

RESURGENT PETROLEUM INDUSTRY DRIVING STORAGE REQUIREMENTS

The US petroleum industry is experiencing a resurgence. Demand for road fuels has surpassed pre-recession levels, while exports have soared. Record throughput at refineries has been matched by the growth of US crude oil production. The effects of the lifting of the crude oil export ban, a long anticipated policy change, are now being felt.

Not only is the US petroleum industry experiencing strong growth, the economies of other western hemisphere neighbours are also contributing to rising petroleum demand. The World Bank notes that after six years of slowdown, Argentina and Brazil are coming out of recession, Mexico will keep growing, and Central America and the Caribbean will grow faster than in recent years.

New vehicle sales have steadily increased since the recession in 2009 (see picture 1).

Recent growth in US crude oil production has led to new midstream and storage investments

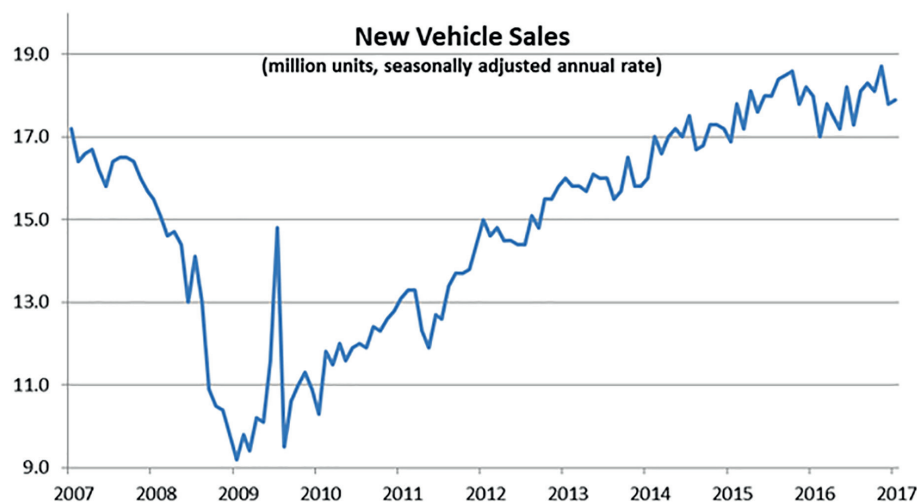
In the past, additional fuel demand from new vehicles has been somewhat countered by the fact that they are more fuel efficient than the vehicles they replace. However, moderate fuel prices have encouraged the average US consumer to buy 'thirstier' utility vehicles at the expense of more fuel-efficient sedans. To some extent, we are driving less fuel-efficient vehicles.

All other things being equal, as the numbers of vehicles on US roads continue to grow, so does the amount of fuel required. Of course, although this does not directly translate into new aboveground storage capacity, it alerts the petroleum industry to positive economic trends and the possibility of needs for increased terminal capacity.

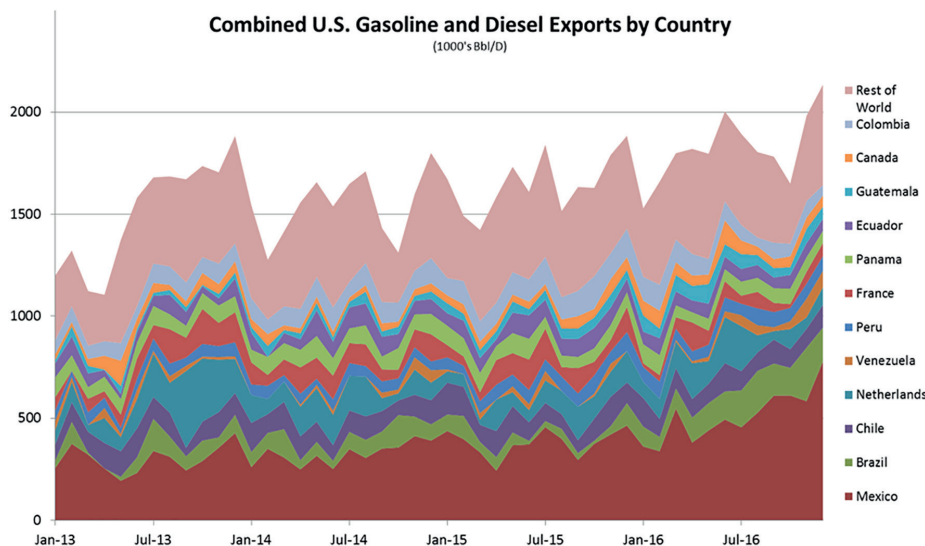
CRUDE OIL PRODUCTION

Recent growth in US crude oil production has led to new midstream and storage investments. Although the crude oil price collapse of 2014 slowed production, the US Energy Information Administration (EIA) forecasts US crude oil production will reach a record 10 million barrels per day in 2018, largely from new shale production in Texas. Shale oil is light crude oil that, due to present refinery configurations, will not immediately displace imports of heavy crude oil. Many US refineries were built to process heavy oil from countries such as Canada, Venezuela, and Mexico. Rapidly increasing production of light oil is driving massive investments in export capabilities at ports on the US Gulf Coast. Several established midstream and start-up companies are planning additional storage tanks and marine handling facilities to export crude oil produced in North Dakota and Texas.

After a brief hiatus, tank construction crews are now fully occupied at field locations, rail



Source: Federal Reserve Bank of St. Louis



Source: EIA

facilities, and deep water ports. However, the demand for aboveground crude oil tanks near Houston has been dampened by a new underground facility capable of storing 7.5 million barrels of crude oil or condensate. Fairway Energy Partners recently began operation of three underground storage caverns with pipeline connections to receive crude from US shale basins and outbound connections to refineries or terminals. Other underground facilities in Utah are expanding to hold liquefied petroleum gases (LPGs) for seasonal storage.

LATIN AMERICA

Demand for fuels in Latin America is creating the need for new tankage at both the dispatch and receipt ends of the supply chain. The liberalisation of petroleum markets in Mexico has developed at a much faster pace than expected. Although waterborne cargos have been the traditional point of entry for fuels into Mexico, rail deliveries are beginning to make a foothold. Using the same approach that the

industry established in North Dakota in the last decade, rail is seen as the most expeditious method for delivering fuels to Mexican markets. Several inland refineries in the US are considering investments in unit-train loading facilities to reach these markets.

For example, Howard Energy, a young mid-stream company, has partnered with Kansas City Southern Railway to operate a new unit-train receiving terminal in Mexico. Several shipments of diesel have already been delivered from refineries in Texas to new facilities in central Mexico.

New inland rail facilities do not appear to be impeding projected investments in marine terminals. The current import facilities at terminals near Tuxpan and Veracruz in Mexico are grossly undersized and in need of modernisation. Logistics infrastructure to move waterborne deliveries to inland markets is susceptible to theft and other costs.

It is apparent that infrastructure investments in Mexico are necessary and US companies may be ready to take limited risks. A large

US refiner has leased over 300,000 barrels of storage capacity from PEMEX in northwest Mexico to create inroads to new markets. 'As we get our feet on the ground, we'll evaluate other opportunities to get into the Mexican market,' Tesoro Petroleum's CEO Greg Goff says.

REGULATORY DEMANDS

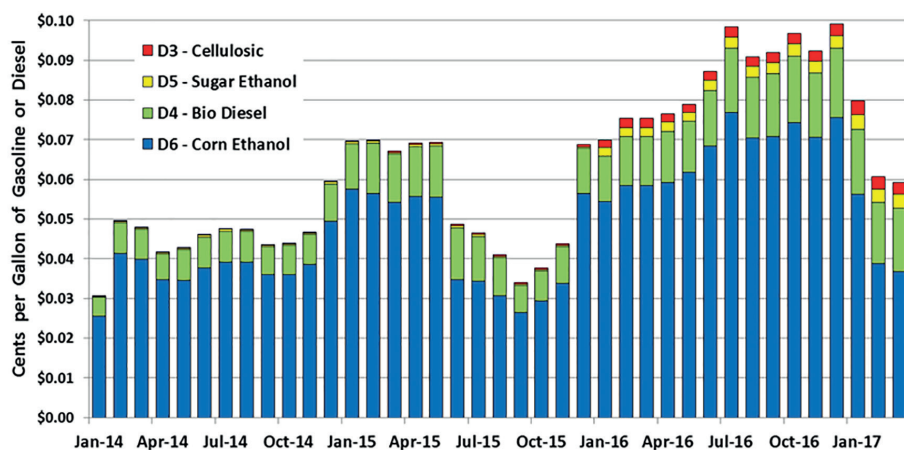
Exporting transportation fuels benefits US refiners in many ways. Not only can refiners now access distant markets, but the economic advantages include lowering RIN¹ expenses and relief from costly Tier 3 petrol specifications.² As shown in the following chart, in 2016, RIN costs added close to 10 cents per gallon to the domestic price of petrol and diesel. Exports do not carry this burden.

Compliance with the Renewable Fuel Standard in the US continues to be driven by the Environmental Protection Agency's (EPA's) increasing requirement for other renewable fuels in addition to traditional corn ethanol. To accomplish this, small biofuels blending facilities are being planned at wholesale terminals to accommodate future 'advanced' biofuel requirements that will increase as a percentage of the total renewables requirement. While demand for new ethanol tanks may not increase, smaller specialty blending tanks will be required. This will result in increased production and logistics costs as biofuels displace traditional petroleum based fuels.

CONCLUSION

Despite increased regulation, the US petroleum industry remains competitive and poised for continued growth. The future looks bright.

RFS Compliance Cost Per Gallon of Gasoline or Diesel Produced or Imported



SOURCE: Platts, Baker & O'Brien analysis

REFERENCES

1 RINs are "Renewable Identification Numbers" and are required by the Renewable Fuel Standard for every gallon of gasoline and diesel sold in the U.S. Blenders of renewable fuels generate RIN credits and sell them to refiners.

2 Tier 3 EPA specifications became effective January 1, 2017. Refiners must produce gasoline with 10 parts per million of sulfur or less on average.

FOR MORE INFORMATION

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