

MARINE ENVIRONMENT PROTECTION
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Agenda item 5

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AIR POLLUTION PREVENTION

Sulphur content in Very Low Sulphur Fuel Oil (VLSFO) and examples of geographical differences

Submitted by ICS, BIMCO, INTERTANKO and INTERCARGO

SUMMARY

Executive summary: This document outlines information from fuel samples tested during 2020 – especially in relation to the level of sulphur compliance for Very Low Sulphur Fuel Oil (VLSFO), including geographical differences.

Strategic direction, if applicable: 3

Output: 3.2

Action to be taken: Paragraph 15

Related documents: MEPC 74/18; MEPC 76/5/2, MEPC 76/15; MEPC.1/Circ.884/Rev.1; resolution MEPC.326(75); MEPC 78/INF.4 and MEPC 78/WP.1/Rev.1

Introduction

1 In 2021, ICS, BIMCO, INTERTANKO and INTERCARGO acquired a dataset from Veritas Petroleum Services (VPS), the largest bunker fuel testing company in the world, of all samples of High Sulphur Fuel Oil (HSFO),¹ Very Low Sulphur Fuel Oil (VLSFO)² and Ultra Low Sulphur Fuel Oil (ULSFO)³ excluding Marine Gas Oil (MGO) tested by VPS during 2020.

2 This document outlines information from the dataset in relation to sulphur compliance for VLSFO, including geographical differences.

¹ High Sulphur Fuel Oil (HSFO) are fuels with a sulphur content exceeding 0.50% S.

² Very Low Sulphur Fuel Oil (VLSFO) are fuels with a sulphur content not exceeding 0.50% S.

³ Ultra Low Sulphur Fuel Oil (ULSFO) are fuels with a sulphur content not exceeding 0.10% S.

Background

3 At MEPC 78, the Secretariat provided information on the global average sulphur content of fuel oils for 2021 in document MEPC 78/INF.4 (Secretariat). According to the Secretariat, 136,938 samples were taken from a total of 116,825,844 tonnes of residual fuel oil supplied for use on board ships. 73.19% of the residual fuel oils, by quantity, were not exceeding 0.50% sulphur content, but were above 0.10% sulphur content. 25.38% of the residual fuel oils, by quantity, were exceeding 0.50% sulphur content.

Dataset from VPS

4 The entire global dataset from VPS contains the test results from 9,622 commercial samples of HSFO, 45,850 commercial samples of VLSFO and 2,872 commercial samples of ULSFO. In total, 58,344 commercial samples of marine fuel oil were tested by VPS during 2020.

Global	
Fuel type	Number of samples
HSFO	9,622
VLSFO	45,850
ULSFO	2,872

Table 1: tested number of commercial samples of marine fuel oil

VLSFO sulphur compliance

5 This document focuses on the sulphur content of the 45,850 samples of VLSFO, and especially the samples of VLSFO from the following five selected geographical regions: Europe,⁴ the United States of America, Singapore, Eastern Asia⁵ and Middle East.

6 The table below (table 2) specifies the sample size for each of the five geographical regions:

VLSFO – Sample size	
Geographical region	Number of samples
Europe	9,988
United States of America	3,633
Singapore	9,570
Eastern Asia	9,819
Middle East	3,364

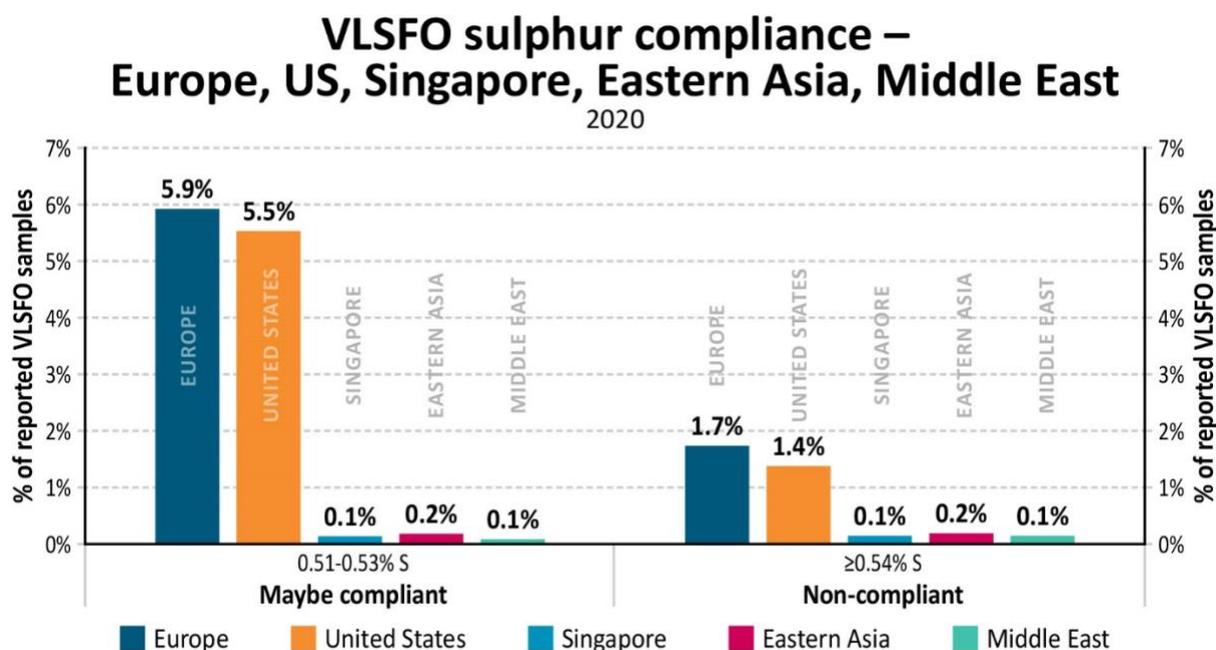
Table 2: sample size for each region

7 The graph below (figure 1) illustrates the percentages of samples that were tested and identified as "maybe compliant", meaning that the sulphur content is determined to be between 0.51% and 0.53%, or identified as "non-compliant" meaning that the sulphur content was determined to be 0.54% or above. This differentiation follows the principles included in the sulphur content verification procedures, as set out in appendix VI of MARPOL Annex VI.

8 It is observed from figure 1 that the share of samples found to be "maybe compliant" or "non-compliant" was significantly higher for Europe and the United States of America compared to Singapore, Eastern Asia and Middle East.

⁴ "Europe" includes samples mainly from EU Countries, Norway, Türkiye, Ukraine and United Kingdom.

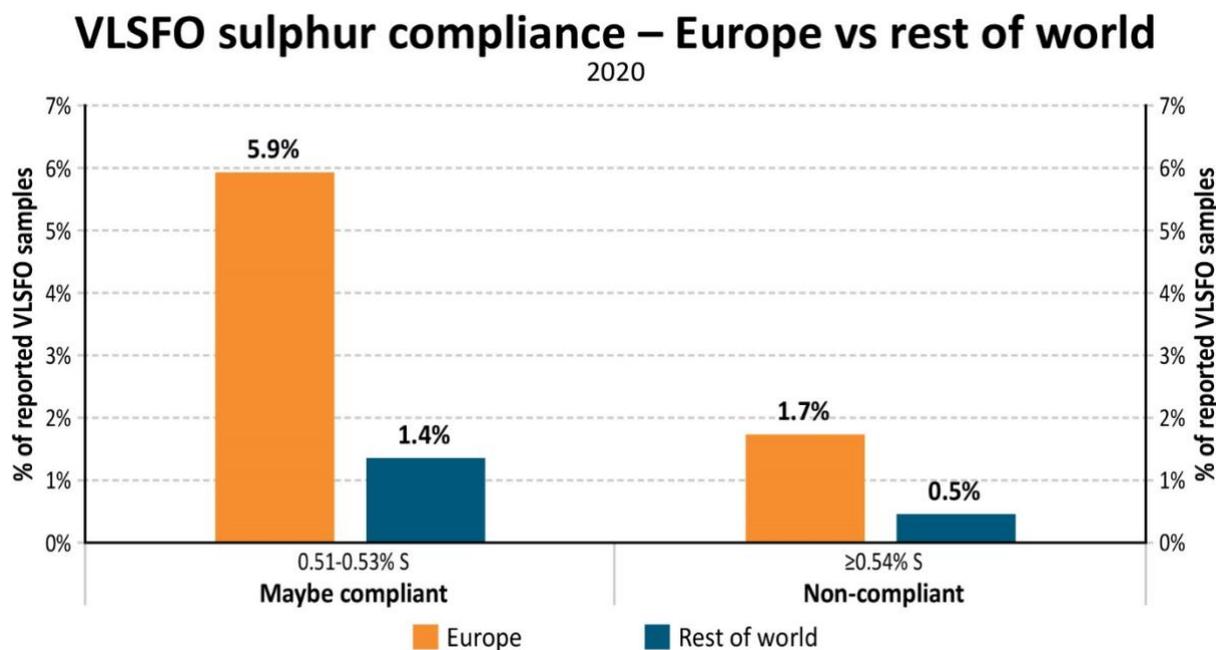
⁵ "Eastern Asia" includes samples from China (including Hong Kong SAR), Japan and Republic of Korea.



Source: BIMCO

Figure 1: VLSFO sulphur compliance – Europe, US, Singapore, Eastern Asia and Middle East

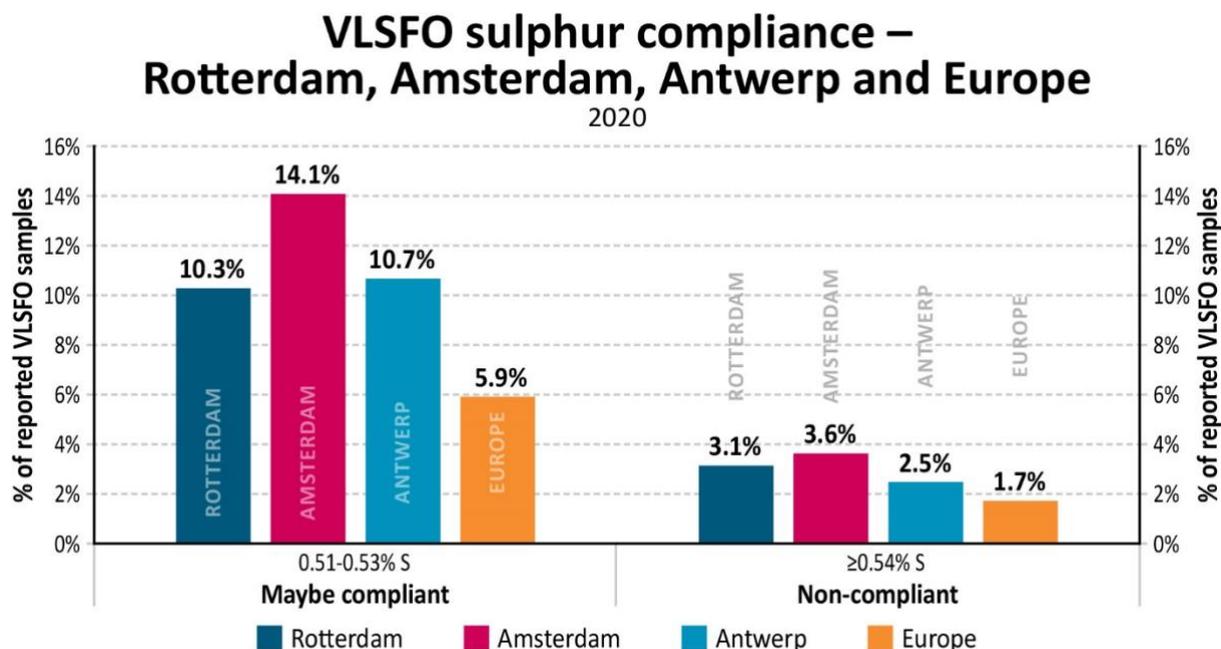
9 The graph below (figure 2) illustrates the difference between the sulphur content of VLSFO samples from Europe compared to VLSFO samples from the rest of the world.



Source: BIMCO

Figure 2: VLSFO sulphur compliance – Europe versus rest of the world

VLSFO sulphur compliance – Rotterdam, Amsterdam and Antwerp

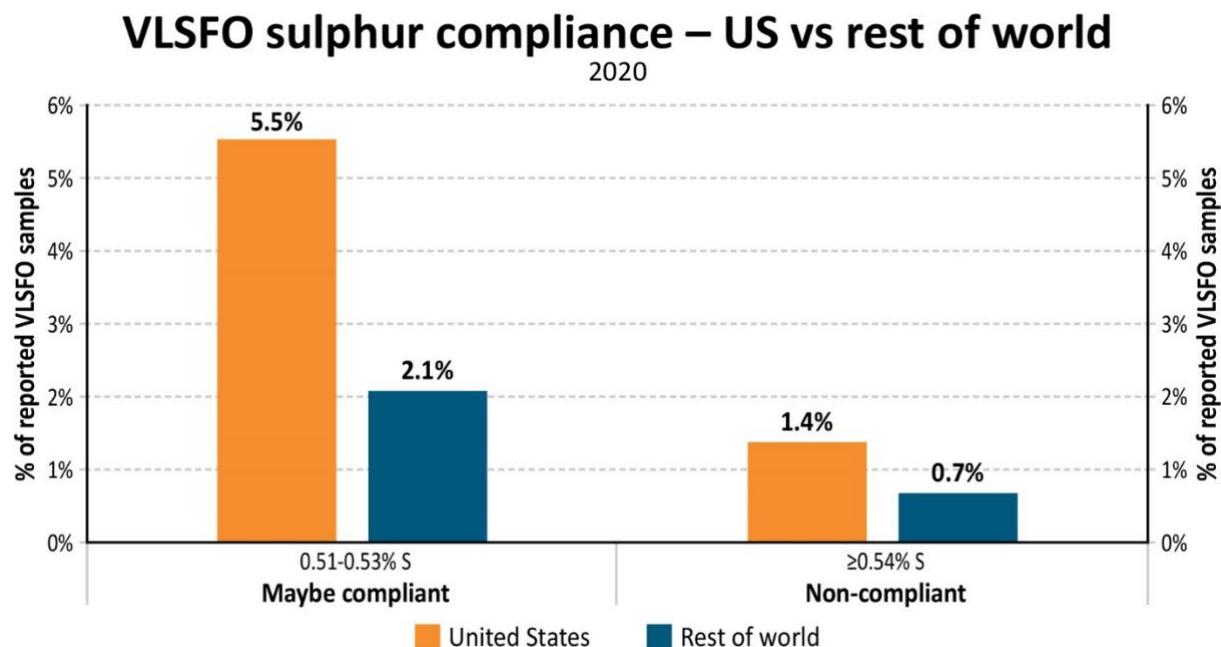


Source: BIMCO

Figure 3: VLSFO sulphur compliance – Rotterdam, Amsterdam, Antwerp and Europe

10 From the graph above (figure 3), it is observed that the share of samples found to be "maybe compliant" or "non-compliant" was even higher for Amsterdam, Rotterdam and Antwerp (ARA) than for Europe in general.

VLSFO sulphur compliance – United States of America



Source: BIMCO

Figure 4: VLSFO sulphur compliance – US versus rest of the world

11 The graph above (figure 4) illustrates the difference between the sulphur content of VLSFO samples from the United States of America compared to VLSFO samples from the rest of the world (including Europe).

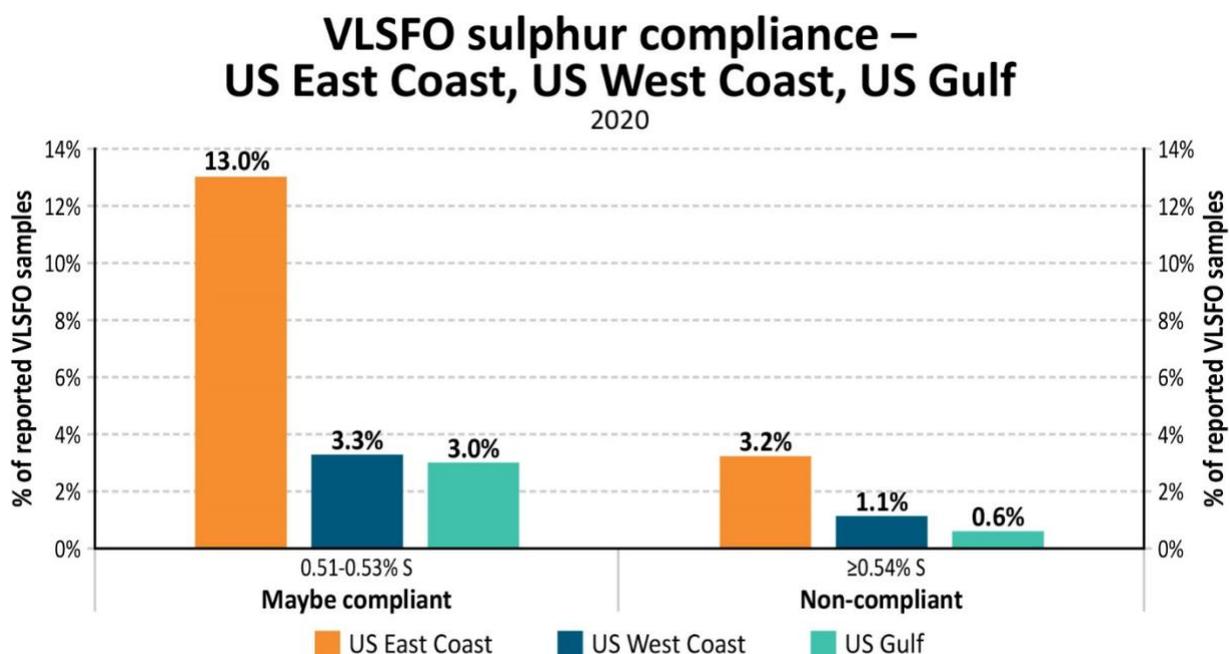


Figure 5: VLSFO sulphur compliance – US East Coast, US West Coast and US Gulf

12 The graph above (figure 5) highlights that the majority of VLSFO samples with a "maybe compliant" or "non-compliant" sulphur content represents VLSFO delivered to ships on the East Coast of the United States of America.

Licensing scheme for bunker suppliers

13 Circular MEPC.1/Circ.884/Rev.1 on *Guidance for Best practice for Member State/Coastal State* provides in the appendix an indicative example of a bunker license for fuel oil supply (bunkering), which should be used by Member States or other relevant authorities for implementing licensing scheme for bunker suppliers if they desire to do so.

Invitation

14 Based on the information provided in this document, Member States, including the individual ports within Member States, and relevant intergovernmental organizations are invited to consider implementing and enforcing a licensing scheme for bunker suppliers operating within their jurisdiction to combat the high level of non-compliance in some poorer performing geographical regions.

Action requested of the Committee

15 The Committee is invited to note the information provided in this document and in particular the invitation in paragraph 14, and take action as appropriate.