that once appeared imminent for taking FID are now in wait-and-see mode, pending a more clear and sustained global price recovery.

LNG export demand will be critical for balancing the U.S. gas market in the coming years. Factors affecting utilization at operating terminals, as well as the scope and timing of new projects, will drive that demand. In this Drill Down Report, we examine the impacts of COVID and the subsequent global markets crash on U.S. LNG exports and future capacity additions. Specifically, we delve into the capacity utilization of the existing domestic fleet, and how contract design, cost structures, offtaker types, and other factors have affected offtake patterns. We also provide an update on the status of under-construction and second-wave projects trying to push forward and take FID in challenging market conditions.

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The Table of Contents for “Undone – Global Market Weakness Rattles U.S. LNG Exports” is included below.

Table of Contents

1. Introduction	- 1 -
2. Global Market Update.....	- 7 -
3. Operating Terminal Update.....	- 9 -
3.1 Terminal Contracts and Cost Structures	- 9 -
3.2 Terminal Operations	- 12 -
3.3 Cargo Cancellations Impacts	- 13 -
3.3.1 Sabine Pass	- 15 -
3.3.2 Corpus Christi.....	- 16 -
3.3.3 Cove Point.....	- 16 -
3.3.4 Freeport.....	- 17 -
3.3.5 Cameron.....	- 18 -
3.3.6 Elba Liquefaction	- 19 -
4. Liquefaction Projects In Development.....	- 20 -
4.1 Under-Construction Projects.....	- 21 -
4.1.1 Corpus Christi Train 3 and Sabine Pass Train 6.....	- 21 -

4.1.2 Golden Pass LNG - 22 -

4.1.3 Calcasieu Pass LNG - 22 -

4.1.4 LNG Canada - 22 -

4.2 Pre-FID Projects - 23 -

4.2.1 Energía Costa Azul (ECA) Liquefaction Phase 1 - 25 -

4.2.2 Woodfibre LNG - 25 -

4.2.3 Cameron LNG Trains 4 and 5..... - 26 -

4.2.4 Corpus Christi Stage III - 26 -

4.2.5 Port Arthur LNG..... - 26 -

4.2.6 Freeport LNG - 26 -

4.2.7 Tier 2 and 3 Projects - 27 -

5. Conclusion..... - 28 -

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