New Low-Sulfur Requirements for Marine Bunker Fuels Causing Scramble for Refiners and Shippers, IHS Markit Says

Release Date:
Monday, August 28, 2017 8:00 am EDT

Terms:
Energy  Maritime & Trade

Dateline City:
HOUSTON

International Maritime Organization changes will disrupt industries as 2020 looms

HOUSTON--(BUSINESS WIRE)--The International Maritime Organization (IMO) recently confirmed that global refiners and shippers must comply with new regulations to reduce the sulfur content in marine bunker fuels by January 2020—five years earlier than many expected. As a result, both the global refining and shipping industries will experience rapid change and significant cost and operational impacts, according to new analysis from IHS Markit (Nasdaq: INFO), the leading global source of critical information and insight.

"While the IMO is taking positive action to address the environmental impacts of air pollution from ships, the rapid change creates significant disruption for both the refining and shipping industries," said Kurt Barrow, vice president of downstream research at IHS Markit. Barrow, along with Sandeep Sayal, senior director of refining and marketing research at IHS Markit, are two authors of an IHS Markit report entitled Refining and Shipping Industries Will Scramble to Meet the 2020 IMO Bunker Fuel Rules.

"The two industries are vastly unprepared," Sayal said. "Neither has made the necessary investments for compliance, which means that the 2020 implementation date will result in a scramble. Both industries are taking a wait-and-see approach until firm signals are in place by the IMO for compliance with the regulation."

"Shippers will face significant compliance costs by having to upgrade equipment or switch to more expensive fuels," Barrow said. "Refiners will experience significant price impacts as they shift production to deliver more lower-sulfur fuels to the market and, at the same time, find a market for the higher-sulfur fuels they produce. Refineries, like ships, do not turn on a dime, so it takes significant investment and market demand to retool a refinery to deliver new supply."

Shippers will have several options to meet the new IMO regulations, IHS Markit said. Low-sulfur bunker fuels (primarily for smaller vessels), and liquefied natural gas (LNG) (primarily for new builds) will be part of the solution. However, IHS Markit researchers expect that on-board ship scrubbers, devices that clear harmful pollutants from exhaust gas, will be the primary compliance path for ships, which could continue to burn higher-sulfur fuels.

"From the shipping industry point of view, IHS Markit estimates that about 20,000 ships account for around 80 percent of heavy fuel-oil bunker fuel use," said Krispen Atkinson, senior consultant, IHS Markit Maritime & Trade research. "Currently only about 360 ships have installed scrubbers, since there is currently no economic incentive for the ships to add scrubbers. However, based on the price spreads between low-sulfur bunker fuel and high-sulfur fuel oil during the scramble period, it will be economic for many of them to install scrubbers." The payback period for installing a scrubber on the largest vessels, Atkinson said, would be two-to-four years in 2022-2025, and less than one year based on peak-price spreads in 2020.

A key uncertainty also lies in the actual level of compliance to the IMO regulation in 2020. "Not only is it hard to enforce compliance in the open seas, but it is still uncertain if sufficient supplies of compliant bunker fuels will be broadly available in all ports," Sayal said.

Overall, the installations of scrubbers and some level of noncompliance will not be in time to halt the disruption on refined products markets, IHS Markit said. According to the IHS Markit report, the primary challenge with the bunker fuel quality change (which requires sulfur content to be reduced from 3.50 percent by weight to 0.5 percent by weight) is the disposal of high-sulfur residual fuel—not the production of low-sulfur bunker fuel.

"When we account for all the supply and demand factors for the sour residual balance, including new conversion projects, capacity creep, scrubber and LNG capacity, as well as quality compliance, our bottom line is that a sizable portion of today's fuel oil will be pushed into lower-price tiers, notably oil-fired power-generation plants," Barrow said. "Refining capacity will most likely exist in 2020 to produce the low-sulfur bunker fuel, but higher overall crude runs will be required."

The largest refinery margin disruption will be significant but fleeting, according to the IHS Markit report, with impacts felt most notably in 2020 and 2021. IHS Markit expects an unprecedented light-heavy price spread during 2020 to 2021. During these years, pricing for high-sulfur fuel oil (HSFO) will have to be near thermal parity with coal to clear into the power market.
— a very low price relative even to today’s fuel oil price, IHS Markit said.

As ship owners respond to the large-scrubber investment incentives, high-sulfur bunker fuel demand will rebound, although not to prior 2020 levels. Due to increasing demand and addition of debottlenecking capacity for residue conversion, IHS Markit estimates price spreads will moderate within a few years, but the timing of price recovery will be dependent upon a number of variables.

Refiners will produce more distillates (higher-value components derived from crude) as new demand arises for these products during the disrupted years, IHS Markit said. With HSFO priced at coal-thermal parity and demand for middle distillates (kerosene, jet fuel, diesel) increasing to blend to low-sulfur bunker fuel, refining margins will benefit, but in different ways.

“Refiners of sour-crude will be negatively impacted by the nearly valueless sour-crude residue, while refiners of sweet-crude conversion will experience moderately higher margins, but sweet-crude prices will reflect the low-sulfur residue value,” Barrow said. “It is the high-conversion refiners of sour crude that are expected to have extraordinary margins.”

Highly complex refineries will benefit the most from the IMO specification change, IHS Markit said. Highly complex refiners will produce the least amount of residual fuel oil and the highest amount of distillate and gasoline as compared to lower-complexity refiners.

Crude-price relationships, specifically between light-sweet and heavy-sour crude, will widen around the compliance timeframe, IHS Markit said. Assuming the specification change implements as announced on a global and instantaneous basis with no phase-in timing or quality transition allowances, the margin uplift will be acute in the compliance period from 2020 to 2021.

To speak with Kurt Barrow or Sandeep Sayal, please contact melissa.manning@ihsmarkit.com, or press@ihs.com. For more information about the IHS Markit report entitled, Refining and Shipping Industries Will Scramble to Meet the 2020 IMO Bunker Fuel Rules, please contact ana.hilstad@ihsmarkit.com.

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Language:
English

Contact:
IHS Markit
Melissa Manning, +1-832-458-3840
melissa.manning@ihsmarkit.com
or
Press Team, +1-303-305-8021
press@ihs.com
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