

Beyond IMO 2020

After the marine fuel sulfur cap, an even more protracted battle will emerge over which cleaner fuels can help to reduce the shipping sector's emissions by 40% by 2030



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Some 11 years after the International Maritime Organization first committed to a 0.5% sulfur limit for marine fuels, and three years after it confirmed a 2020 start date, the debut of the cap has finally arrived. A decades-long fight over how best to limit the shipping industry's greenhouse gas emissions commenced at the same time.

Since the IMO agreed in October 2016 that the 2020 deadline would go ahead, most of the shipping industry has plumped for taking whatever 0.5% sulfur fuel blends the world's bunker producers and suppliers can come up with, rather than installing emissions-cleaning scrubber equipment or shifting to alternative fuels like LNG.

They now face a raft of potential quality issues in the coming year as the industry discovers which of the new blends can safely be brought into contact with other alternatives without causing engine damage.

In general, the wealthiest and most organized shipowners will fare best with the new fuels. Those who are able to pay a premium for fuel with a global compatibility guarantee, and those able to plan their ships' schedules weeks or months in advance and to arrange the availability of the right fuels accordingly, will largely be able to avoid any problems.

Conversely, shipowners seeking to minimize costs by buying blends with less verification, and ships on the tramp trade with little control over their ports of call, will bear the brunt of the disruption caused as the industry experiments with the various fuel options.

The rise in fuel bills will be pronounced, but likely manageable. At Rotterdam in October and November 2019, delivered 0.5% sulfur bunker fuel prices were 13.5% higher on average than high sulfur fuel oil prices in the same period a year earlier. But the rise isn't big enough to prove an insurmountable challenge to the industry as a whole, especially with crude prices looking unlikely to jump in the near term. At the end of 2019, 0.5% sulfur fuel prices in Rotterdam were hovering around \$500/mt, and shipping companies were used to paying in the \$600s/mt for HSFO as recently as 2013.

That said, the need for the bunker industry to access and extend more credit to the shipping industry to cover the increased fuel costs could cause some disruption. This may be enough to drive some consolidation of smaller companies in both industries.

The smaller group of shipowners that installed scrubbers to comply with the sulfur cap – now estimated by S&P Global Platts Analytics at about 2,400 ships out of a global fleet of 80,000 – can

expect to see a good return on their investment as they are able to continue buying increasingly cheap fuel oil.

With a wide price spread between HSFO and 0.5% sulfur fuels, it will not take long for shipowners to earn back the scrubber installation cost of a few million dollars per ship. But they will have a limited window to do so: talk of technical problems with some of the cheaper models abound, and more port authorities are likely to consider bans on the use of open-loop models that discharge polluted water back into the sea. In addition, over the longer term, the discount to 0.5% sulfur fuels will narrow as refiners continue to bear down on their HSFO production levels.

The bunker industry expects the worst of the IMO 2020 disruption to be over by the second half of the year. But once that situation has calmed, the industry will then get into what could be quite an aggressive battle over the next decade over which alternative fuel becomes dominant as the shipping industry seeks to wipe out its greenhouse gas emissions.

The IMO has an initial strategy of cutting carbon dioxide emissions per

ship by 40% compared with 2008 levels by 2030, and the shipping industry's total GHG emissions by at least 50% by 2050. That policy is not compatible with oil remaining the shipping industry's energy source of choice, but no clear replacement has yet emerged.

LNG is currently in pole position among the alternative fuels, with around 150 ships already on the water using it, the oil majors pouring significant funds into developing delivery infrastructure and lobbying in its favor and the current low price make it look attractive.

Fossil fuel-derived LNG alone will not deliver big enough GHG savings to comply with the 2050 target, but bio-LNG — derived from biomass — being blended with it may be viable if supplies become widely available by the end of the 2020s.

Methanol could be a cheaper option, as well as being easier for crews to handle, as ships could be retrofitted to use it rather than new vessels being ordered. But to reach the 2050 target, synthetic methanol derived from biomass or hydrogen and carbon dioxide will need to be made available in significant quantities.

Hydrogen and ammonia are widely talked of as possible contenders. Both would largely solve the emissions problem, but would be more difficult to handle and would require more space on board than conventional fuels.

All of these options are expensive, and require large quantities of either renewable power or arable land for biomass to be made available, at a time when other industries going through the energy transition will also be competing for both.

The year 2050 may seem like a distant target, but the cycles of the shipping industry bring it closer. With a life of around 25 years for a commercial ship, zero-GHG models will need to start entering the market by the start of the 2030s.

Over the next 10 years, proponents of each of these alternative fuels will grow increasingly noisy as they argue for their slice of the 300 million mt/year bunker market. Anyone paid to market these alternatives can expect a lucrative decade ahead of them, while the shipping industry can look forward to a long voyage toward increasingly higher fuel bills.