

# COMPLIANCE STILL THE KEY TO SUCCESS OF THE IMO CAP



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# EXECUTIVE SUMMARY

## COMPLIANCE STILL THE KEY TO SUCCESS OF IMO CAP

- ♦ *Low sulphur fuel is not the only solution but compliance will remain.*
- ♦ *Scrubbers not the only game in town with low oil prices posing financial dilemmas*

## INTRODUCTION



The world's shipping fleet accounts for more than 94% of all global trade movements and yet the environmental pressures and quest for alternative fuels have obscured this fact. What is essential for the maritime industry is that it learns to work within this new environmental framework and still provide a reliable and dependable global supply chain. To achieve this we need to look at the financial and operational issues that six months into the IMO global sulphur cap are now coming to the fore.

The implementation of the IMO's low sulphur fuel cap in March 2020 has driven the maritime industry into new ways of working: in simple terms it was to be out with the old polluting heavy fuel oils and in with the new environmentally more acceptable very low sulphur fuels. It was a long process to achieve agreement and even longer for ship owners to come to terms with the operational and financial implications.

The main issues for ship owners will be not only price and the availability of bunkering but the problems associated with the new compliant fuels and their effects on maritime diesel engines. This was highlighted by Aderco, one of the world's leading fuel treatment companies. They pointed out in 2020 that reducing the sulphur content in the new compliant fuels can see a marked increase in microbial growth that has the possibility to generate corrosive reactions with diesel engines. Not only that, the use of biodiesel in the blending process can generate a high water content which is the ideal breeding ground for bacteria. This poses a real risk to the engine's pipework and filters which could result in catastrophic failure and using a fuel treatment is what is needed to eradicate any biological damage.

# PRICE IS AN ISSUE

Following the COVID-19 pandemic which has paralyzed world trade for months, the real question now is whether the shipping world's commitment to the cap has been derailed. In reality, compliance with the cap has simply been pushed to the background by the global pandemic and it has resulted in cost dilemma for those ship owners who opted to install scrubbers rather than switch to VLSFO. Bunker prices have been distorted by the pandemic due to low demand and the stockpiles of oil brought about by refineries and traders anticipating huge demand for VLSFO. This has brought the cost of VLSFO down considerably, further complicated by an unprecedented drop in the oil price to \$20 per barrel. For those hoping scrubbers would be an economic solution, the game has changed and the payback is going to take far longer than envisaged because of falling oil prices.

The issue with making decisions on pricing is that as and when VLSFO prices increase, scrubbers will therefore once more become a viable option for using the old heavy fuel oil. So owners need to make strategic decisions based on overall costs of ownership rather than short term financial gains. The return from scrubbers is now believed to be around four years for open loop and six years for closed loop scrubbers.



## ENFORCEMENT REMAINS

Back in early May 2019 Port State Control (PSC) authorities, in particular Paris and Tokyo MoUs, along with the United States Coast Guard said that they would be enforcing the global 0.5% sulphur cap, warning ship owners that non-compliance would result in serious fines and ship detentions. While these were always seen as realistic enforcement measures, the global COVID-19 virus pandemic has seen a significant shift in operations and enforcement over the sulphur cap. What is uncertain as the lockdowns start to ease across the globe is whether there will be a greater impact from the pandemic or the attention paid to the regulations concerning low sulphur fuel.

In April this year the UK Maritime and Coastguard Agency confirmed that there would be a temporary suspension of compliance checks in UK ports. This was seen as a realistic and welcome approach to the impact the virus was having on global supply chains but others have followed and it seems realistic to believe that a relaxation (in the short term) in enforcing the low sulphur regulations will be present for much of 2020.

Even during the current pandemic there has been enforcement: Singapore's Maritime and Port Authority detained two vessels in April 2020 over non-compliant fuel and the Australian Maritime Safety Authority detained a bulk carrier in May for a similar issue. There is no validity in thinking that caution will be thrown to the wind: there will still be enforcement with fines and detentions and the only way to be certain of compliance is to understand the regulations and adhere to them.

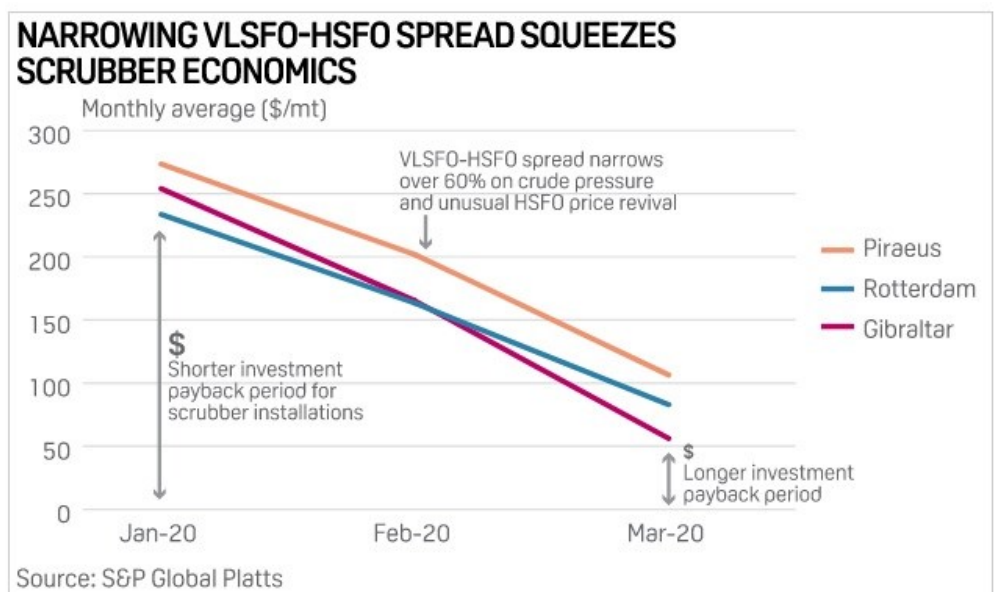


# OIL PRICE CRISIS HITS HOME

With the plunge in oil prices very much a result of the global pandemic and the ongoing global oil price war between the major producing countries it is no surprise it has had a dramatic effect on the refining and bunkering sectors.

Global maritime trade never quite stopped during the pandemic but was severely reduced and therefore so was the demand for oil which is likely to suffer an overall 5-10% drop in volume in 2020. This has resulted in a distortion of bunker prices which is also adding to concerns for those ship owners who opted for the scrubber route.

Those hoping for a return on investment on their installed scrubbers within three years could now see the returns taking as long as seven to nine years with the new fuels at present costing roughly the same as the old heavy sulphur fuels. At the time of writing the price difference between 3.5% and 0.5% bunker fuel (seen as a key indicator of the investment payback for scrubber installations) averaged \$58/mt on a delivered basis in Rotterdam during April 2020. Compared to the January average for this year this is a drop of \$176/mt or 75% and affected the expectations of many shipowners.





## THE SCRUBBER DILEMMA



The respected industry analysts, Platts Analytics, revised down their estimates for scrubber installations expected by the end of this year due to recent delays and cancellations to retrofits. They have reported that a projected 3500 scrubber installations expected by the beginning of 2021 will fall short of that figure due to disruptions from Coronavirus and cancellations caused by the narrowing price spread between high- and low-sulphur fuel.

As we have mentioned earlier, this has seen revised estimates of the payback from scrubbers now being between seven to nine years and this comes as other recent information from Clarksons Research points to a significant slowing in the number of ships already in service installing scrubbers. Their estimate suggests there were under 100 vessels undergoing retrofits compared to more than 300 at the start of the year and Clarksons reported that the number of ships pending retrofits was 750 compared to a high of more than 2,000 vessels during the middle of 2019. It is estimated that 3,015 ships are now fitted with scrubbers compared to just 506 at the start of 2019.

The Clean Shipping Alliance 2020 (CSA 2020) is reporting that their members with ECGS (exhaust gas cleaning systems widely known as marine scrubbers) were operating with them successfully. But the number of ship owners now cancelling scrubbers remains a cause for concern for them.

This has also affected deliveries and installations. Reports of 60 plus days delays are not uncommon and many ship owners simply return to the initial thinking, that of the expense and operational layoffs for installation of a scrubber are not worth it. Another issue that has serious operational implications for the shipping world is that of open-loop variants of scrubbers.

## OPEN V CLOSED-LOOPED SCRUBBERS

*So far, open-loop systems have had more uptake in the industry compared to closed units.*

Closed-loop scrubbers retain the sulphur emissions for safer disposal at port, open-loop scrubbers release pollutants back in the sea after turning the sulphur dioxide into sulphuric acid.

There are also hybrid scrubbers, which switch between open and closed-loop depending on situations such as local rules which may or may not prohibit the discharge of water. Shipowners prefer open-looped systems over closed because they are very easy to install, require less maintenance and don't require storage for waste materials – as water is directly pumped back into the sea after on-board treatment.

Currently there is a fierce debate over whether open-loop scrubbers represent an environmentally sound option. For every tonne of fuel burned, ships using open-loop scrubbers emit approximately 45 tonnes of acidic, contaminated washwater containing carcinogens such as Polycyclic Aromatic Hydrocarbons (PAHs) and heavy metals which can affect ocean chemistry and marine life, according to the International Council on Clean Transportation (ICCT), a non-profit organisation that provides scientific analysis to environmental regulators.

Whatever the debate countries are continuing to ban open loop scrubbers: these include Belgium, Germany, the UAE, China and Singapore.

With further bans on the use of open-loop scrubbers expected, ship owners need to be aware of these restrictions and make their decisions based not simply on costs alone. Those authorities banning open-loop scrubbers are now advising ship owners to switch to closed-loop operations or switch over to compliant fuel instead. It seems the writing is on the wall for this particular technology.



## **ENGINE ISSUES AND FAILURES STILL REMAIN WITH VLSFO**

Another area of great concern is that the old issues of stability and threats to engines remain with the VLSFO as they did with the HSFO. Aderco, one of the world's leading fuel treatment companies, has recently highlighted the concerns that the new low sulphur fuels used in the maritime world are still at risk from five key issues that can threaten the health and maintenance of diesel engines. They point out that the IMO low sulphur fuel cap introduced in January 2020 has not eradicated the potential threats from cat fines, sludge, compatibility issues, asphaltene and stability. These can be managed with a fuel treatment but they still point to a number of concerns ship owners and operators have to contend with as they come to terms with the cap and its myriad solutions and fuel alternatives.

From recent reports (June 2020) ship owners are suggesting that the first six months of the low sulphur cap have seen some problems with the quality of the VLSFO on offer, there are ship owners with tales of the varying quality and concerns about blended oil.



# ALTERNATIVE FUEL SOURCES

The alternatives for the shipping world remain much as have they have for the better part of 20 years but bio-diesel, electric, methanol, solar and wind power are all still to be developed for wider use. So that leaves the most environmentally friendly and cost effective alternative - liquefied natural gas (LNG) which has increased in popularity over the past decade. It has the benefits of:

<b>Nox:</b>	<b>85% lower emissions</b>
<b>Sox:</b>	<b>Virtually no emissions</b>
<b>PM:</b>	<b>Virtually no emissions</b>
<b>CO2:</b>	<b>25% lower emissions</b>

With the latest in extraction methods and the discovery of new natural gas reserves worldwide, there is an increased supply of LNG and is a viable alternative for many ship owners. LNG is considerably more eco-friendly as a marine fuel and also has significant safety advantages over other fuels.

LNG forms after natural gas is cleaned from impurities and cooled to  $-162^{\circ}\text{C}$  and during this process the volume of the gas shrinks to around 600 times turning it into a clear, non-toxic, colorless, odorless liquid, easy to store and transport. One of the concerns about LNG as an alternative fuel is that experts cite it as a transitional option and very much a short-term solution as the debate continues about the long-term effects on the environment of LNG.

## SHIP OWNERS AND SUSPENSION

In March this year Chinese ship owners called for the suspension of the IMO sulphur cap with the COVID-19 pandemic affecting its shipping and logistics supply chains. One report suggested the Chinese Shipowners' Association (CSA) was asking for support measures during this difficult period and looking to the IMO, the World Trade Organization (WTO) and the World Health Organization (WHO) to temporarily suspend the new sulphur emission regulations within Chinese waters, or to agree to fuel oil non-availability reports (FONAR) for Chinese ships.

While other ship owners are calling for the same or waiting for a decision from the regulators, the fact remains that Port State Control and the IMO will continue to stand behind the low sulphur regulations regardless of the current pandemic and its effect on maritime global shipping.

The refineries are moving back to a higher level of production and the price difference between low sulphur fuel and the old high sulphur product will change the landscape once again. It is likely that any rebound in oil prices will see a growing difference in costs between high and low sulphur fuel and this will also help those with scrubbers and may make that investment more cost-effective again.

## OVERVIEW

Environmental regulations and the financial implications of the IMO cap and the alternatives for ship owners will be the real core of this debate in the short-term. Regardless of the required investment in alternative fuels, technology and operational practices are all impacted by the global pandemic. There are alternatives: LNG a short-term offering though there are concerns over the environmental damage gas may cause; sail, a stalwart solution but still to be commercially viable and operationally efficient for the global shipping fleet and electric ships - still some way off even though autonomous shipping has become more viable for short-sea shipping.

The difference in the price of the new VLSFO and the old sulphur heavy oil has posed an unexpected problem for those ship owners who have installed scrubbers. This is likely to be resolved only when the price of crude oil stabilises. But these issues have clouded the acceptance many have had with scrubbers prior to the IMO ban coming into force. With bunker fuel costs accounting for between 24-41% of total shipping costs, the key to success will be competitive fuel prices.

The efforts of ship owners and operators to continue to sail during this period has been hampered by the downturn in global trade. As the world's economy starts to pick up and demand for shipping increases, there will be an increase in the demand for low sulphur fuel and a corresponding clampdown by Port State Control over non-compliance. If the global pandemic has done anything for the world of shipping, it has granted ship owners a little more time to come to terms with the realities of a low sulphur shipping world.



## **TECHNICAL SERVICES**

GMCG offers complete technical consultancy for retrofit arrangements for scrubber including 3D- modelling, project management and superintend services. Please contact us for further help and guidance.

Established in 1988, Global Maritime Consultants Group (GMCG) provides expert technical, legal, training and management consultancy for diverse stakeholders in the shipping and offshore sectors.

With offices and agents in over 100 cities and ports around the world, we serve national and international clients from ship builders, owners, agents and seafarers, to offshore operators, to bankers, underwriters and lawyers with an extensive portfolio of professional maritime services.

## **Our Mission Statement remains:**

*To uphold exceptional quality of service in delivering progressive and exact professional, technical and operational solutions to the maritime industry.*

## **Values:**

### **MOTIVATION**

Supporting all our people to bring energy and enthusiasm to their daily work

### **OWNERSHIP**

Empowering all our people to take ownership of their actions and sharing the fruits of success.

### **VALUES**

Encouraging and rewarding honesty, loyalty, hard work and sincerity.

### **ENTERPRISES**

Empowering and rewarding innovative thinking, and drive to design and deliver services that exceed customer expectations.

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