

Focus on Fuels

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TM&C Services

Where Will All The Butane Go?

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Butane in the United States is primarily used as a blendstock in gasoline. So, what happens when gasoline demand declines and butane supplies increase? We are all probably going to find out in the next few years.



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Where will all the Butane Go?

by Tom Hogan

Gasoline demand is projected to decline due to more stringent CAFE standards. In addition, the use of renewable fuel could cause a significant decline in the petroleum component of gasoline. In a weird twist, the renewable fuel industry has at least suggested that since E15 does not enjoy the benefit of a 1 psi waiver due the addition of ethanol, the E10 1 psi waiver should be eliminated so the market for E15 will grow. The irony is that the same people that lobbied for and won a 1 psi waiver for E10 are now the same folks lobbying to eliminate the waiver. Also, the excess supply of butanes is not likely to find a home in the petrochemical industry because ethane production is expected to rise and is currently the primary feedstock for petrochemical steam crackers.

On the supply side, drilling for oil and gas in areas like Eagle Ford and the Williston Basin will continue in the near term even in most low petroleum price environments. The gas liquids from the drilling activities will grow. Refineries are expected to produce more gas liquids due to the lighter crudes available from the crude produced in North Dakota, Eagle Ford and the Permian basin. As a result, it is likely that refineries will produce more butane than in the past.

With no domestic home, butane must be either converted to another chemical form or exported. One option is to convert it to gasoline. There are several processes that consume butane and produce gasoline. However, the U.S. is already a gasoline exporter. Any butane that is transformed into gasoline will only result in

TM&C Services in Fuel Regulations

TM&C provides a full range of services in its fuels regulatory practice. Some of these services are listed below.

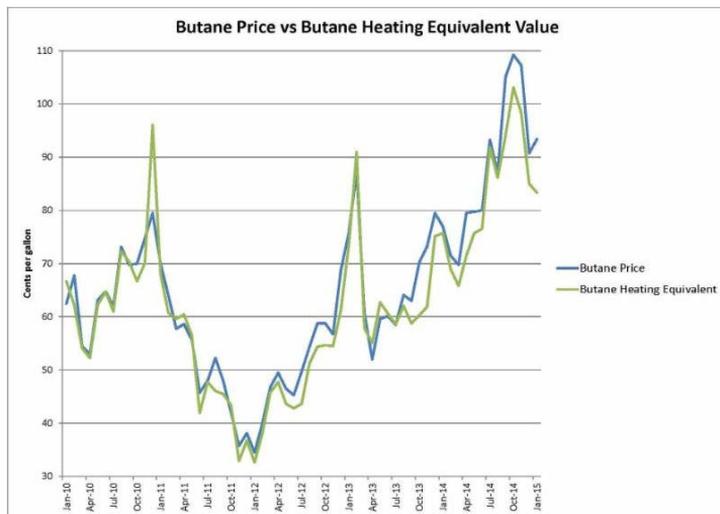
- Preparing, reviewing and submitting fuels reports, including CDX submissions.
- Facility audits for compliance with fuels programs.
- Interaction with EPA to pose fuels related questions.
- Industry specialist assistance for required gasoline attestations.
- Industry specialist

assistance for in-line blending audits.

- Assistance in setting up a fuels compliance group/program.
- Personnel reviews of compliance related groups.
- Compliance status reviews and recommendations.
- Negotiations/consultation during EPA enforcement actions.
- 3rd Party Engineering reviews.
- Due diligence reviews of facilities and companies in RFS RINs Program.

additional gasoline exports. Capital required for the processes to convert butane to gasoline blendstocks is quite high, on the order of \$30,000 to \$40,000 per barrel of butane consumed.

If the butane is not consumed in the U.S. or converted to gasoline, it must be exported. The likely market is as a replacement for export propane as cooking or heating fuel.



Recent prices for butane show that the butane price is not currently as low as its heating value vs propane price. Although the price of butane has been at or lower than equivalent heating value price, before butane becomes a significant export the price for butane will need to match the equivalent heating value price for a significant amount of time.

So, what is ahead for butane? More supply, less demand and continuing pressure for reduced price. In short, butane's future is bleak but one man's problem is another's opportunity. Severe butane price discounts compared to gasoline price could incentivize some to invest in processes that convert the butane to gasoline in spite of the high price tag. Refiners are not the likely candidates for this type of investment since they typically have options for projects with higher rates of return than expected for a butane conversion unit. A limited partnership which can justify projects at a lower hurdle rate might be the best vehicle for these types of investments.

The solution to excess butane could be leveraged to also deal with an expected glut of low octane natural gasoline which comes from the same sources as the excess butane. Butane consuming processes yield a high octane gasoline blendstock which can be blended with natural gasoline to produce regular gasoline. It reduces the glut of both butane and natural gasoline but again produces finished gasoline for export.

The coming butane glut should be analyzed in light of current and new regulations, where the butane glut will occur, transportation options for butane, world markets for butane and the products from the butane consuming projects, and new product specifications due

to tightening CAFE standards. Contact TM&C if you need additional information in any of these areas.

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