IMO2020
GLOBAL SULPHUR CAP; IMPLICATIONS FOR SRI LANKA

Introduction

The maritime industry is gearing up for the implementation of the IMO2020 Global Sulphur Cap, which will be introduced on 1st of January 2020. This regulation imposes a restriction on the sulphur content of fuel oil used on ships to 0.50% from the current 3.50% in order to improve the ecological footprint of the industry. This strategic insights research report examines, the readiness of Sri Lanka to adopt to IMO2020 regulation and its implications for the businesses.

KEY TAKEAWAYS

1. Most Shipping carriers have not yet increased their freight rates to reflect the costs associated in complying with the sulphur cap requirements. However, this is expected to change in the near term, as most major lines have already communicated amendments to their freight charges.

2. In our discussion with industry experts, most were of the view that domestic exporters and importers may have a marginal impact from freight increases owing to Sri Lanka's strategic location, its trade direction and supportive regulations. However, this will all come down to how an exporter and importer leverages on the opportunities and negotiate a better price for the shipment of their goods.

3. Industry experts expect a shortage of Very Low Sulphur Fuel Oil (VLSFO) in the short term as a result of an anticipation in a delayed implementation of the IMO2020 regulation and owing to reluctance by the refineries to produce without confirmed orders. Therefore, as demand outstrips supply, the market will fetch a premium for VLSFO despite its compatibility issues.

4. Sri Lankan policymakers will need to act decisively to leverage on the bunkering potential for the country. The Hambantota Port can gain the first mover advantage in the wake of the IMO2020 regulation. The port could also offer an array of other additional services that will arise as a result of the regulation, given that Sri Lanka has necessary skill sets to cater to those specialized services.

Background

In 2016, the International Maritime Organization (IMO) agreed to set a worldwide sulphur limit of 0.50% m/m (mass by mass) for fuel oil used on board ships[1]. This regulation, which will come into effect from 1st of January 2020, is the largest reduction in the sulphur content of marine fuel undertaken at one given time (Refer Table 01 below). Moreover, on 1st of March 2020, a "carriage ban" will also come into effect where it will prohibit the carriage of fuel oil with a sulphur content exceeding 0.50% m/m for use on board ships[2] unless the ship has an exhaust gas cleaning system.

Table 01: Global sulphur limits

Worldwide (Outside an ECA)		Inside an ECA	
Date	**Sulphur %**	**Date**	**Sulphur %**
prior to 1 January 2012	4.5% m/m	prior to 1 July 2010	1.5% m/m
on and after 1 January 2012	3.5% m/m	on and after 1 July 2010	1.0% m/m
on and after 1 January 2020	0.5% m/m	on and after 1 January 2015	0.1% m/m

Source: IMO

Purpose of the New Regulation

The intent of the new IMO regulation is to reduce the amount of sulphur oxide emissions, which in return will have major health and environmental benefits globally. These include;

1. Reducing health issues[3] such as respiratory symptoms, cardiovascular disease and lung disease in port cities and coastal areas
2. Reducing the occurrence of acid rain, which can harm crops, agriculture, forests and cause ocean acidification
3. Reducing the occurrence of lightning storms along popular trade routes

[1] With the exception of Emission Control Areas (ECA) which has a more stringent emission control in place. Regulation 14 of MARPOL Annex VI
[2] The ban would not apply to carriage of non-compliant fuel oil as cargo
[3] Sulphur emissions affects ocean biodiversity which in return creates oxygen depleted zones and hence causes health issues for the people in the coastal areas

Complying with IMO2020

Carriers have a number of options in order to comply with the IMO2020 regulation (refer Figure 01 below).

Figure 01: Options for carriers under IMO2020

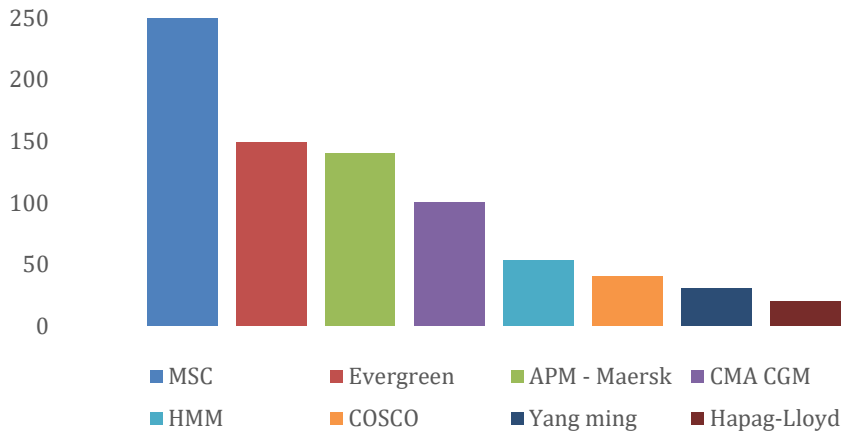
Scrubber	Installing a scrubber to clean the emissions and continue using high-Sulphur fuel oil (HSFO)
VLSFO	Using the new Very Low Sulphur Fuel Oil (VLSFO) which has a Sulphur content of 0.50%
LNG	Liquified Natural Gas (LNG) is cleaner and cheaper. This however, is a futuristic fuel since global LNG infrastructure is at an infancy stage.
MGO	Using Marine Gasoil (MGO) which has a Sulphur content 0.10%, fetches a premium price in the market
FONAR	Meeting the criteria to submit a Fuel Oil Non-Availability Report (FONAR) is difficult and should be used as a last resort

Based on research and interviews conducted, the two most popular options that are likely to be adopted by carriers were identified and detailed out in the section below.

Installing Scrubbers

Fitting exhaust gas cleaning systems also known as scrubbers is a cost effective and predictable option for carriers. Although the initial capital cost[4] of a scrubber is high, it will be written down over its useful lifetime and operational costs will also be lower given that higher speeds can be adopted whilst burning cheaper fuel. Since, High Sulphur Fuel Oil (HSFO) prices are dependent on world crude oil prices, this will give a certain level of predictability for the carriers' decision-making process as well. Hence, for the aforementioned benefits, top carriers have already initiated plans to fit scrubbers into their ships, taking a bet that the rate of decline in the price of fuel oil differential will be slower than the recovery time of scrubbers (refer Figure 02 below)

Figure 02: Total planned number of ships with scrubbers



Source: Based on statistics from Alphaliner

[4] A scrubber costs roughly between US$3 – 10 million depending on the type of the scrubber

However, it should be noted that installing scrubbers too has its own risks. Among the three types of wet scrubbers[5] available, open loop scrubbers are banned in the territory of certain countries such as Singapore, Belgium, California, Malaysia etc. with many others likely to join this list in the near future, as it does not provide a feasible solution to the problem of addressing pollution[6]. Operating closed loop scrubbers in these areas may also incur a cost since the discharge needs to be stored.

There is also an opportunity cost involved for vessels installing scrubbers. As although a scrubber may only take a few weeks to install, the entire process of planning, designing and scheduling often takes much longer, owing to the limited number of scrubber manufacturers and the limited availability of shipyard space around the world to fit them. In addition, fitting scrubbers on old vessels would also not be a viable option given that they are likely to be dismantled in few years.

Using Very Low Sulphur Fuel Oil (VLSFO)

VLSFO[7] is relatively a new product that has a sulphur content of 0.5%. Mr Saliya Wickramasuriya[8], observed that there would be a global shortage of VLSFO due to the delay in shipping lines providing refiners with confirmed requirements, possibly in the anticipation that the 2020 deadline may be extended. However, that not being the case, demand could outstrip supply in the short term.

Out of the 24,000 MT[9] of fuel oil space available in Jaya Container Terminal (JCT) oil bank, it has commenced cleaning 20,000 MT of tank space to store VLSFO in the future since this new fuel oil can be easily contaminated and should not be mixed with other fuels. Therefore, the Colombo Port is preparing itself for the changes the IMO2020 regulation will bring in. The industry is however, advised to continue using VLSFO from the same supplier as mixing VLSFO made from different chemical processes could give rise to safety issues.

Industry experts anticipate the price differential between VLSFO and HSFO to be between USD 180-200 per ton and this differential is expected to narrow in the long run even though, refineries may attempt to maintain their price premium. This increased cost of fuel could also increase vessel transit times since ships may sail at slower speeds in order to conserve fuel (slow steaming).

How will IMO2020 affect Businesses?

Mr Iqram Cuttilan expects freight rates to increase between USD 75-350 per container, which is the component that lines will apply as the low sulphur fuel surcharge. However, freight rates in Colombo have not changed as yet owing to inherent advantages[10] the Colombo Port has and also since most carriers have not yet switched to the compliant fuel. Freight rates are however,

[5] There are two main types of scrubbers; dry and wet scrubbers. Wet scrubbers can be sub divided into 03 categories as;

- Open-loop scrubbers: can take in sea water and then flush discharge into the sea.
- Closed looped scrubbers: can take in fresh water or sea water and the discharge can be held in a tank for later discharge
- Hybrid scrubbers: can utilise both closed and open running modes either at the same time or by switching between the two

[6] It only transfers pollution from air to water.

[7] This includes the refined product and the blended product

[8] Refer Annexure 1 for a list of individuals interviewed for the brief

[9] Total storage capacity of 34,000 MT

[10] Colombo port is usually the last port of call before Europe and our exports are dominantly west bound

expected to increase from mid-December onwards, but the full impact may not be felt by businesses in Colombo owing to Sri Lanka's location and its dominant westbound trading activities.

An industry expert[11] commenting on the same responded that the lines will remain fairly opportunistic in Colombo. Since, if there is marginal contribution[12] for each additional cargo received from Colombo, the lines will provide a discounted freight rate, if it has capacity because Colombo is usually the last port of call before Europe.

The "ALL IN FREIGHT rate" system prevalent in Sri Lanka also gives a competitive edge to the exporter and the importer since bunker surcharges arriving from increased fuel prices will have to be amalgamated into one freight rate. This gives the exporter and the importer the ability to negotiate a better price for their cargo. However, it should be noted that freight rates will eventually be passed onto exporters or importers depending on which IncoTerms[13] the goods were sold at, unless there are opportunists carriers who would not pass down the costs in order to gain market share even though carriers are advised against it.

Mr Dinesh De Silva, taking the point of view of an exporter and an importer remarked that there is a probability of having an initial cost increase by about USD 50 per Twenty-Foot Equivalent Unit (TEU) for this worthy cause contributing to sustainable living. Nevertheless, he believed the cost will negate with other industry improvements and hence the trade is unlikely to be highly affected.

Furthermore, it should be noted that refineries may use more diesel to maximize production of the compliant fuel[14]. This may tighten supply of diesel and result in an increase in prices, which will ultimately increase the cost of production of goods. Therefore, producers too, should closely monitor for price increases, in order to understand their actual costs and to have better oversight over their profit margins.

The World Trade Organisation (WTO) in its latest October forecast expects world merchandise trade to rise only by 1.2% in 2019, substantially slower than the 2.6% growth forecast in April 2019. The projection for 2020 was also downgraded to 2.7%, from its previous 3.0%. Therefore, with the expectation for a slowdown in global economic growth, aggregate demand and freight rates[15], the shipping industry will have to devise strategies to grow collectively in the long term. As the industry cannot afford a further downward pressure on freight rates stemming from the overcapacity in vessels.

What are the opportunities for Sri Lanka?

Hambantota as a Bunkering Hub

Hambantota Port is well placed within close proximity to the East-West shipping lane and over 50% of the world's oil shipments pass in close proximity to Sri Lanka. This gives strategic reasons for Hambantota Port to potentially benefit from being a regional bunkering hub similar to Singapore.

[11] Series of interviews were conducted with industry experts to gain insights for this brief
[12] Accounting definition of contribution - revenues minus variable costs
[13] If it ships on CIF/CFR terms, the exporter will bear the cost and if it is on FOB terms, the importer will bear the costs.
[14] Blending HSFO with diesel to arrive at the compliant distillate fuel (VLSFO)
[15] According to Baltic dry Index as at 26 November

Hambantota International Port Group (HIPG) recently awarded a tender to Sinopec Fuel Oil Sales Co. Ltd for oil trading activities and the operation and maintenance of their oil bank. Sinopec Group is the world's largest refiner with an annual production of 300 million tons and is expected to release 10 million tons of VLSFO in 2020. Two new oil refineries were also commissioned out recently, to be set up in Hambantota[16]. Therefore, with IMO2020 sulphur cap coming into place next year, the port can potentially leverage on the bunkering opportunity with these partnerships. However, alongside these developments, the port should also look at enhancing its storage capacity in order to be competitive with other regional hubs.

The vast amount of land available around the port will also act as a lever to enhance the bunkering potential. Building factories around the port, to handle more cargo will improve the outlook for the port since then it can provide bunkering facilities for both non-cargo-calling vessels and cargo-calling vessels.

As observed by Mr Ibrahim Saleem, if the land around the Hambantota port can be converted into a Free Trade Zone (FTZ) then the port could be developed into a captive market where many ships will anyway have to stop for cargo operations.

The land around the Hambantota port also has the potential to offer an array of additional services such as tank cleaning, sludge removal, scrubber treatment, testing facilities etc. that will arise from the IMO2020 regulation. Therefore, with the right vision coupled up with necessary regulative support and human capital, Hambantota can work towards becoming a significant bunkering player in the region with complementary services. However, it should be noted that the port's business model should not only revolve around fossil fuels as this may be challenged with newer, cheaper alternate sources coming into place to power ships in the future.

[16] Agreements were signed but BOI is yet to allocate land for these projects

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ANNEXURE 1

Interviews were conducted with the following individuals:

(Sorted based on Alphabetical Order)

1. Eng. Mangala P B Yapa, former CEO of Colombo Dockyard and former Chairman of Board of Investments Sri Lanka (BOI)

2. Mr Dinesh De Silva, Head of Shipping & Logistics at Unilever Sri Lanka/Past Chairman of Sri Lanka Shippers Council and Import section of the Ceylon Chamber of Commerce

3. Mr Ibrahim Saleem, Director at Hayleys Advantis Limited

4. Mr Iqram Cuttilan, Managing Director at Aitken Spence Shipping Limited/ Chairman, Ceylon Association of Shipping Agents (CASA)

5. Mr Rohan Masakorala, CEO of the Shippers' Academy Colombo/ Chairman , Logistics Advisory Committee of the EDB

6. Mr Romesh David, CEO of South Asia Gateway Terminals/Chair of National Agenda Committee (NAC) on Transport and Logistics

7. Mr Saliya Wickramasuriya, Independent Petroleum Expert/ Senior Advisor to the CEO of Hambantota International Port Group (HIPG)/ Co-Chair, NAC on Energy

8. Mr Sean Van Dort, Chairman of Global Shippers' Forum/ Director Logistics at MAS Holdings Limited

ANNEXURE 2

Sri Lanka has ratified the international convention for the prevention of Marine Pollution referred to as MARPOL from Annexes I – V. However, Annex VI of MARPOL, which addresses air pollution from ocean-going ship has not yet been ratified by the country[17]. One of the requirements of this Annex is the use of fuel oil with low sulfur content, which is commonly known as "IMO2020 Sulphur Cap". Below is a list of benefits/implications for countries that have and have not ratified:

	States which have Ratified MARPOL Annex VI	States which have not Ratified MARPOL Annex VI
Requires compliance (can be penalized for non-compliance)	Yes[18]	Yes[19]
Can sanction for violations	Yes	No
Can penalize any non-compliance on the high seas	Yes	No

[17] List of countries that have ratified various conventions can be found here - http://www.imo.org/en/About/Conventions/StatusOfConventions/Documents/status-x.xlsx

[18] Will be held liable in accordance with international law (i.e. UNCLOS, Vienna Convention on the law of treaties and the ILC Articles on State Responsibility)

[19] A ratified port/ flag states can sanction violations for a non- compliant ship when the it arrives in their territory or in high seas, irrespective of whether the ship's flag state has ratified or not

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