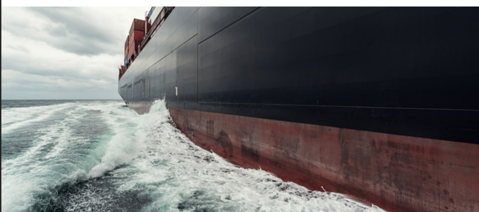
IMO 2020 IMPACT

Beginning January 1, 2020, International Maritime Organization (IMO) regulations will cap bunker fuel sulfur content at 0.5%, a significant reduction from the current 3.5% limit. Predictions vary for the impact of this global effort to reduce the amount of sulfur oxide released into the atmosphere. Following are our thoughts on what our industry, Ergon, and the customers we serve can expect.



MARITIME INDUSTRY IMPACT

- The ultra low sulfur distillates will displace around 3 million bpd of high sulfur fuel oil. The global shortfall is expected to be 1-1.5 million bpd of low sulfur fuels.
- Shipowners have the option of burning 0.5% ultra low sulfur fuels, installing stack scrubbers to capture sulfur in exhaust gas, or using LNG (liquified natural gas) or MGO (marine gasoil).
- The industry's cost of compliance is estimated to be as high as $60 billion per year, resulting in increased freight costs across the board.

CRUDE SUPPLY AND REFINING IMPACT

- IMO 2020 is expected to create a premium on light sweet crudes.
- Since base and process oils make up such a small percentage of a typical refinery's overall production, production of fuels will drive crude selection process.
- Supplies of low sulfur residual fuel oil are projected to not be sufficient in replacing high sulfur residual volume used in fuel oil blending.

Ergon's refineries participate in the fuels market, but our primary focus continues to be excelling in specialty markets. Our production plans will see minimal impact from IMO 2020.

PRODUCT AVAILABILITY IMPACT

- The fuels market for high sulfur products is expected to be reduced because of IMO 2020.
- Changes to processing and/or crude oil slates will be required. Low-complexity refineries without the ability to upgrade the bottom of the barrel may be facing significant challenges.
- Low viscosity products are likely to be used in fuel oils, potentially creating market voids in some products such as transformer oils and drilling fluids.

Ergon is purpose built for production of lubes, with alternative outlets making up a small percentage of production. Our investment strategy has been to add technology that allows us to handle a wide slate of crudes and provide dependable, consistent lube products.

PRODUCT DELIVERY IMPACT

- According to EIA 10/18, the cost of ground diesel is expected to increase 10-20%, resulting in increased delivery costs.
- Gasoline/diesel crack spreads are expected to rise due to the change in regulations.
- Transportation costs will increase across all modes: Rail, barge and tanker trucks.

As the January 1, 2020, deadline approaches, shipowners and refiners are formulating strategies to lessen the overall impact of IMO 2020, reducing the original predictions of widespread price hikes and limited supply. Most sources expect the market to readjust by 2025.

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