Export Demand Empties Distillate Tanks

Overseas shipments ignore tight domestic market.

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U.S. Energy Information Administration
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No End in Sight for High Diesel Prices

While oil prices in general have pushed higher in response to geopolitical tensions this year, a tight U.S. distillate market is keeping diesel prices higher than gasoline in the runup to the summer driving season when gasoline is usually more expensive. In fact, diesel cracks–the margin between prices for prompt New York Harbor ultra-low-sulfur diesel futures and West Texas Intermediate crude at Cushing, Oklahoma—have been wider than the gasoline equivalent since September 2017, just after Hurricane Harvey hit the Gulf Coast. Our analysis shows a combination of rising domestic demand and growing exports causing the tightening diesel market, resulting in steadily falling inventories even as refiners produce more than enough diesel to meet domestic demand. While on paper the tight market conditions could be resolved by redirecting export barrels to satisfy domestic demand, there are regulatory hurdles in the way of that solution. Looming changes in the shipping market are expected to increase distillate demand further over the next two years. This note reviews distillate fundamentals that suggest no end in sight for high diesel prices.

In May 2016, we noted ongoing changes to the traditional seasonal shape of the distillate market (see "Lengthy Heating-Oil Contango Drawing to a Close"). Back then, diesel demand was tepid and inventories were building throughout the year in response to a contango market. By contrast, in 2017 after the OPEC accord, domestic demand for diesel began to take off and hasn't looked back since. As we discussed in a November 2016 note ("Sailing Around the Wall? U.S. Refined Product Exports to Mexico"), Gulf Coast refineries have supplied increasing volumes of diesel exports to Latin American countries in recent years.

Distillate Market

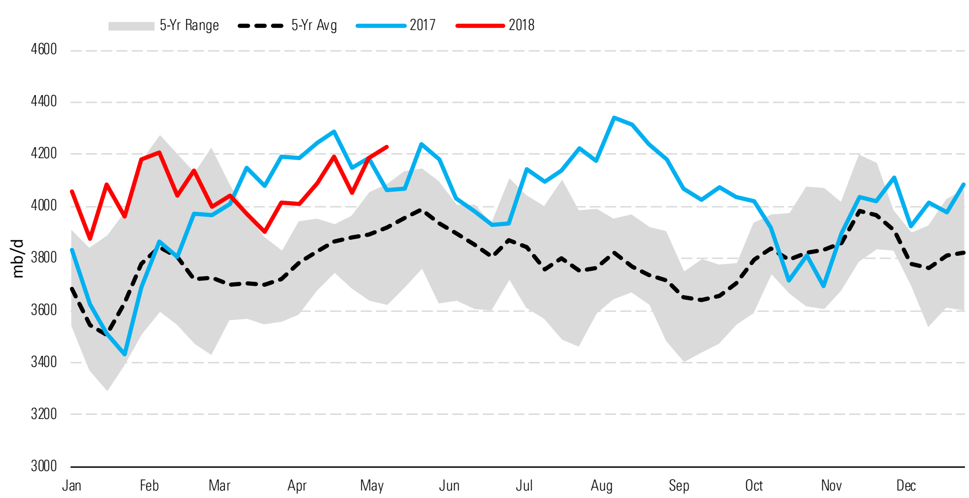
In 2017, according to the U.S. Energy Information Administration, 60% of distillate fuel demand was for transportation, construction consumed 11%, residential heating 4%, and power generation 0.5%. Net exports of distillate (exports minus imports) represented an annual average 1.2 million barrels/day in 2017, or roughly 25% of total demand. Most distillate supply comes from domestic refineries that produced an annual average 5.0 mmb/d during 2017 with a mere 149 thousand barrels/day being imported.

The causes behind recent tight distillate supplies are clear from our seasonal analysis of the market since 2012.

Domestic Demand

Exhibit I shows seasonal demand for distillate in the domestic market between 2012 and 2017 based on EIA data. The gray shaded area is the range of demand for the five years between 2012 and 2016, with the dashed black line representing the average of those five years. The blue line represents 2017 demand and the red line 2018 through May 4. The data for 2017 shows that the year started with a milder than usual winter, but demand picked up in March to reach record levels by the end of April and remained at or above the five-year range through the end of September before dropping off in October and November. A colder and longer than usual winter this year again pushed distillate demand to high levels from December 2017 through February 2018, and demand has taken off again during March and April this year. In short, domestic demand has been buoyant for much of the past 16 months–showing no sign of the traditional slowdown during the summer season. The EIA demand data for 2017 doesn't yet tell us conclusively what's behind higher distillate demand, but industrial and transport use has undoubtedly increased with economic activity, and the severe hurricane season on the Gulf Coast boosted construction and generator demand.

Exhibit 1 Seasonal Domestic Demand

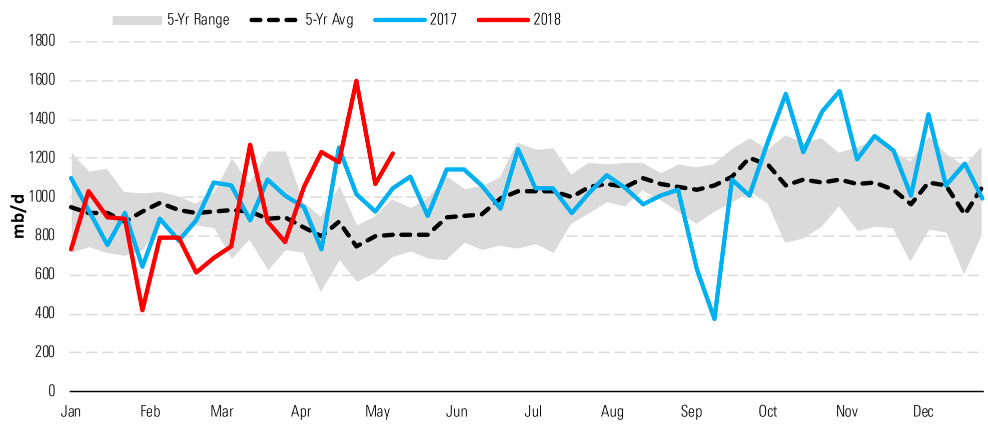


Source: EIA, Morningstar

Export Demand

Exhibit 2 shows the same form of seasonal analysis as Exhibit 1, but for net exports of diesel. Apart from the dip in exports after Hurricane Harvey hit the Gulf Coast and knocked out 20% of refinery output in early September 2017 (see our August 2017 note "Harvey Refinery Casualties Could Increase"), the chart shows net exports increased whenever domestic demand lulled. The only exception to that inverse relationship was in April this year, when both exports and domestic demand ran well ahead of the five-year range.

Exhibit 2 Seasonal Net Exports

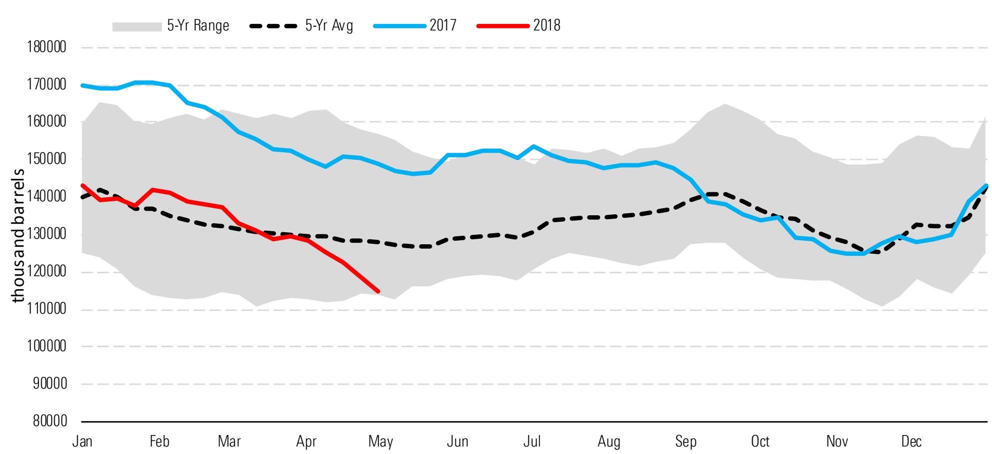


Source: EIA, Morningstar

Inventory Slide

Exhibit 3, again a seasonal analysis, confirms the impact this merciless demand for distillate at home and abroad over the past 16 months has had on inventories. Distillate stocks started out 2017 at high levels but fell most of the year, showing only a brief build during November and December before resuming their slide in 2018. Inventories have fallen consistently this year, down by 20%, or 28 million barrels, between Jan. 5 and May 4, 2018, to reach the bottom of the five-year range. With diesel supplies tight, the forward market structure is in backwardation—where prices today are higher than for future deliveries as structure incentivizes shippers to continue bringing supplies out of storage. In short, the combination of domestic and export demand is slowly and steadily draining inventories with little sign of respite.

Exhibit 3 Seasonal Distillate Stocks



Source: EIA, Morningstar

The tight distillate market is good news for refiners enjoying better margins, but plummeting inventories are likely to push prices higher and bring unwelcome attention to the industry if a demand shock causes extreme price spikes. Refinery diesel production is not the problem, because output levels exceed domestic demand. The problem comes when export volumes are added to domestic demand. Since refineries cannot meet both needs, the result is inventory drawdowns.

Cheaper Abroad

One obvious solution to this quandary is to redirect exports to meet domestic demand before shipping overseas. That would relieve the system deficit and allow inventories to rebuild.
Unfortunately, economics work against this solution. In fact, it's more lucrative for Gulf Coast refiners to continue exporting cargoes at the expense of domestic customers even if the latter run short. That's because congestion out of the largest refining region, the Gulf Coast, limits shipments of diesel inland to the East Coast and Midwest by pipeline. And the way around that constraint is to put diesel on the water—in barges or tankers—and move it up the Mississippi River or along the Intracoastal Waterway and up the East Coast. But those options are pricier than exporting diesel to markets like Mexico because of the 1920 Merchant Marine (or Jones) Act. That legislation permits waterborne shipments between U.S. ports on U.S. flag vessels only, which can be three times more expensive to operate than foreign equivalents.

U.S. refiners also have an incentive to export transport fuels such as distillate rather than deliver to the inland market. That incentive comes from the 2007 Renewable Fuel Standard regulations that require domestic deliveries to be blended with biodiesel. That process incurs a renewable volume obligation that requires refiners that do not have ethanol blending facilities to purchase renewable identification numbers, or RINs (see our April note "Trump Strings Along Farmers and Refiners With Waivers" for more on RINs). Exporting diesel avoids the expense of RIN obligations.

Since it's cheaper to send diesel abroad than to ship it where it's needed at home, the result is seemingly ever-falling domestic inventories. Given these economics, the domestic price of diesel has to increase enough (relative to overseas markets) to compensate refiners for more expensive transport and RIN costs associated with meeting domestic demand if they are to shift their barrels from the export market. Until that happens, inventories will continue to drift down and prices creep up to the point where demand is dampened by sticker shock.

Meantime, international diesel prices are rising as fast as in the U.S., and the market is just as tight in Europe. That means another traditional avenue to plug the U.S. shortage, imports from Europe (that are shipped on cheaper foreign flag vessels), are constrained as well.

Finally, the tight diesel market is not due for respite anytime soon. As we pointed out in a March note on the jet kerosene market (see "Jet Demand Takeoff – Strong Prospects for U.S. Refiners"), the advent of international maritime organization bunker market reforms in January 2020 could increase demand for distillates by as much as 3 million barrels/day. The implications are that diesel costs will continue to increase over the next 18 months.

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