IMO 2020

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Star Asia International

What is IMO 2020?

IMO 2020 commonly describes the MARPOL Annex VI fuel regulation adopted in 2016. This regulation set the new legal fuel emission standards with a compliance deadline of January 1st, 2020. This policy, passed by the International Maritime Organization (IMO), shifts the legal limit of sulfur allowed in a maritime vessel's bunker (fuel) from 3.5% to 0.5%. This limitation only applies to fuels that contain oil and is applicable to all vessels operating in international waters.

What is the IMO?

The International Maritime Organization (IMO) is a specialized agency of the United Nations that was established in 1948.

IMO is responsible for regulating the international shipping industry, specifically regarding issues of efficiency, safety, legal matters, technical regulation, and environmental standards.

Why is IMO creating this regulation?

The immediate goal of IMO 2020 is to reduce Greenhouse Gas (GHG) emissions by at least 50%, compared to GHG emissions measured in 2008, by the year 2050. The long-term IMO goal is to phase out all GHG emitting vessels and dramatically reduce Sulfur Oxide (SOx) and Nitrogen Oxides (NOx) in the atmosphere. The reduction of bunker sulfur content from 3.5% to 0.5% is estimated to reduce the overall SOx emissions 77% by 2025.

What is the effective date of IMO 2020?

The official date is January 1st, 2020. There are no exceptions to this date, and all entities involved in the international maritime industry will be legally required to abide by the new standards at that time.

What are the current regulations?

The current sulfur emission regulations require vessels to have sulfur emission of 0.1% or less in all Emission Control Areas (ECA). Current ECA zones are the East and West coast of North America, the Baltic Sea, and the North Sea. Like IMO 2020, these restrictions were adopted under the MARPOL Annex VI. All ECA zones will continue to be in effect with IMO 2020.

Who will enforce the new regulation?

IMO has created regulations for all port states that list the necessary measurements and methods to ensure sulfur emission standards.

Compliance, enforcement, and monitoring of new IMO 2020 sulfur limits are the responsibility of both the country the vessel departed from and the country of the arrival port. This includes checking if the vessel has an open-looped scrubber installed or if the vessel will be entering ECA zone and meets stricter emission standards.

Port states will be required to monitor vessels within their territories and report any non-compliance that occurs. This includes ensuring that there is adequate low sulfur fuel (LSFO) available at the port and providing shore-based facilities to receive and discard scrubber waste.

Vessels that do not abide by the new standards will be detained by the port state and have fines issued to the vessel owner. Non-compliant vessels will not be allowed to depart until fines are paid and correct fuel is in use. Once released, the vessel will be flagged so other ports the vessel calls are aware of the issue.

How will carriers comply with the new emission standards?

There are currently three feasible solutions that will allow ocean carriers to meet IMO 2020 emission standards. Each has pros and cons that will have long term effects on the maritime market regarding price and availability.

VERY LOW-SULFUR FUEL OIL (VLSFO)

Low Sulfur Fuel (LSF), will be the initial solution for many carriers due to the low investment cost required by the ship owners. LSF is used in today's market and is proven to be a reliable fuel source for ships of all sizes.

The main issue with this solution is the long-term repercussions it may have on the oil market. An initial spike in fuel price is expected to occur as demand increases. The industry is concerned that, after the initial spike, the price could continue to increase over time.

LIQUID NATURAL GAS (LNG)

Several countries and companies have begun to focus research into alternative fuel options for the maritime industry. One of the current solutions in use is Liquid Natural Gas (LNG). LNG vessels will continue to operate at their current capacity because they already pass emission standards of IMO 2020.

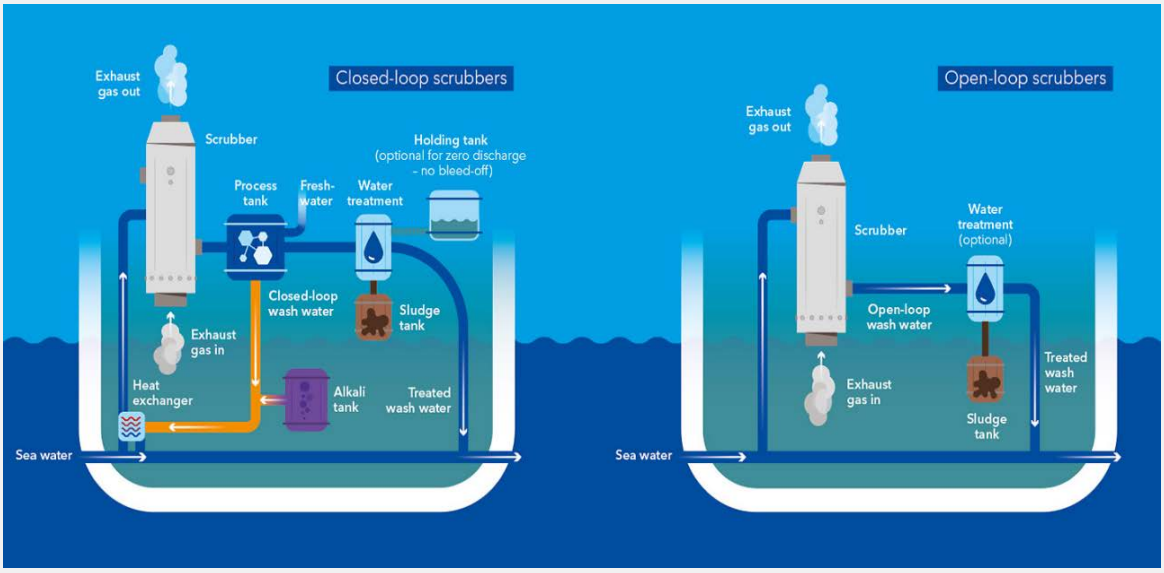
Unfortunately, not all ports currently have the infrastructure to support large amounts of LNG ships due to the difficulty in refueling. LNG has not been continually tested as fuel for high capacity container vessels in comparison to LSFO. The additional issue of high investment costs to convert vessels from bunker to LNG makes LNG an ineffective solution for most carriers.

CLOSED-LOOP SCRUBBERS

Ocean carriers have already begun to fit their vessels with scrubbers to reduce vessel down time in 2020. These scrubber devices allow a ship to use 3.5% sulfur fuel because they "scrub" the SOx and NOx particles from the exhaust, preventing the Green House Gasses (GHG) from entering the atmosphere. The major flaw with a scrubber is the time and cost required for installation on a vessel. A vessel may be out of commission for four to six weeks, and the scrubber device will cost about $4-$5 million depending on vessel size.

Vessels removed from service will reduce capacity, which will naturally increase ocean freight prices. The current estimate is that 3,000 vessels will be fitted with scrubbers by the end of 2019. Reports from the major scrubber fitting ports (Singapore, Shanghai, and Hamburg) expect the majority of these scrubbers to be fitted in the 4th quarter of 2019.

All major ocean carriers operating from Asia will be installing Closed-Loop scrubbers into their container vessels. While Open-Loop scrubbers were initially discussed as a cheaper alternative to the closed Closed-Loop scrubbers, they are not used due to strong negative public opinions. Open-Loop scrubbers dump the waste into the ocean instead of containing it in a holding tank.



The below table shows which emission solution carriers will most rely on during the early stages of IMO 2020.

	Low Sulfur Fuel Oil	Liquid Natural Gas	Closed Loop Scrubbers
APL	X		
CMA CGM		X	X
COSCO	X		
Evergreen			X
Hyundai			X
Hapag-Lloyd	X		
O.N.E.	X		
Maersk	X		
MSC			X
OOCL	X		
PIL	X		
SM Lines	X		
Yang Ming	X		
ZIM	X		

OCEAN Alliance	THE Alliance	2M Alliance	Independent Carrier

CMA is the only exception in that they have heavily invested in both LNG and scrubber fitted vessels. The most recent reported numbers show CMA will have 20 vessels, 9 of which are 23,000 TEU, up and running by 2022. Additionally, they have been fitting vessels with scrubbers for much of the second half of 2019 but have not released the exact number of vessels fitted so far.

MSC, EMC, and HMM have all invested in Closed Loop scrubbers more than any other carriers. MSC currently has the most vessels fitted with scrubbers with EMC not far behind. Both carriers plan to fit as many vessels as possible with scrubbers. HMM has also committed to scrubbers but at a slower pace due to the current financial issues the carrier is experiencing.

On Week 46, MSK announced they placed numerous orders to begin fitting their vessels with scrubbers. MSK initially announced they would heavily invest in LSFO but have changed their plan after seeing the cost-effective nature of scrubbers. MSK is now ranked 3rd in number of vessels scheduled to fit with scrubbers behind MSC and EMC.

Many analysts have theorized that carriers heavily investing in scrubbers could use the cost advantage to gain market share during the beginning months of IMO 2020. This could be a possibility depending on how the VLSFO market reacts.

Other carriers including Hapag-Lloyd, APL, O.N.E and Yang Ming have all invested in alternative methods on a smaller scale. Those converted vessels will not initially be used on major container service lines but could in the future.

Regardless of the carrier, everyone will initially depend on VLSFO to comply with the new 2020 emissions standards.

Drewry has estimated that total added cost of complying with IMO 2020 is about $11 billion. Carriers are expected to pass at least $7 to $9 billion of that cost to their customers by increasing ocean freight rates. Total carrier profit for 2018 was estimated to be about $4 billion, leaving at least $6 billion that must be passed on to break even.

Such a major shift is unprecedented within the Maritime industry, and much will be unknown until January 1st. If you have any further questions, please contact your Star Asia International representative so we may assist you in this matter.