

MARINE FUEL INSIGHTS

#52 – Q1 2025



Monitoring the availability, quality and compliance of global marine fuel supply

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Executive Summary

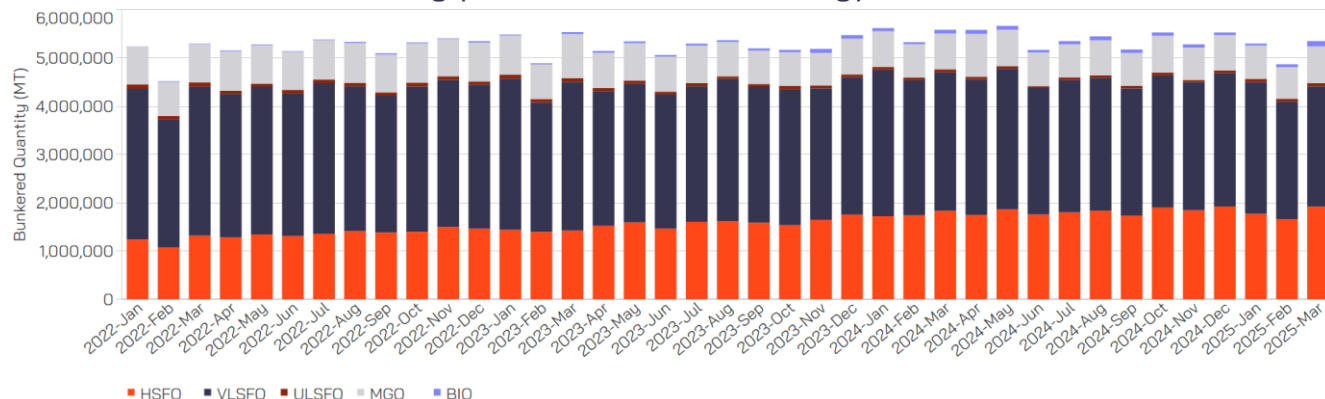
Welcome to the Quarter 1 2025 edition of Marine Fuel Insights. In this quarter's edition, **Marine fuel supply: Europe's marine biofuel market contracts sharply**; Rotterdam deliveries down 92% QoQ amid HBE policy cuts and trading disruptions. **Singapore emerges as the new biofuel bunkering hub, fueled by a 68% surge in 2024 sales** and strategic access to palm-based biodiesel from Indonesia and Malaysia. VPS in collaboration with Global Centre for Maritime Decarbonisation (GCMD) introduces a practical solution to this challenge in a recent study - *Rapid Forensic Analysis of FAME-Based Biofuels* offering a novel and scalable method (based on EN 14103) to verify biofuel feedstock origin and integrity. Read on to learn more!

Marine Fuel Supply

Global marine fuel supply saw a slight decline this quarter compared to Q4 2024. However, this aligns with the typical seasonal trend, as Q1 consistently represents one of the lower demand periods of the year. In total, ca. **15,900,000 MT** of marine fuel was bunkered and tested by VPS in Q1 2025. There is an overall decrease in marine fuel supply by 6% in Q1 2025 vs Q4 2024. In Q1 2025, VLSFO supply declined significantly—down 14% year-over-year and 10% compared to the previous quarter—driven by delivery reductions of up to 13% across key regions such as Europe, Asia Pacific, and North America.

Distillate deliveries remained relatively stable this quarter, while HSFO volumes declined by 6% quarter-over-quarter, primarily due to significant drops in Singapore (-13%) and South America (-25%) compared to Q4 2024. Meanwhile, ULSFO deliveries rose by 15% quarter-over-quarter. Biofuel supply increased by 12% this quarter. The uptick in biofuel deliveries is largely driven by increased bunkering activity in North America and Singapore, both recording a 30% rise since last quarter.

Bunkered Quantity per Month | Per Fuel Type | 2021 – 2025 YTD

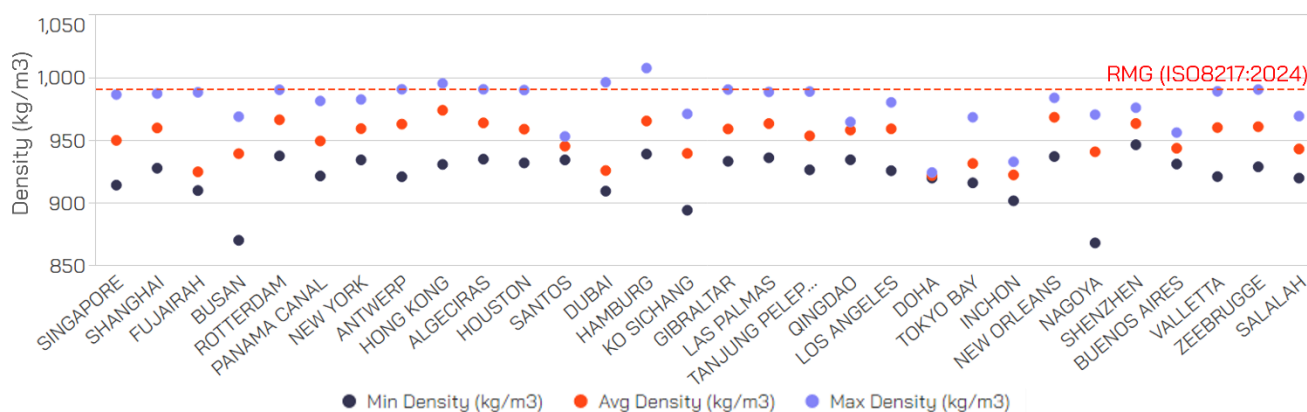


Density & Viscosity

In Q1 2025 we see a small increase in high density categories from 3% last quarter to 6% for VLSFOs. Additionally, off-spec occurrences due to density in HSFOs rose to 9% in Q1 2025, up from 7.7% in the previous quarter. This increase is primarily attributed to higher off-spec rates reported in Europe and Asia Pacific. For biofuels, we observed a 10% increase in deliveries within the upper density range of 951–980 kg/m³, now accounting for 22% of all biofuel samples. This shift is mainly driven by supply patterns in **Europe and Singapore**, reflecting regional variations in blend

compositions and feedstock types. We observe increased values in VLSFO density and density off-specs in Dubai, Hamburg and Hong Kong.

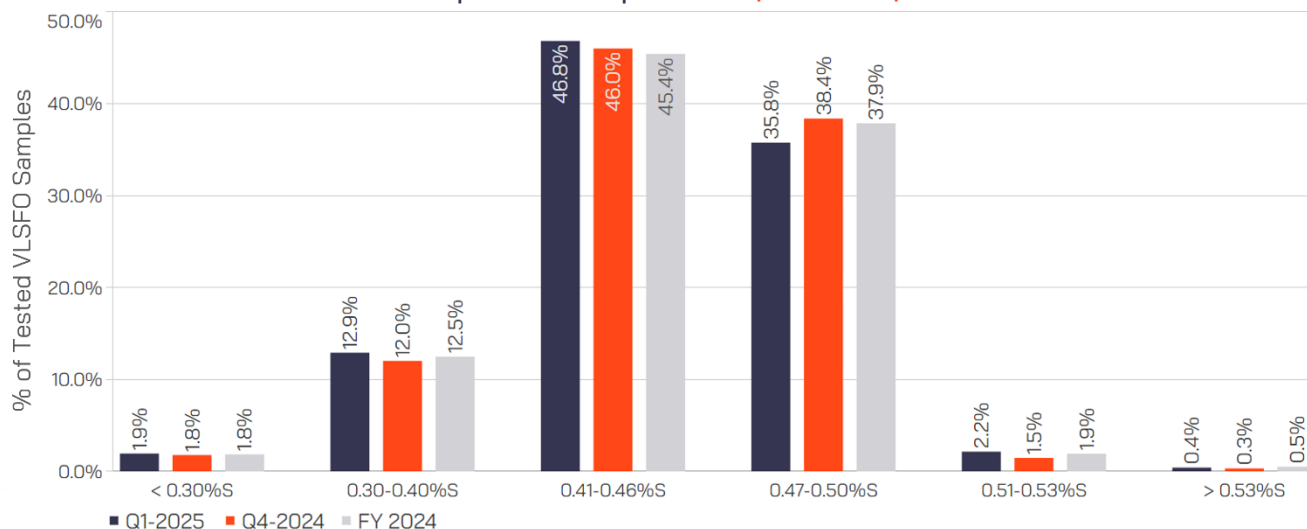
VLSFO Viscosity Statistics | Top 30 Ports | Q1 2025



Sulphur & Flash Point Compliance

Global VLSFO sulphur non-compliance climbs to 2.6% in Q1 2025, up from 1.7% in Q4 2024, continuing the upward trend seen throughout 2024. In the last edition we saw that the global sulphur non-compliance rate doubled compared to 2023 reaching a value of 2.4% in 2024 of all tested VLSFOs. ARA region emerges as the primary hotspot for VLSFO sulphur non-compliance this quarter, reinforcing a broader regional trend also observed across Europe and the Americas.

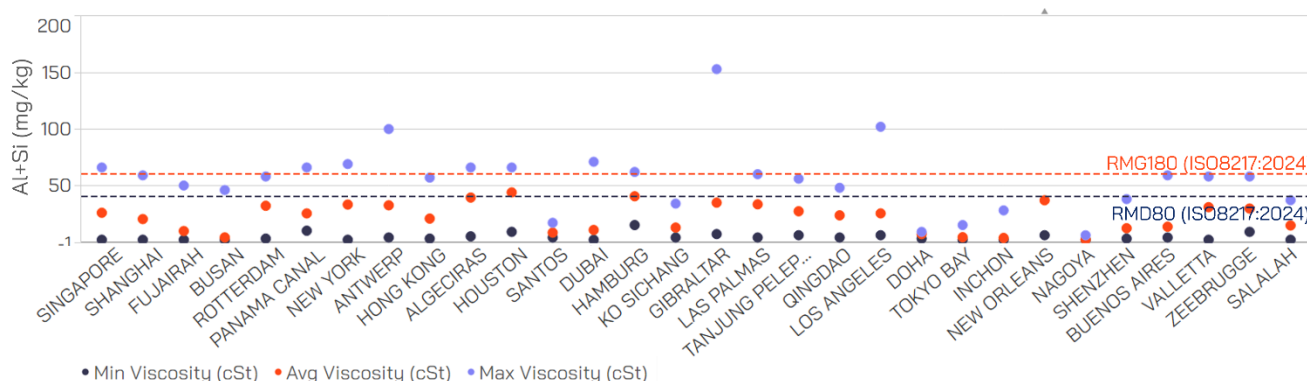
VLSFO Sulphur Compliance | Global | Q1 2025



Catalytic Fines

VLSFO samples with **high cat fines remain elevated at 16.9% in Q1 2025**, with major off-spec incidents reported in New Orleans (max. 496 mg/kg), Los Angeles, and Antwerp. HSFO high cat fine samples drop significantly to 13.5% this quarter, but Rotterdam and Panama Canal remain critical risk zones—Panama reporting the highest HSFO cat fines at 92 mg/kg. Biofuel quality improves on cat fines, with high-level samples down to just 2.5% in Q1 2025, reversing the sharp increase observed in 2024.

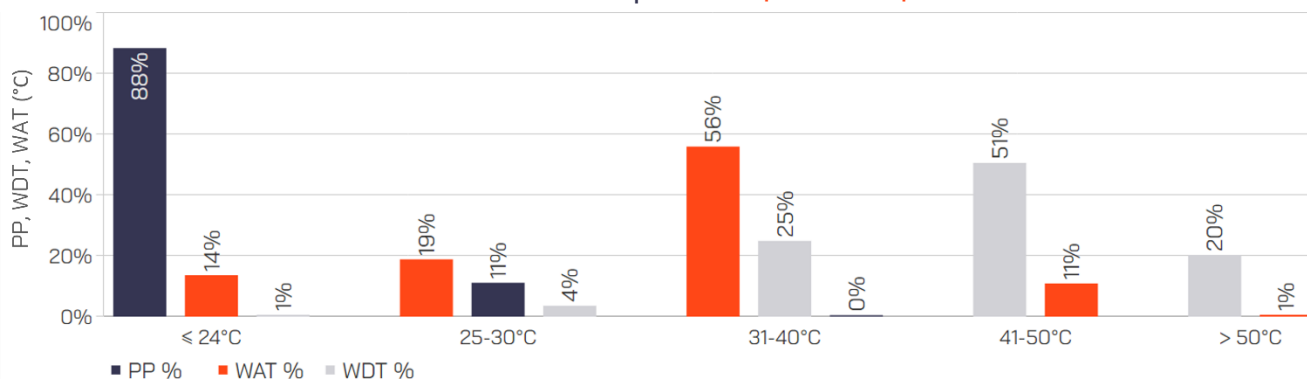
Cat Fines Compliance | VLSFO | Top 30 Ports | Q1 2025



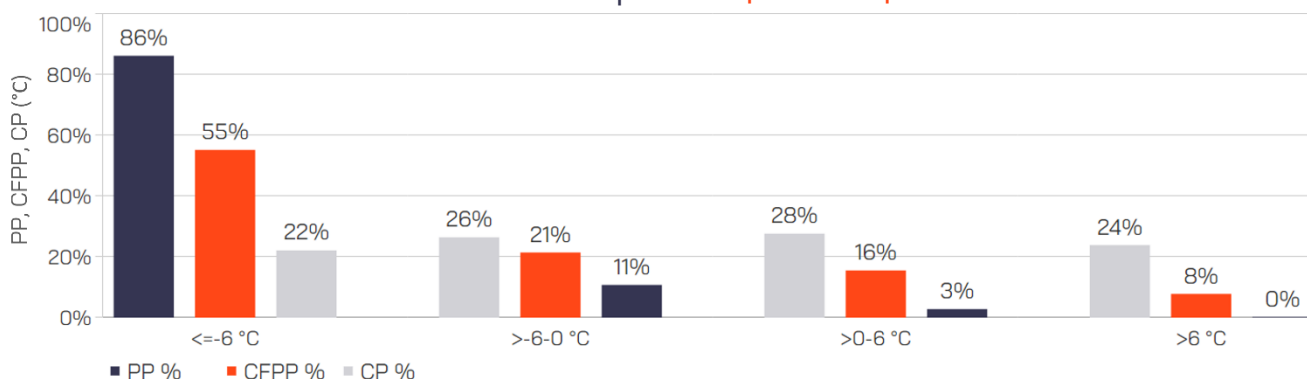
Cold-flow Properties

In Q1 2025, 1% of the tested VLSFO samples were off-spec for pour point, with non-compliance primarily observed in Singapore and New York. MGO pour-point off-specs remained steady at 4%, mainly driven by samples from Singapore and the wider Asia Pacific region.

VLSFO Cold-Flow Properties | Global | Q1 2025



MGO Cold-Flow Properties | Global | Q1 2025



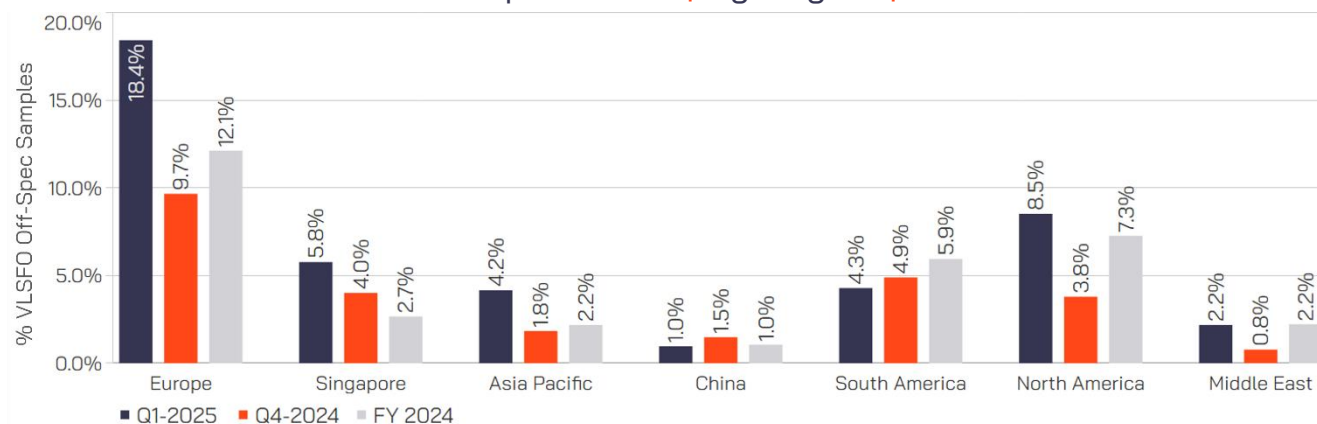
Fuel Stability

The total percentage of VLSFOs with relatively high TSP increases slightly to 4.1%. In Q1 2025 VLSFO off-spec rate due to high TSP increases slightly to 0.4% of all tested VLSFO samples. The TSP off-specs were concentrated in China and Singapore.

Off-Specs

Global VLSFO off-spec rate rises to 5.4% in Q1 2025, up from 4.4% last quarter, with sulfur, TSP, and viscosity as the main contributors. Rotterdam, Zeebrugge, and Antwerp top the global off-spec chart, each exceeding 20% VLSFO off-spec rates in Q1 2025. MGO off-specs spike in Europe and North America, driven by elevated CCI levels, while HSFO shows a sharp rise in cat fines and flash point deviations.

VLSFO Off-Spec Rates | By Region | Q1 2025



Accessing Marine Fuel Insights

As global market leader in marine fuel testing and bunker quantity surveys, VPS has tested the most marine fuel samples in the market to-date and has witnessed first-hand what new fuels have to offer, and what the expected issues and risks in managing these fuels will be. Based on this data, VPS has launched Marine Fuel Insights.

Marine Fuel Insights is a quarterly subscription-based service, where VPS' technical expertise is combined with its proprietary database of fuel oil and distillate samples, to derive special insights for its users.

Topics covered in the report include the availability of marine fuels, with an emphasis on VLSFOs, the quality of the tested fuels, potential operational issues, the performance of the fuel on a commercial level (e.g. energy content), operational level (e.g. catalytic fines, cold-flow properties), and compliance level (e.g. sulphur content).

Marine Fuel Insights is aimed at reducing the anticipated operational issues caused by the introduction of VLSFOs to the market. Users of this service should use the information to prevent vessel downtime, operational delays, maritime incidents and in general to manage their fuels appropriately post-2020.

The information contained in Marine Fuel Insights should provide bunker managers, fuel procurement officers, technical managers, fleet managers, fuel suppliers and chief engineers with the necessary information, recommendations and insights to anticipate and efficiently manage VLSFOs.

Marine Fuel Insights is released on a quarterly basis by VPS. You can request more information about how you can subscribe at [here](#).