

**ADVISORY COMMITTEE ON SUPPLY CHAIN COMPETITIVENESS
UNITED STATES SUPPLY CHAIN IMPACTS OF INTERNATIONAL MARITIME
ORGANIZATION JANUARY 2020 GLOBAL VESSEL FUEL SULFUR LIMIT**

Summary

On January 1, 2020, new International Maritime Organization (IMO) limits on the sulfur content of global vessel fuel will go into effect. Under IMO MARPOL Convention Annex VI, the allowable sulfur content of global vessel fuel oil will be sharply reduced, from 3.5% to 0.5% by mass.

This change will have significant human health and environmental benefits, as worldwide vessel sulfur oxide emissions will be greatly reduced. The rule's full cost and operational impacts on U.S. supply chains, however, remain uncertain.

Cargo owners, transport carriers, and fuel users need as much predictability, transparency, and clarity regarding fuel price increases and availability as possible, in order to both comply with the IMO requirement and recoup increased costs without supply chain impacts. While transparency and clarity have improved over the past six months, analysts' predictions still differ, and price and demand factors still need to be determined.

Supply chain stakeholders must have access to a broad range of information sources on this issue, and the ability to fully discuss and share information on anticipated fuel prices, availabilities, and surcharges, to understand the rule's potential impacts and develop cost mitigation strategies. The following recommendations are intended to help expand industry and public knowledge of the IMO requirement, and to help industry mitigate its short-term and long-term cost impacts, in order to support U.S. supply chain competitiveness.

Background: Potential Impacts of IMO January 2020 Fuel Rule

Fuel Costs and Surcharges

Currently, vessels worldwide are fueled outside designated emission control areas (ECAs) by heavy fuel oil (HFO), a residual byproduct of the crude oil refining process usable as bunker fuel for large vessel engines. The majority of this bunker fuel consists of high sulfur fuel oil (HSFO), which has a much higher sulfur content than diesel and other middle distillate fuels.

IMO MARPOL Convention Annex VI Regulation 14 currently allows vessels operating outside ECAs to use fuel with up to 3.5% sulfur content by mass. Regulation 14 was revised in October 2008, with U.S. Government support, to reduce the allowable sulfur content of these fuels to .5% by mass effective January 1, 2020. In October 2018, the IMO Marine Environmental Protection Committee (MEPC) reaffirmed that this reduced-sulfur standard will be implemented on schedule. Vessels may continue to carry and use HSFO only if they are equipped with exhaust gas cleaning systems ("scrubbers") that reduce vessel sulfur emissions to acceptable levels.

U.S. shippers have expressed concern that they may face both vessel fuel surcharges and increased costs for truck/rail diesel and jet fuel as a result of the rule. Of these, increased truck and rail transport fuel costs would most broadly impact U.S. supply chains and end users, since all inland U.S. goods movement involves truck or rail transport at some point.

The global vessel fleet uses about 300 million tons of fuel oil annually.¹ It should be noted that container vessels serving the U.S. market purchase fuel in markets beyond the U.S. and take fuel on in Europe and Asia. The current price differential between HSFO and low-sulfur marine gas oil is approximately \$200 to \$225 per ton.² Fuel pricing is based on a number of factors and the current differential between HSFO and low-sulfur is driven by an historically lower price for HSFO. Once the market stabilizes, prices will likely moderate over time. At the current price, global vessel carriers could face a \$60 to \$67.5 billion annual fuel cost increase if the IMO requirement became effective today. The Coalition for Responsible Transportation, an industry coalition of ports, carriers, and cargo owners, projected in October 2018 that the maritime container carrier segment alone could face annual vessel fuel cost increases after January 1 of up to \$12 billion.³ Media articles have suggested that there could be a short- to medium-term spike in this price differential by January 1, due in part to the fuel demand switchover and consequent competition for low-sulfur transport fuels.

Ocean cargo owners expressed strong concern in 2018 over the extent and nature of the fuel surcharges that carriers would need to impose to recoup these higher fuel costs. A September 2018 global survey⁴ reported that over 75% of respondents had not received information from their vessel carrier about how it would calculate their fuel charge, and the Coalition estimated that container lines' fuel surcharges to shippers to recoup these increased costs could be as high as \$200 per twenty-foot container unit (TEU).

Since then, ocean cargo owners and carriers have increasingly reached agreement on bunker fuel adjustment formulas⁵ to calculate the surcharge, with the surcharge's actual value determined when carriers begin to use low-sulfur fuel worldwide and demand and price factors become evident.⁶ Both shippers and carriers recognize that carriers must pass these additional costs on to their shippers to avoid financial solvency problems and service disruptions.⁷

Fuel Production and Availability

U.S. fuel production and refinery industry members have made significant facility investments over the past decade towards meeting IMO rule demands and expanding their U.S. exports. They have publicly expressed confidence that they will be able to meet both demand and domestic distribution needs.⁸ The International Energy Agency (IEA) originally projected that vessels' demand for low-sulfur fuel after January 1 could propel a 20% to 30% increase⁹ in the price of all diesel fuels for transport, including diesel fuels for inland truck and rail transport and jet fuel. IEA and U.S. Energy Information Agency (EIA) U.S. diesel price projections have since been moderated. Other industry analysts and stakeholders report that the size of the global vessel fuel demand shift remains uncertain,¹⁰ and note that reallocation of middle distillate fuel resources to meet vessel fuel demand could potentially increase prices for these transport and other middle distillate-derived fuels. The Economic Report of the President in March 2019 states that while the U.S. refining industry is "well positioned to benefit from increased global

¹ The International Council on Clean Transportation, Greenhouse Gas Emissions from Global Shipping, 2013-2015

² <https://shipandbunker.com/prices>

³ Coalition for Responsible Transportation, IMO 2020's Pending Impact: Transformational Change in Shipping

⁴ Drewry Supply Chain Advisors, IMO's 2020 Global Emissions Regulation – Survey Findings September 2018

⁵ "Carriers Gaining Confidence In Low-Sulfur Fuel Negotiations", Journal of Commerce, April 2, 2019

⁶ "Low-Sulfur Fuel Supply Fears Wane; Price Still Unclear", Journal of Commerce, March 21, 2019

⁷ "Carriers Gaining Confidence In Low-Sulfur Fuel Negotiations", Journal of Commerce, April 2, 2019

⁸ "Low-Sulfur Fuel Supply Fears Wane; Price Still Unclear", Journal of Commerce, March 21, 2019

⁹ Ibid.

¹⁰ "Low-Sulfur Fuel Supply Fears Wane; Price Still Unclear", Journal of Commerce, March 21, 2019

demand” for low-sulfur vessel fuels, “U.S. fuel consumers may pay higher prices in the medium term as a result.”¹¹

Recommendations

The following recommendations include both short-term actions that the Secretary of Commerce can pursue to help U.S. supply chains prepare for the January 1 deadline, and longer-term actions that the Secretary can pursue to help industry mitigate the cost impacts of the IMO 2020 requirement on U.S. supply chains.

1. Short-Term Actions: Supporting U.S. Supply Chain Preparations for IMO Reduced Sulfur Fuel Requirement

Improve Public and Interagency Awareness of IMO Reduced Sulfur Fuel Requirement

- The Department of Commerce should conduct one or more public forums, including webinars, to alert cargo owners, maritime carriers, and supply chain stakeholders to the IMO reduced-sulfur fuel requirement and its January 1, 2020 implementation date.
- The Department of Commerce should engage with interagency partners, including the U.S. Departments of Energy and Transportation, to broaden industry and public knowledge of the IMO reduced sulfur rule requirement and its potential impacts on U.S. supply chains.

Facilitate Shipper-Carrier Fuel Cost Information Exchange and Transparency

- The Department of Commerce should encourage and support expanded information exchange between cargo owners and carriers regarding fuel cost increases and surcharges associated with the IMO fuel sulfur reduction requirement.

Improve Access to Fuel Pricing Analysis and Forecasts

- The Department, jointly with the U.S. Energy Information Administration, should immediately create a web page containing regularly-updated forecasts of the impacts of the IMO fuel sulfur limit on fuel prices for both domestic supply chains and consumers.
- The web page should include links to price trends and forecasts for each of the fuels used in maritime, aviation, and inland transportation, including fuels used for trucks and railroads, and for alternative fuels and emerging technologies used in maritime and land transport applications, including liquified natural gas, compressed natural gas, biofuels, hydrogen fuel cells, and electric vehicle technologies.

2. Long-Term Actions: Evaluating Impacts of IMO January 2020 Fuel Rule on U.S. Supply Chains

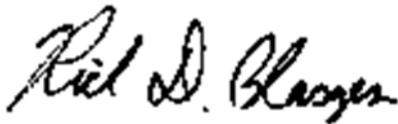
- The Department should work with the U.S. Department of Energy and other interagency partners to pursue a dialogue that ensures free-market forces remain in place and ensures information about the available production of IMO-compliant transport fuels, including low-sulfur vessel, truck, and rail diesel fuels, and liquified natural gas and other alternative fuels.

¹¹ Box 5-5, International Environmental Standards and Liquid Fuels Markets: IMO 2020, Economic Report of the President, March 2019, p. 295

- The Department should work with the U.S. Department of Energy and other interagency partners to increase Federal support for alternative fuel research, including increased investment in engine and fuel production technology.
- The Department should support expanded Federal investment for vessel emissions reduction technology research and development.
- The Department should work with the U.S. Department of Energy to assess whether the Strategic Petroleum Reserve contains sufficient low-sulfur crude oil and refined product reserves to avoid potential disruptions in supply for transportation and heating fuels.
- The Department should work with the U.S. Department of Energy to determine whether releases from the Strategic Petroleum Reserve are needed to offset the national economic impacts of IMO low-sulfur rule-related increases in diesel and alternative fuel prices.
- The Department should work with the U.S. Department of Energy, the U.S. Department of Transportation, and other interagency partners to determine whether the nation's heavy crude and fuel transport network has sufficient capacity and flexibility to ensure that an adequate supply of IMO-compliant fuels is available nationwide.

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Respectfully submitted,



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