# Methodology for China's Bonded Bunker Fuel Assessments

China's domestic output of very low sulfur fuel oil (VLSFO) has been increasing since January 2020 when the International Maritime Organisation (IMO) started implementing the new regulation of 0.5% sulfur content cap for marine fuel. And the tax refunds/exemptions for VLSFO supplied to international voyage vessels effective from February 1 also boosted the fuel production in China. That brought a lower cost of the bonded bunker fuel supplied at main Chinese ports, allowing local bonded bunker fuel suppliers to be able to better compete with the suppliers at other international ports.

JLC begins to publish IMO-compliant bonded bunker fuel assessments at China's main ports of Shanghai, Zhoushan in east Zhejiang province and Qingdao in east Shandong province from July 16, in the wake of growing domestic marine fuel output and increasing trading volumes in the bonded market. The assessments are aiming to timely, accurately reflect a change in the fuel prices, supply and demand fundamental, as well as to provide the physical prices that can be used to compare with prices for the VLSFO future contracts that were listed on Shanghai International Energy Exchange （INE）on June 22. JLC hopes that the assessments will be able to provide a transparent and continuous sign for the price move in local bonded bunker fuel market for domestic fuel producers, traders, bonded marine fuel suppliers, shipowners and participants for the VLSFO futures at INE, which will help them do better in cost control, market prediction and risk management.

JLC will strictly follow the principles in the methodology in assessing the bonded fuel prices, aiming to make reliable and veritable assessments that can objectively reflect spot bonded fuel market in China. JLC have been assessing the commodities prices with following the principles -- timely, comprehensively and accurately collecting prices and related information; processing prices with objective, scientific attitudes and professional skills; publishing assessments openly, impartially and transparently.

## Assessments types and terms

JLC assesses the bonded marine fuel prices including VLSFO prices and MGO prices --both on a delivered-on-board (DOB) basis and VLSFO values on an ex-tank basis.

Delivered-on-board (DOB) assessments are the prices of fuel delivered to a vessel, including the cost of barging the fuel to the buyer's vessel.

Ex-tank assessments are the prices of fuel delivered from storage tanks to barges, excluding the cost of barging the fuel to the buyer's vessel.

| Assessment basis | Delivery point | Grade | Size (mt) | Delivery days | Unit |
|---|---|---|---|---|---|
| **DOB** | Zhoushan | VLSFO | 800-1,500 | 4-7 | $/mt |
| | | MGO | min 50 | 4-7 | |
| | Shanghai | VLSFO | 800-1,500 | 4-7 | |
| | | MGO | min 50 | 4-7 | |
| | Qingdao | VLSFO | 800-1,500 | 4-7 | |
| | | MGO | min 50 | 4-7 | |
| **Ex-tank** | Zhoushan | VLSFO | 1,000-2,000 | 4-7 | $/mt |
| | Shanghai | VLSFO | 1,000-2,000 | 4-7 | |
| | Qingdao | VLSFO | 1,000-2,000 | 4-7 | |
| **Ex-tank** | Zhoushan | VLSFO | 1,000-2,000 | 4-7 | CNY/mt |
| | Shanghai | VLSFO | 1,000-2,000 | 4-7 | |
| | Qingdao | VLSFO | 1,000-2,000 | 4-7 | |

**Assessments principles**

JLC assesses the bonded bunker fuel prices in a range form, with assessments publishing as a low, high and average value for each grade.

The assessments prioritize prices for deals done and centralize the range for most of the traded deals if there are lots of deals done. The prices will be assessed based on offers, bids, and willingness to sell and/or buy in the market, if no transactions are reported done.

JLC assesses the DOB bonded bunker fuel prices based on the traded prices for deals with the volumes and delivery days within the ranges in the above table, with the fuel suppliers' posted prices also being considered. The done deals with different volumes and delivery days from the standards will be normalized and taken into account for the assessments.

JLC assesses the ex-tank VLSFO prices by jointly taking account of estimated netback values from the daily DOB prices and values for the term contracts traded based on a change in benchmark price for the term contracts on an ex-tank basis. This is given that there're very a few deals on an ex-tank basis traded on the market, most of which are traded by signing a term contact pricing at a discount to benchmark gasoil price.

**Specifications for JLC-assessing bonded bunker fuels**

JLC's bonded bunker fuels assessments reflect the prices/values of VLSFO and marine gasoil (MGO) with the specifications listed into the following tables.

| Main specifications for VLSFO | | |
|---|---|---|
| **Specification** | **Unit** | **Limit** |
| Kinematic viscosity at 50℃ | $mm^2/s$ | ≤380.0<br>≥100.0 |
| Density at 15℃ | $kg/m^3$ | ≤991.0<br>≥930.0 |
| Sulfur | %（m/m） | ≤0.5 |
| Flash point | ℃ | ≥60.0 |
| Carbon residue | %（m/m） | ≤18.00 |
| Pour point | ℃ | ≤30.00 |
| Water | %（v/v） | ≤0.50 |
| Ash | %（m/m） | ≤0.10 |
| Vanadium | mg/kg | ≤350 |
| Sodium | mg/kg | ≤100 |
| Aluminium plus silicon | mg/kg | ≤60 |

| Main specifications for MGO | | |
|---|---|---|
| **Specification** | **Unit** | **Limit** |
| Density at 15℃ | $kg/m^3$ | ≤890.0 |
| Sulfur | %（m/m） | ≤1.00 |
| Flash point | ℃ | ≥60.0 |
| Pour point | ℃ | ≤0 Summer）<br>≤-6（Winter） |

**Delivery location**

JLC's DOB bonded bunker fuel assessments reflect prices of VLSFO and MGO cargoes delivered to vessels at anchorages at the ports of Shanghai, Zhoushan and Qingdao, including outer anchorages nearby the ports. The outer anchorages at Zhoushan are Xiazhimen Nan, Xiazhimen Bei, Majishan, Qushan, Xiushan Dong, Tiaozhoumen outer anchorages. And the No.3 outer anchorage nearby Qingdao port also is a delivery point for the assessments.

The ex-tank VLSFO assessments reflect prices for VLSFO barging from bonded tanks at Shanghai, Zhoushan and Qingdao ports.

## Information sources for assessments

JLC assesses the marine fuel prices based on the information collected from domestic refineries, licensed bonded bunker fuel suppliers, domestic and foreign traders and other market participants.

## Payments

The payment item for the marine fuel assessments are for trade with payment within 30 days after date of delivery (DOD).

## Publication schedule

JLC publishes the daily-basis bonded bunker fuel assessments after 20:00 Beijing time, on each working day except for China and Singapore public holidays.