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How Much More Can She Stand – Gulf Coast Crude Export Terminals

Export Capacity Ramps Up As Export Growth Rate Slows



- Midstream companies have been building new storage and marine-dock capacity in anticipation of continued growth in production and exports, but those expectations have been upended by COVID-19.
- Pre-pandemic, crude exports had been expected to rise to as much as 6 MMb/d by the mid-2020s; now, under a \$40/bbl base case, export volumes may stay close to flat near 3 MMb/d.
- The downshift in export expectations may leave many Gulf Coast terminals with significant surplus capacity and spur a “battle for barrels” among their operators.
- Maximum observed export volumes from major terminals suggest that half or more of the region’s export capacity is unused.
- The recent start-up of new Permian-to-Corpus Christi pipelines has made Corpus the U.S.’s leading export venue, putting pressure on ports and terminals elsewhere.

1. Introduction

Just a few months ago, U.S. crude oil production was hitting new heights, export volumes were rising fast, and producers, shippers, and others were worried whether there was sufficient marine-terminal capacity in place to handle the coming flood of crude exports. The expectations for export growth were so certain and the concerns about export capacity so serious that a number of midstream companies were fast-tracking plans to develop expensive new offshore terminals in the Gulf of Mexico that would be capable of fully loading the 2-MMbbl Very Large Crude Carriers that are the preferred way to transport crude to distant overseas markets.

Then, the COVID-19 pandemic spread from China to South Korea, Western Europe, the U.S. and elsewhere, spurring stay-at-home orders and slowing major economies to a crawl around much of the globe. Demand for motor gasoline, jet fuel, and diesel fell sharply, and with that, refinery demand for crude oil. Crude prices plummeted, oil stockpiles grew, OPEC+ agreed to production cuts to bring crude oil supply and demand back toward balance, and U.S. producers slashed their planned 2020 drilling-and-completion plans and shut in many of their wells. From an all-time record of just over 13 MMb/d in the first couple of months of this year, U.S. crude oil production fell to less than 11 MMb/d by June and finally showed indications of rising in mid-July.

Where crude oil production goes from here will depend on a number of factors, including the U.S.’s ability to reverse the coronavirus’s gains this summer and get the economy back on track. In any case, it seems likely that production gains will be relatively slow at best, and that the “pre-COVID” expectations for steady growth in both production and export volumes no longer apply. Instead, RBN’s base case, with \$40/bbl West Texas Intermediate into 2021 and beyond, suggests that for the foreseeable future, crude exports will remain within a few hundred thousand barrels/day of the 3.1 MMB/d they have averaged since the start of 2020. That is in sharp contrast to the 5 MMB/d or even 6 MMB/d of crude exports that had been expected by 2024-25 when the year began.

Figure 1 below shows the growth in U.S. crude exports out of Gulf Coast terminals over the past two years; in essence, export volumes have doubled over that period. There have also been some noteworthy shifts in where crude oil is being sent out from. As recently as mid-2018, exports were distributed somewhat evenly among the four primary exporting areas along the Gulf, with the Greater Houston area (green bar segments) holding only a modest lead over the Beaumont/Nederland area (blue bar segments), the Corpus Christi area (yellow bar segments), and Louisiana (orange bar segments). Since then, export volumes out of all four areas have generally risen, but the biggest gains have been in Corpus Christi area and, most recently, Louisiana.

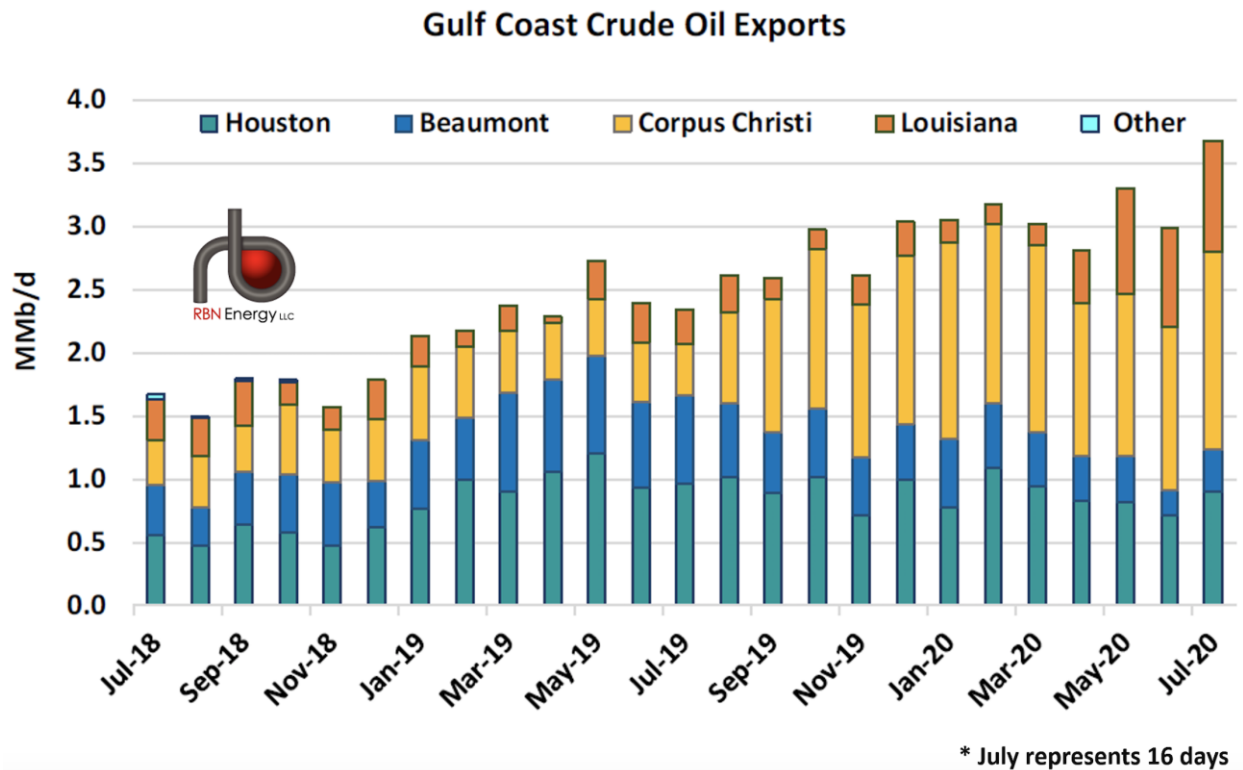


Figure 1 – Gulf Coast Crude Oil Exports; Source: RBN’s [Crude Voyager](#)

The big increase in crude exports out of Corpus Christi and nearby Ingleside, TX, started in the summer and fall of 2019, when — not coincidentally — the new Cactus II and EPIC crude pipelines from the Permian Basin to the Corpus area came online. The Gray Oak Pipeline followed suit in April 2020, enabling additional volumes of Permian crude to reach the growing number of export-focused terminals in Corpus and Ingleside. As for Louisiana, its crude export volumes rose primarily due to the increasing capabilities of the Louisiana Offshore Oil Port (LOOP), the only Gulf Coast terminal that can fully load VLCCs.

While the worry just a few months ago was whether there would be enough export capacity in place, the question now may be, how fierce will the “battle for barrels” among export terminals be? A review of the major crude-handling marine terminals along the Gulf Coast indicates that there is ample capacity available to deal with current and expected volumes of crude exports, and even to deal with a significant increase in export volumes, if that were to occur.

Estimating how much crude oil a terminal can export on a steady, reliable basis is an inexact science. There are many variables to consider, such as inbound pipeline capacity, on-site storage capacity, pumping capacity, and the size of the tankers — or supertankers — that can use the terminal. While some terminal operators have stated what they consider the export capacity of their facilities to be, it can be difficult to discern whether these ratings represent throughputs that can be repeated week in and week out or best-case scenarios.

Given the range of variables, we have determined that the best baseline to use for establishing a marine terminal’s reliable, repeatable capacity for exporting crude oil is to determine the highest level of export volumes it has managed to maintain for a 30-day period. The reasoning behind this is that while a terminal may be able, for example, to finish loading an Aframax tanker on Sunday, another on Wednesday and a third on Saturday, that does not necessarily mean that pace can be repeated again and again in subsequent weeks. The multicolored bars in Figure 2 show the average daily volume of crude oil being exported from the four major crude export areas noted above by month since January 2018. The solid black line, in turn, represents the sum of the maximum observed export volumes that each of the terminals maintained over a 30-day period.

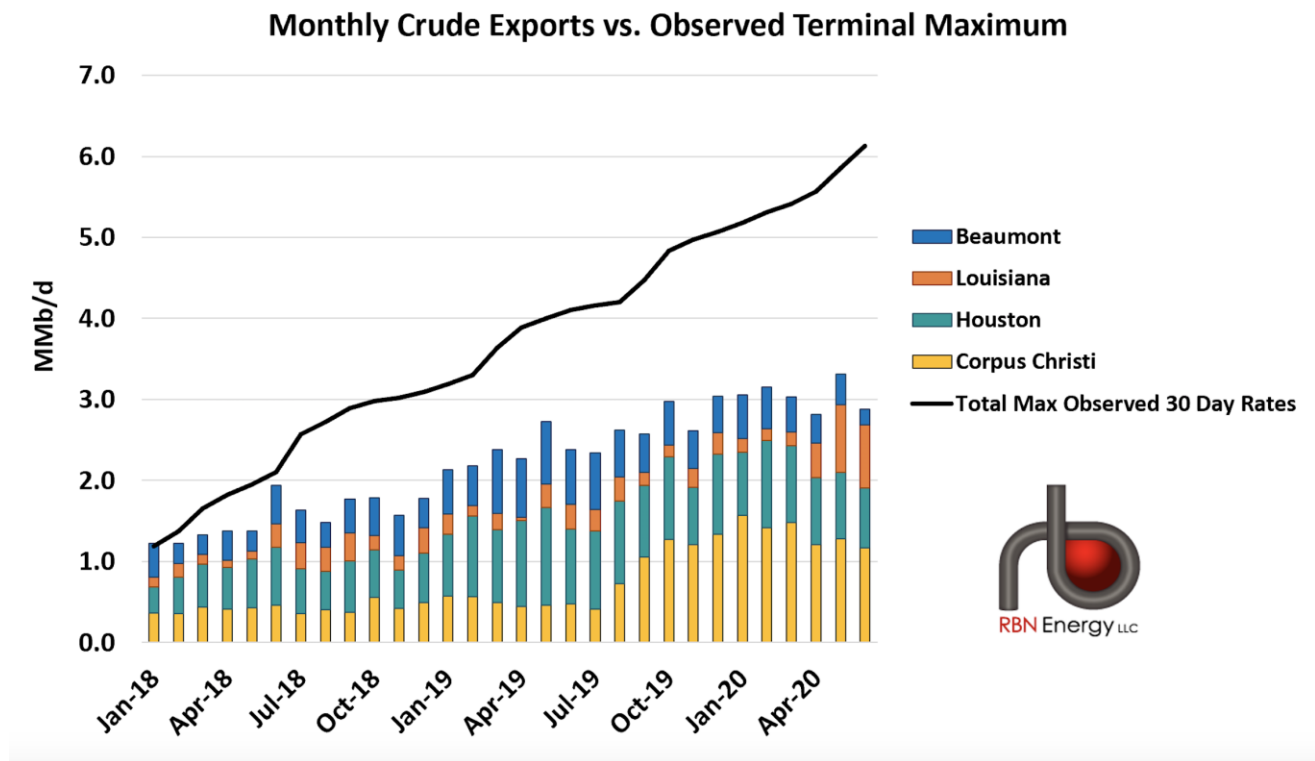


Figure 2 – Monthly Gulf Coast Crude Exports vs. Observed Terminal Maximum; Source: RBN

The black line rises over the two-and-a-half-year period because one or more terminals established a new, higher maximum observed rate each month. By mid-2020 — the right end of the black line — the sum of the highest maximum observed export volumes that each of the

terminals maintained over a 30-day period was more than 6 MMb/d, or roughly double the actual export volumes in recent months. As we discuss in more detail in this report, each of the four export areas — the greater Houston area, Beaumont/Nederland, Louisiana, and the Corpus Christi area — has substantial “excess” export capacity available for use should export volumes increase significantly later this year or in 2021. The report also describes each of the major marine terminals along the Gulf Coast that handle crude exports, including the terminal’s pipeline connectivity, storage capacity, marine docks, and dockside water depth.

It should be noted that the maximum observed export volume from a terminal does not necessarily represent its actual capacity to send out crude oil on a reliable, repeatable basis. In fact, the owners and operators of these facilities over the past couple of years have been working constantly to increase the efficiency of their exporting operations by, among other things, adding new pipeline connections, building new storage, and installing new dockside pumps to increase tanker loading rates. Some also are constructing new docks, and in some cases, the ship channels that connect the terminals to the open waters of the Gulf of Mexico are being dredged to allow still-larger vessels to access the terminals — or enable VLCCs to be loaded with more crude oil before heading out to the Gulf for reverse lightering.

Finally, note that four of the crude-exporting marine terminals discussed in this report — all of them in the Corpus Christi area, it turns out — have started operating within the past 12 months. Many of these are still in the process of ramping up their operations and one, the South Texas Gateway Terminal in Ingleside, has only been up and running for a few days. Also, other terminals up the Texas coast are adding storage capacity and other infrastructure, and LOOP, the offshore terminal in Louisiana, continues to make improvements to allow crude oil to be loaded more efficiently.

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