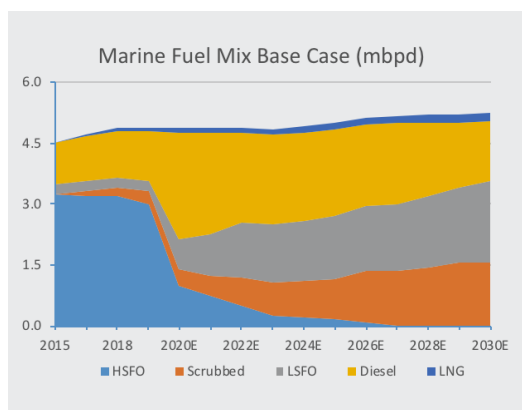


IMO 2020: Market Overview and the Potential Impact to Vertex Energy

Bunker Fuels

Current Market Trends

The International Maritime Organization (IMO) has implemented regulations starting January 1, 2020, that will require the lowering of sulfur content in bunker fuels from 3.5% to 0.5% (referred to as IMO 2020). It is anticipated that these regulations will drive a switch from high-sulfur fuels toward cleaner fuels in the marine industry. Goldman Sachs noted in its May 30, 2018, report on IMO 2020



Source: IEA, Goldman Sachs Investment Research

(The IMO 2020: Global Shipping's Blue Sky Moment) that 15 of the largest ships used in the shipping industry emit more sulfur and nitrogen than all of the world's cars combined. The IMO is implementing IMO 2020 in order to address the environmental risks associated with the use of high-sulfur fuels.

The above chart depicts the base case for different mixes of marine fuels over the next few years. High Sulfur Fuel Oil (HSFO) represents the majority of the mix through the latter part of 2019, at which point there is a dramatic decline and shift toward Low Sulfur Fuel Oil (LSFO), which are produced at Vertex's Marrero, Louisiana, facility. The portion of the marine fuel market represented by LSFO is estimated to grow from 2019 to 2030 while other, cleaner alternatives are being developed. However, LSFO remains the largest component of the marine fuel mixture increasing from approximately 250,000 barrels per day during 2015 to an estimated 1.75 million barrels per day in 2030. Forward curves imply diesel cracks will rise by approximately

Company Spotlight

Vertex Energy, Inc.
(NASDAQ:VTNR)

Vertex Energy, Inc. (Vertex) is a specialty refiner and marketer of petroleum products. Vertex produces and commercializes a broad range of high-purity intermediate and finished products, such as fuel oils, marine-grade distillates and high-purity base oils used for lubrication.

Starting Jan. 1, 2020, the IMO will require ships to use fuels with a maximum sulfur content of 0.5%, down from the current maximum of 3.5%. This change is expected to significantly increase pricing for global fuels, specifically diesel.

Total diesel demand is anticipated to grow by 1.2 million to 1.5 million barrels per day. In addition, higher-sulfur fuel products, which are currently blended into fuel oil, are anticipated to decrease by 1.5 million to 2 million barrels per day. We anticipate that this will lower the value of high sulfur fuel dramatically, including Gulf Coast No. 6 3% Fuel Oil.



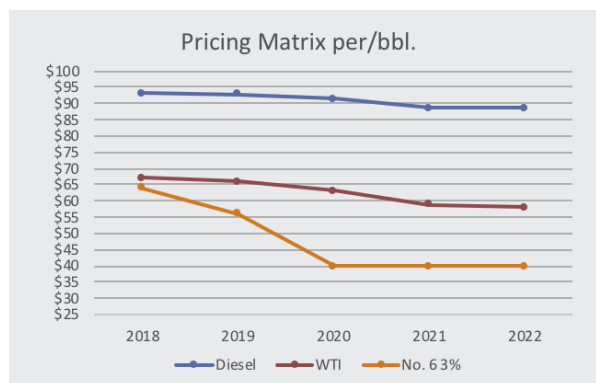
\$5 per barrel (bbl). In addition, the industry is anticipating further discounts to heavier High Sulfur Fuel Oil as we approach 2020. Today, Vertex produces approximately 100,000 barrels of LSFO per month at its Marrero facility. This product is suited to meet the IMO 2020 bunker fuel specifications.

In the near term, it is anticipated that Low Sulfur Marine Fuel will be the best source for ship owners to meet the current IMO 2020 specification. In addition, the Thermal Chemical Extraction Process (TCEP) product that Vertex historically produced at its CMT facility in Baytown, Texas, could be an ideal blend component with a HSFO to create an optimal 0.5% sulfur blend. Based on how Vertex currently buys and sells its products (i.e., feedstock at a discount to Gulf Coast No. 6 3% and finished product tied to diesel fuel), the company is well positioned to take advantage of this clean-dirty product spread.

Behind the Numbers Potential Impact of IMO 2020 on the Vertex Energy Business

A look at the current business: The marine fuel being produced out of the Vertex Marrero facility comprises approximately 100,000 bbls per month. Currently, used motor oil feedstock is purchased at a discount to Gulf Coast No. 6 3% and finished product is sold against diesel fuel. The incremental spread from the forward curve of the commodity prices going from \$20 to \$24 per barrel to ~\$50 per barrel would be significant for Vertex. This would imply an improvement in 2020 of \$20 to \$25 per barrel, as reflected in the Pricing Matrix chart, just taking into account the commodity price changes and not looking at how the discounts to the various products may be impacted. **Using an example of 100,000 bbls per month of product produced by Vertex results in 1,200,000 bbls of Marine Fuel per year, which, when adjusted for an increase of \$1 per bbl in**

market spread improvement, results in \$1.2M per year of additional earnings. The current estimates of \$20 to \$25 improvement per barrel could create



Source: Bloomberg, Macquarie, IEA, Goldman Sachs Research

\$24M - \$30M of additional earnings for Vertex based on the current market expectations.

Please note that this will continue to be a dynamic situation as we approach 2020, and investors should do their own research. The examples given above are only hypotheticals and are not meant to disclose actual or forecasted results.

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