Review of the 2020 global bunker market

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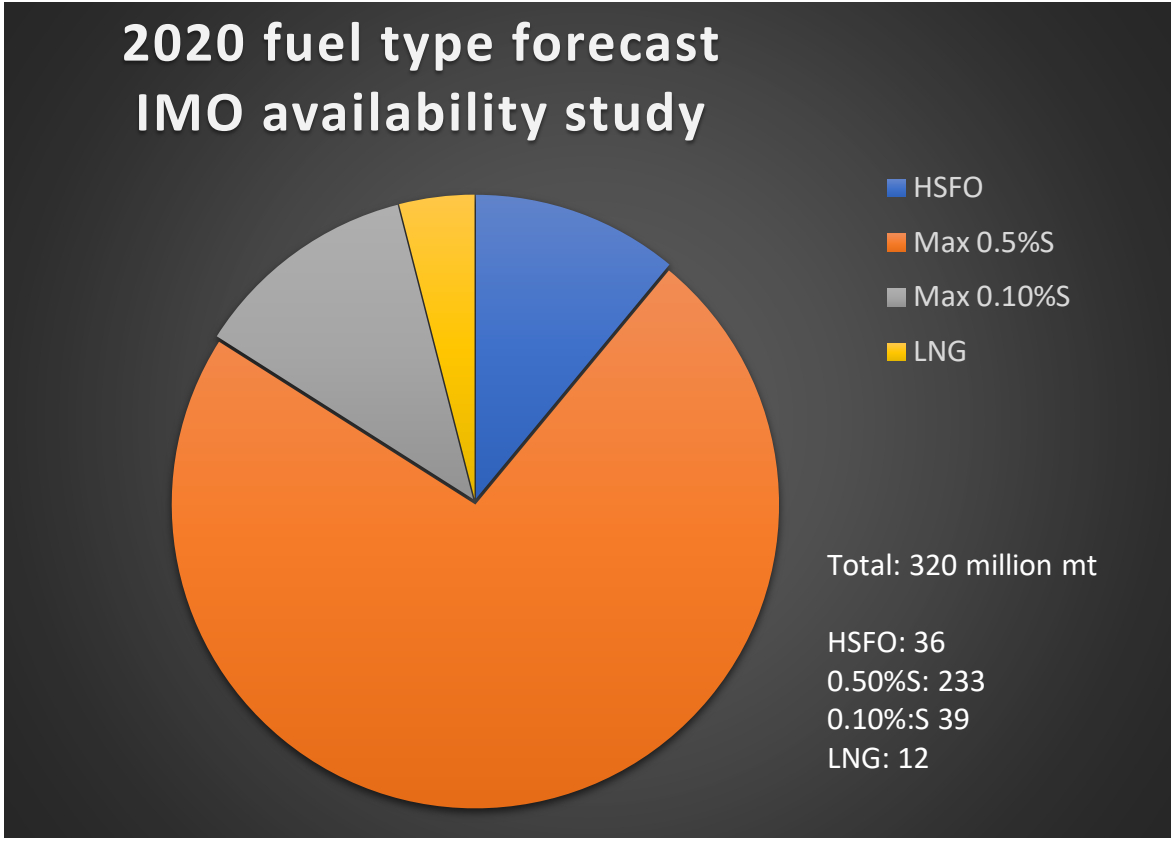
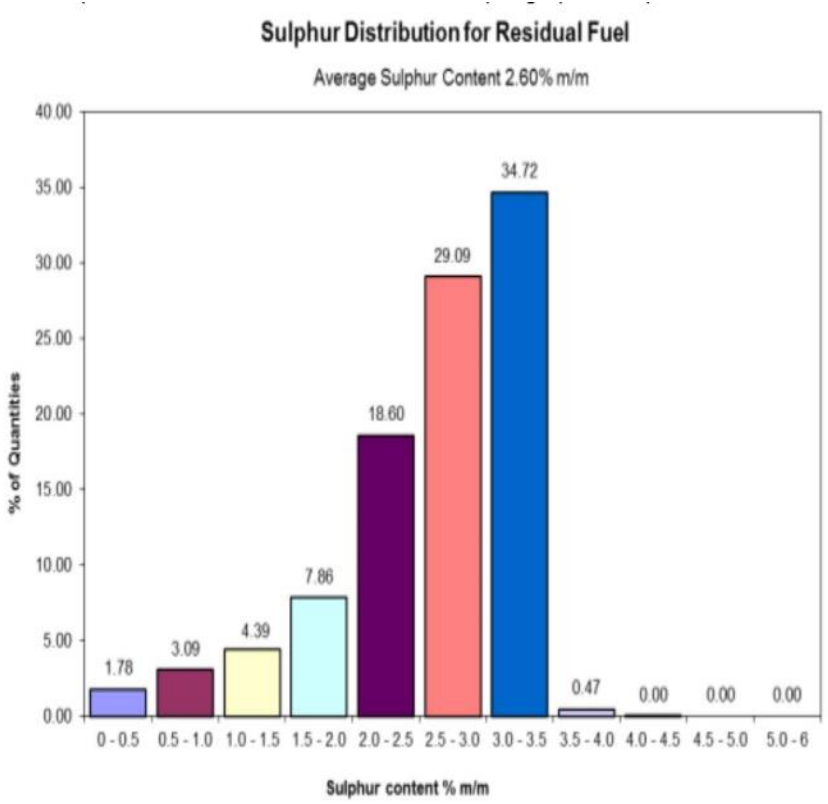
Why 2020 was such a significant year



IMO 2020

Global sulphur limit for marine fuel reduced from 3.50% to 0.50% on 1 January under MARPOL Annex VI

Residual fuel sulphur distribution 2018



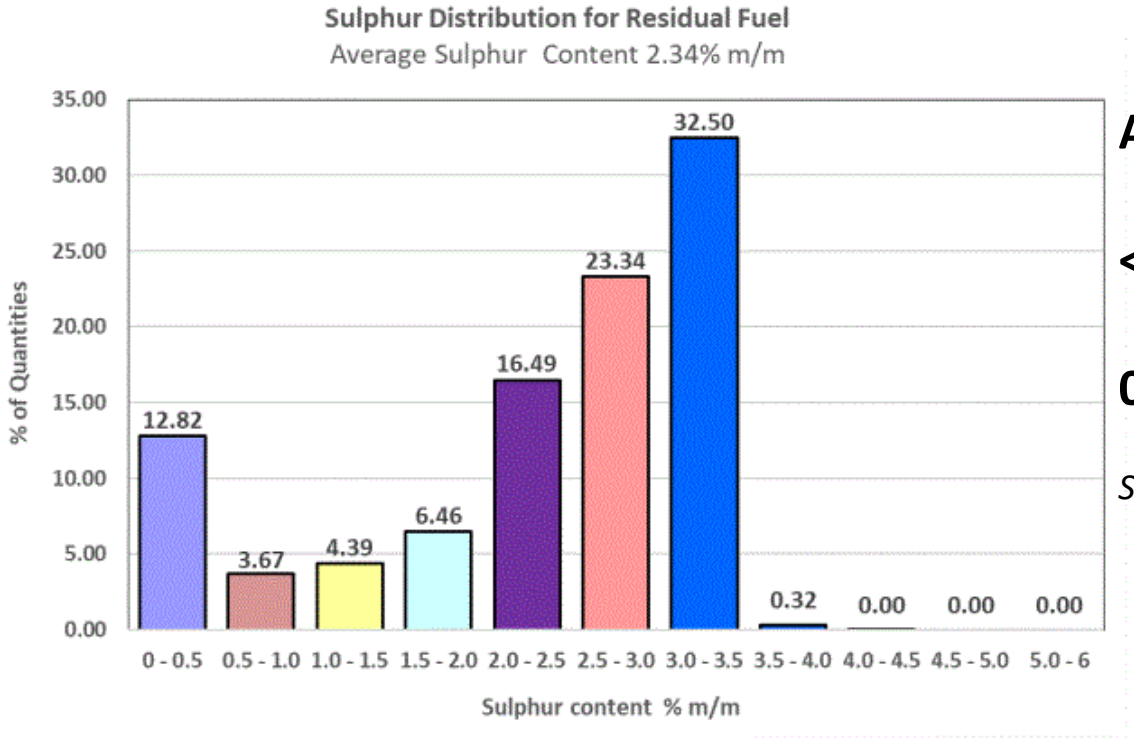
Average sulphur content: 2.60%

Below 0.50%S: 1.78%

0.5%S to 1%S: 3.09%

Source: IMO sulphur monitoring programme

Residual fuel sulphur distribution 2019



Average: 2.34%S

< 0.50%S: 12.82%

0.5%S to 1%S: 3.67%

Source: IMO sulphur monitoring programme

Expectations prior to IMO 2020

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- Most shipowners and operators would initially prefer using MGO rather than very low sulphur fuel oil (VLSFO) blends to comply
- Shortages of compliant fuels as refiners would not be able to change their production patterns in time
- Higher cost of compliant fuel -> credit crunch + cheating
- Significant oversupply of HSFO which would make it very cheap compared to IMO 2020 compliant bunkers (Hi5 spread)
- VLSFO blends would be much more variable in nature than HSFO blends
- VLSFOs would cause increase in operational problems and quality claims

- VLSFO preferred over MGO
- Ample supply of compliant fuels
- Hi5 spread unexpectedly low
- Compliance appears to be good
- Quality better than expected
- COVID-19 disruptions

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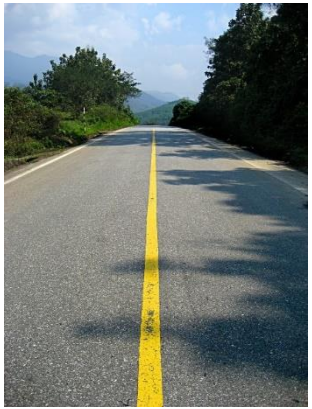
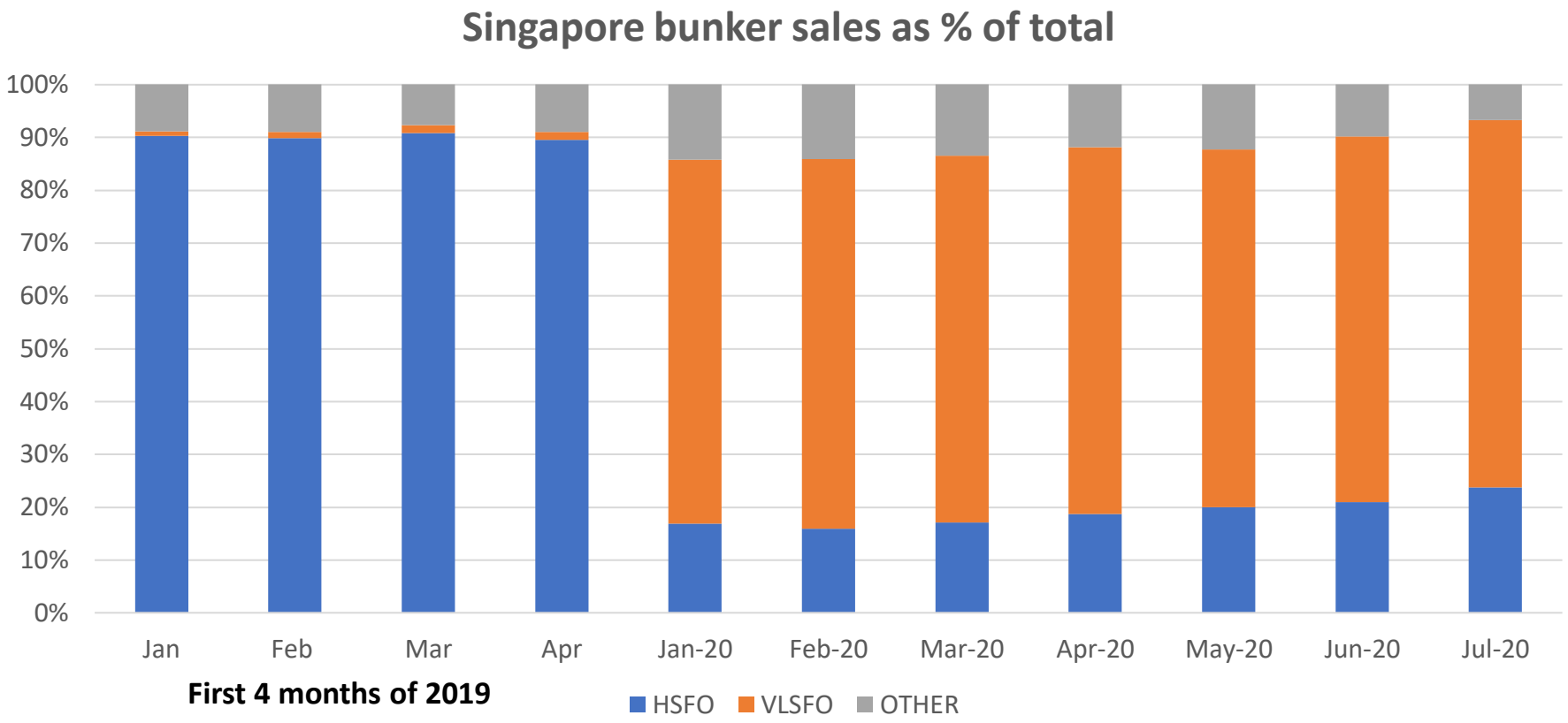
IN HINDSIGHT

COVID-19 market impacts

- Oil demand destruction, primarily aviation and road fuels
- Falling oil prices in H1 2020 → lower bunker prices
- Both of the above → lower VLSFO/HSFO differentials
- Scrubber installations were postponed or cancelled for various reasons, e.g. delays at yards, freight market considerations, saving CAPEX, concern about long term business case
- Demand for bunkers resilient in major ports, variable elsewhere



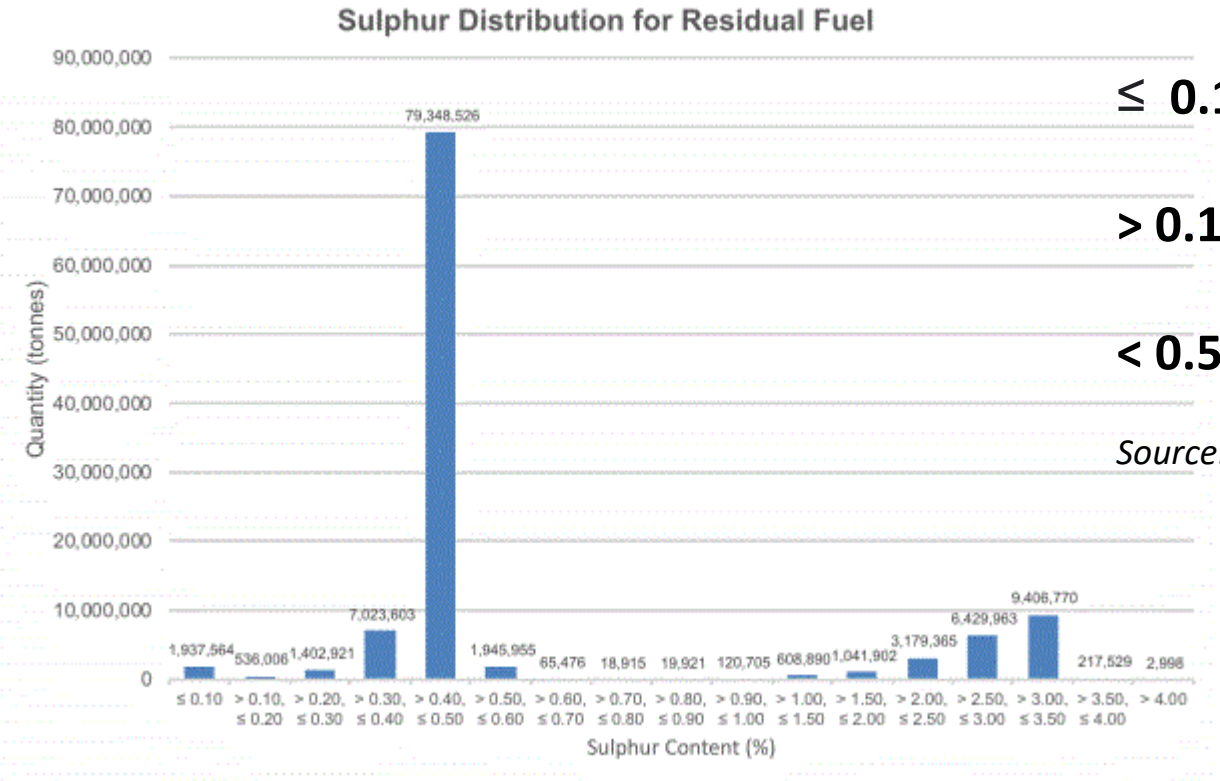
VLSFO takes the lead



Graphics by IBIA based on MPA statistics

OTHER = MGO/MDO, LSMGO, ULSFO & OTHER

Residual fuel sulphur distribution 2020



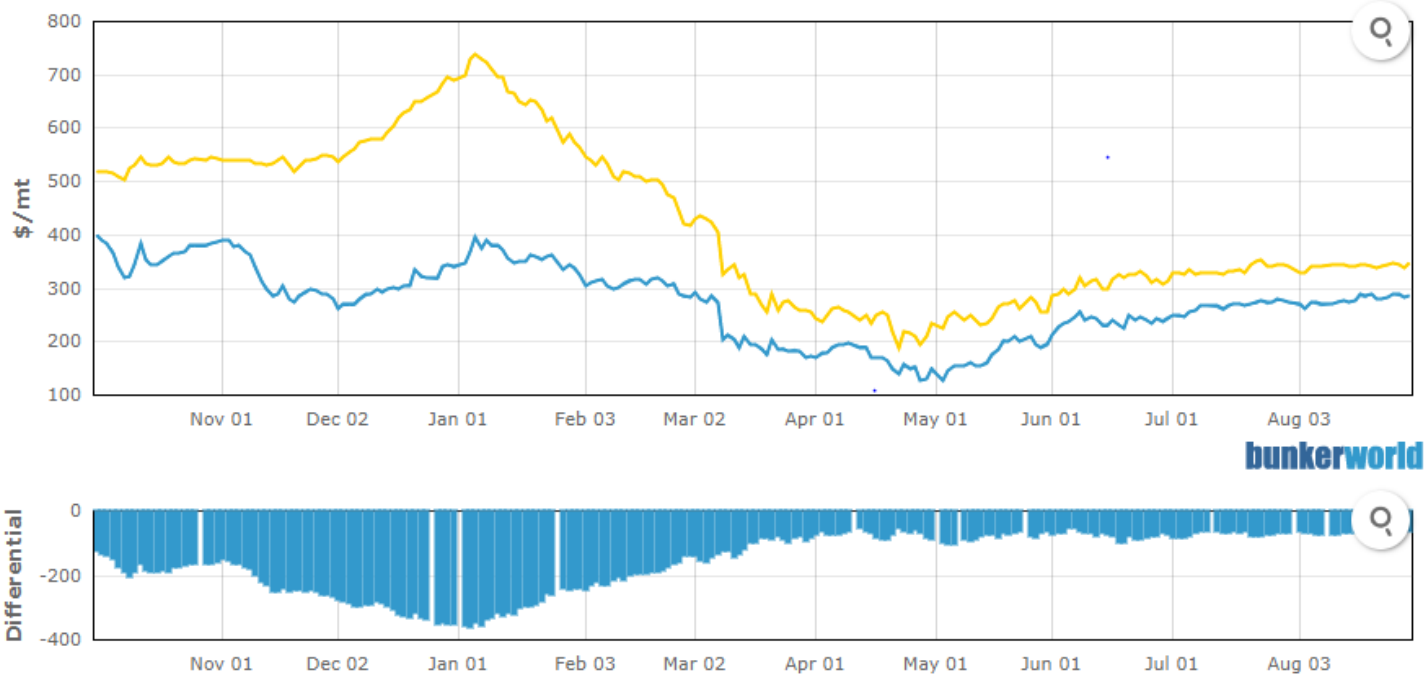
≤ 0.10%S: 1.71%

> 0.10%S to 0.50%S: 77.94%

< 0.5%S: 20.35%

Source: IMO sulphur monitoring programme

Singapore HSFO/VLSFO price spread

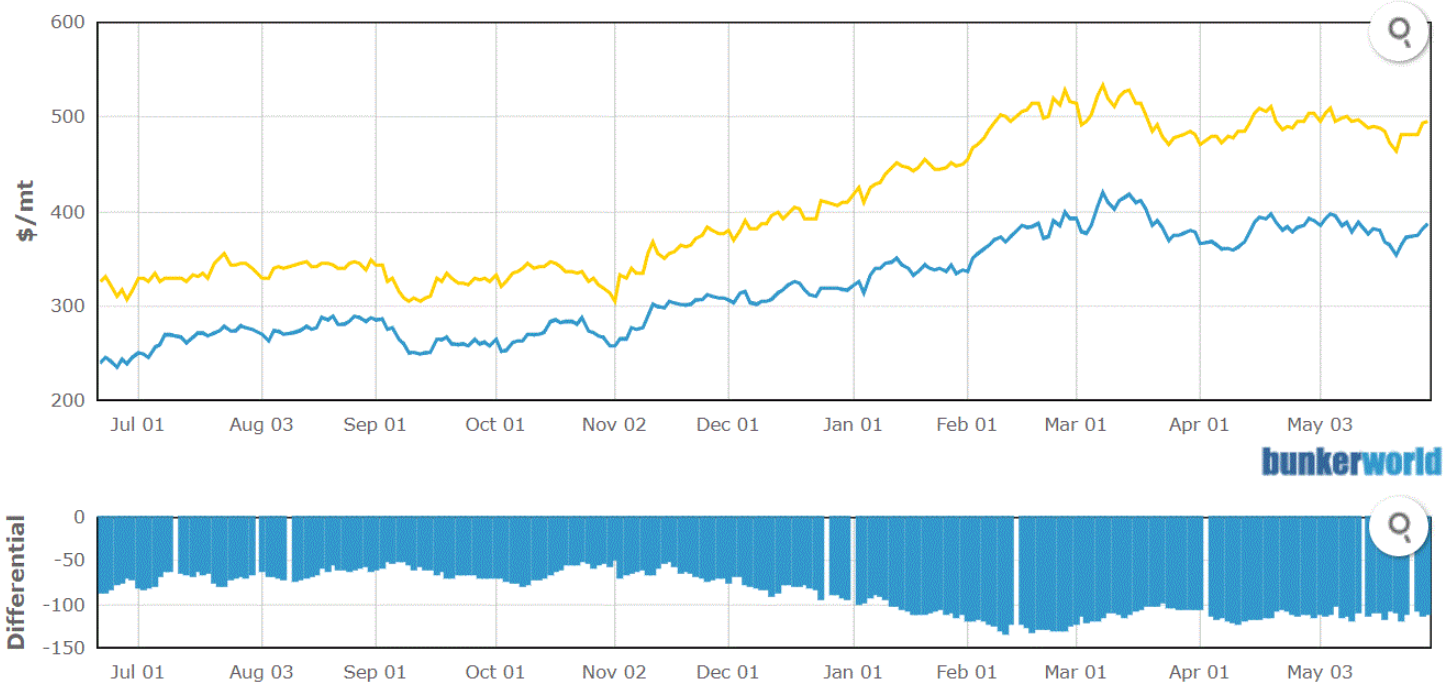


1 Oct 2019 to
31 Aug 2020

Max: $361
Min: $50
Average: $150.5

Source: S&P Global Platts - Bunkerworld

Singapore HSFO/VLSFO price spread

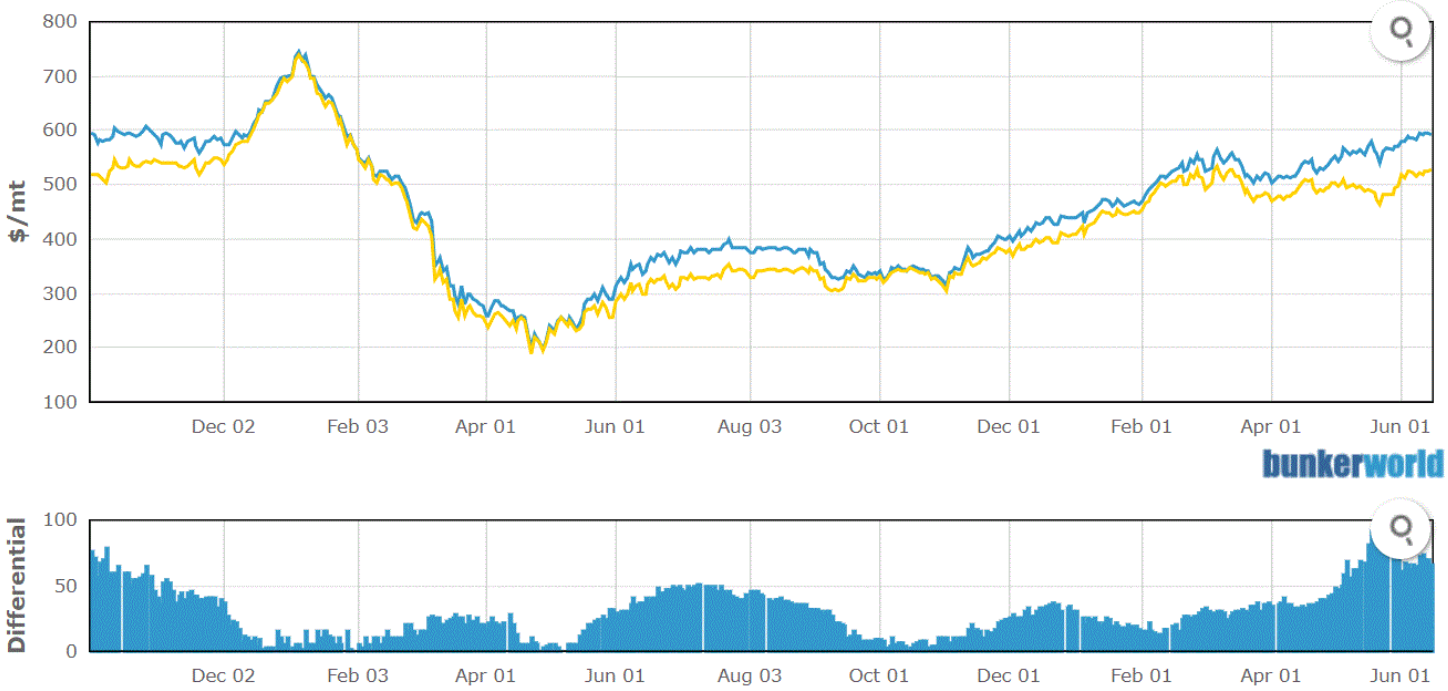


1 Jul 2020 to 31 May 2021

Max: $132
Min: $47
Average: $85

Source: S&P Global Platts - Bunkerworld

Singapore VLSFO / MGO price spread



1 Oct 2019 to
15 June 2021

Max: $91.25
Min: $0
Average: $28.5

Source: S&P Global Platts - Bunkerworld

Speculation about max 0.50%S VLSFO prior to IMO 2020

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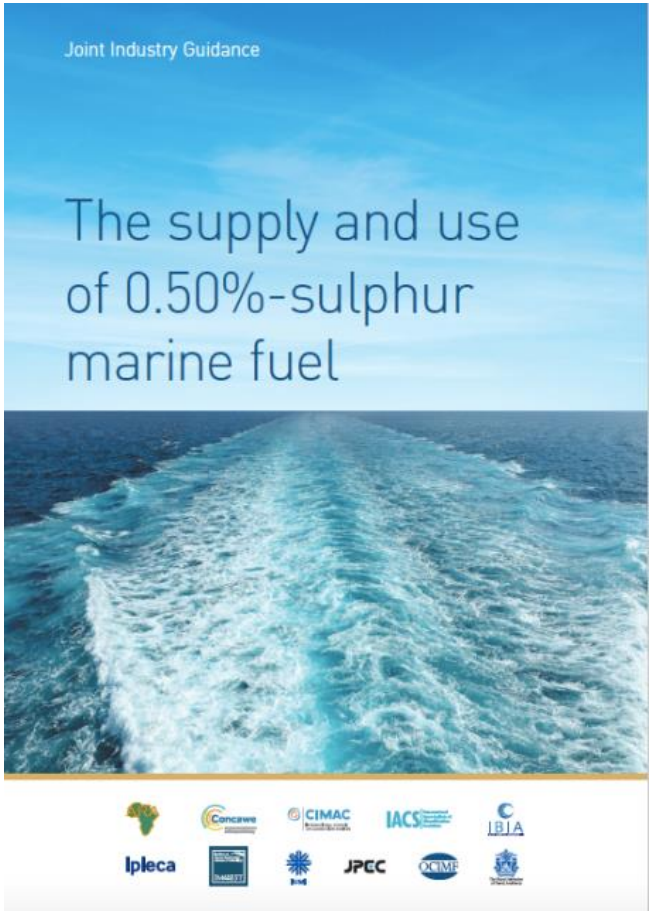
MYTH: There is no specification for the new 2020 blends & they won't be safe to use due to instability, incompatibility, non-compliance with the SOLAS flashpoint limit & other quality issues

FACT: Fuels still be blended and sold in accordance with **ISO 8217** to be commercially viable, addressing all of these issues apart from compatibility

Publicly Available Specification (PAS 23263) published by the International Organization for Standardization **(ISO)** in September 2019

Industry responses



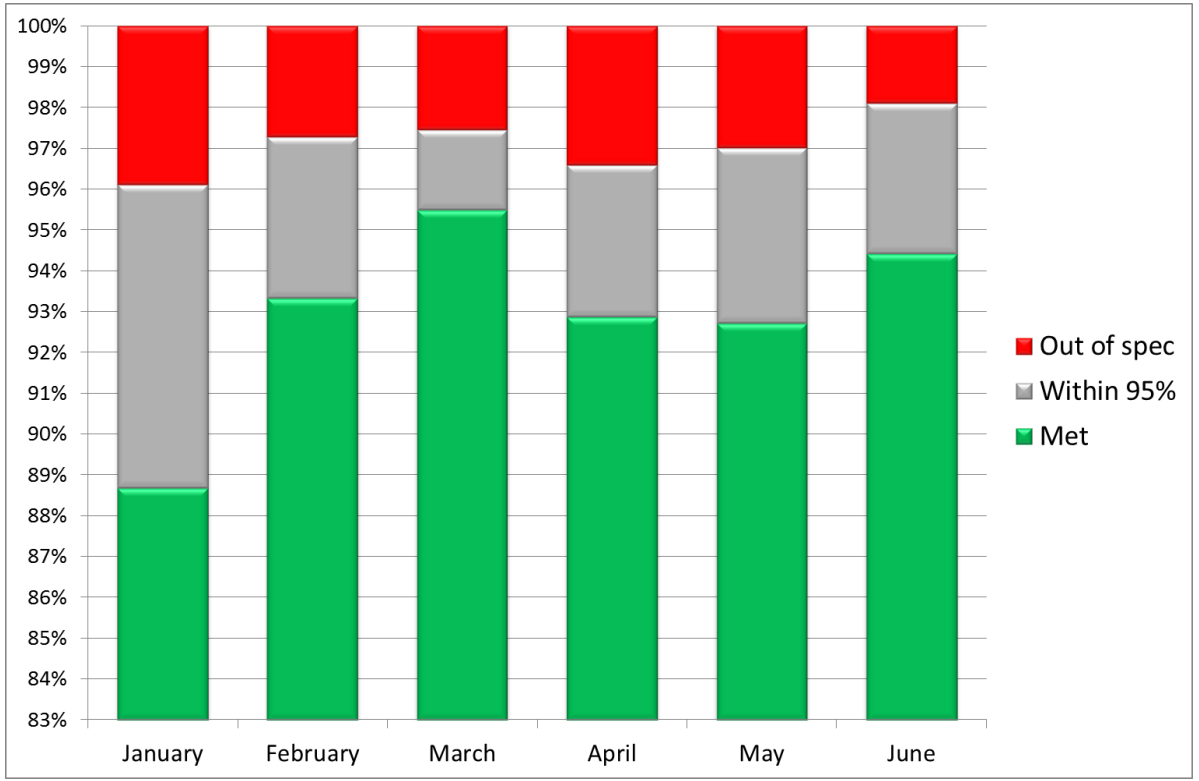
Joint Industry Project developed guidance to address 0.50%S fuel safety considerations Published August 2019

Available on https://ibia.net/

CIMAC Guideline
Marine fuel handling in connection to stability and compatibility – Nov 2019

VLSFO quality – what we know now

- Sediment and sulphur the key off-specs
- Sulphur off-specs decreased rapidly
- Big variations in key parameters
- Overall VLSFO quality better than HSFO



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VeriFuel
Understanding Marine Fuel

VLSFO compared with HSFO averages

Parameter	2018 HSFO	H1 2020 VSLFO
Viscosity at 50°C, cSt	355	105
Density, kg/m3	988	936
MCR, mass%	13.9	5.4
Net Spec Energy, MJ/kg	40.3	41.7
CCAI	848	813
Al+Si, mg/kg	22.3	18.2
Sulphur, mass%	2.61	0.45

The data points to VLSFOs being more paraffinic in nature than HSFO, resulting in improved combustion characteristics.

Source: ISO review of data from most major global testing agencies

Our next big challenge: GHG emissions

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IMO'S initial GHG strategy (adopted April 2018)

Vision: Reduce GHGs as a matter of urgency, phase out ASAP within this century

Levels of ambition:

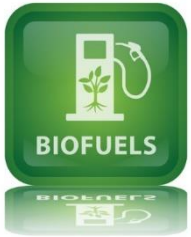
1. Strengthen EEDI to reduce carbon intensity
2. Reduce carbon intensity by at least 40% by 2030; 70% by 2050 (v 2008)
3. Peak GHG as soon as possible and reduce total by at least 50% by 2050 (v 2008)

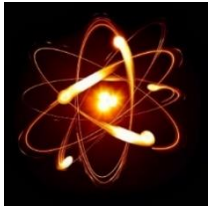
- Revised IMO GHG Strategy to be adopted in 2023

The path to low carbon shipping

How environmentally sound is the primary energy source and the process of converting it into fuel?

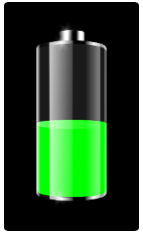




How is the energy carried & converted into power? Practicability? Safety?

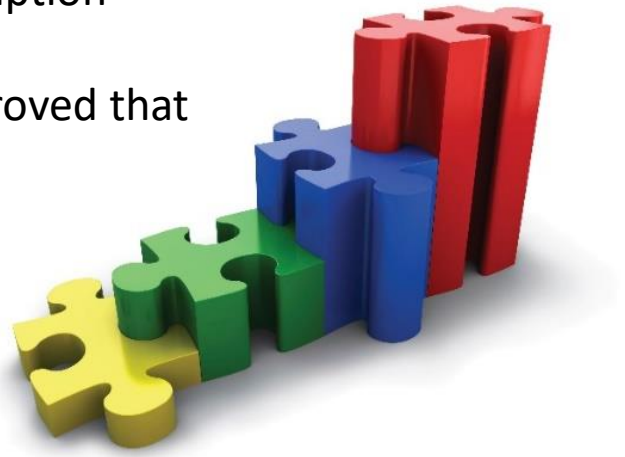


Supply infrastructure/who will supply the fuel?
Initial investment requirements?
What will the fuel cost and how will it be financed?

Concluding observations

- The transition to IMO 2020 went better than expected
- COVID-19 has created unexpected market volatility and disruption
- The bunker market is resilient! Transition to IMO 2020 has proved that changes happen when needed
- Very variable VLSFO characteristics = more complexity
- More complexity as we move toward Zero emissions
- We need communication and cooperation to solve future fuel needs
- IBIA seeks to foster better understanding across the bunker industry value chain



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Working with our members to keep the global marine fuels industry on course

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Thank you for your attention!

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