



**Rim Bunker Fuel Price Assessment Methodology**  
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**Price Assessment Principle**

**Rim price assessments indicate the current range in which a standard spot transaction could take place on the day of publication.**

**Rim understands values of commodities change even in the absence of deals. Rim defines prices as measures to indicate fluctuating values of commodities.**

**Rim understands values of commodities are determined by a variety of factors such as supply-demand fundamentals, production costs, conditions in other markets and players' speculation.**

**Rim understands the latest transactions, bids/offers and buying/selling interest represent current values of commodities.**

**Rim understands values of commodities are determined by competition among sellers and competition among buyers. Rim considers higher bids to be closer to the current values than lower bids. Rim considers lower offers to be the closer to current values than higher offers.**

**Rim understands prices for each transaction reported from any party are to be translated into prices based on standard terms and conditions such as cargo sizes, timing of delivery or loading, product specifications and payment terms.**

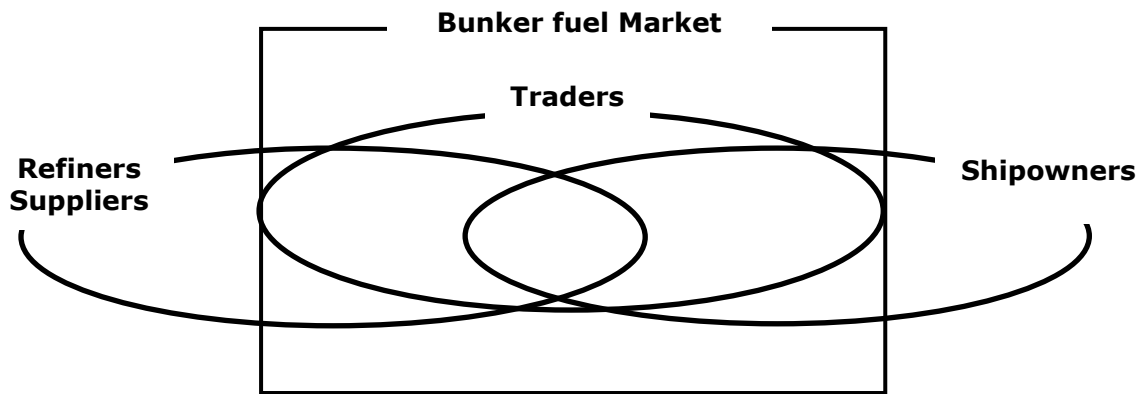
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**Bunker Fuel Price Assessments**

Rim assesses bunker fuel oil prices for lots traded on a spot basis at main ports in North America, South America, Asia, Africa/ Mideast, and Europe. All prices are assessed based on information collected in the course of market research by Rim reporters each business day. Rim also quotes posted prices for bunker fuel by dominant suppliers in certain ports.

**STRUCTURE of the BUNKER FUEL MARKET**



Rim understands that the bunker fuel oil markets are structured with three groups of business parties: Refiners/Suppliers, Traders, and Shipowners. Rim assesses bunker fuel oil prices at which a standard spot transaction could take place.

Rim defines a standard spot transaction as follows:

Case 1	A refiner or supplier sells a bunker fuel cargo to a trader who is buying on behalf of a shipowner on a spot basis.
Case 2	A refiner or supplier sells a bunker fuel oil cargo directly to a shipowner on a spot basis.
Case 3	A trader sells on behalf of a refiner or supplier to a shipowner on a spot basis.

Rim defines the three business parties as follows:

<b>Refiner/Supplier</b>	A company that produces or imports bunker fuel and sells into the bunker fuel markets.
<b>Trader</b>	A company that sells bunker fuel on behalf of a refiner/supplier and buys bunker fuel on behalf of a shipowner.
<b>Shipowner</b>	A company that buys bunker fuel for consumption by its own ships or ships it operates.

**<NORTH AMERICA>**

**Rim Assesses bunker fuel oil prices for cargoes to be traded in Vancouver BC, Seattle/Tacoma, Portland, Los Angeles, New York, Philadelphia, Norfolk, Houston, and New Orleans.**

**The delivery basis and grades for prices assessed are as follows:**

<b>Port</b>	<b>Basis</b>	<b>Grade</b>				
Vancouver BC	Ex-Wharf	180cst	280cst	380cst	MGO	LS380cst
Seattle/Tacoma	Ex-Wharf	180cst	280cst	380cst	MGO	LS380cst
Portland	Ex-Wharf	180cst	280cst	380cst	MGO	LS380cst
Los Angeles	Ex-Wharf	180cst	280cst	380cst	MGO	LS380cst
New York	Ex-Wharf	180cst	280cst	380cst	MGO	LS380cst
Philadelphia	Ex-Wharf	180cst	280cst	380cst	MGO	LS380cst
Norfolk	Ex-Wharf	180cst	280cst	380cst	MGO	LS380cst
Houston	Ex-Wharf	180cst	280cst	380cst	MGO	LS380cst
New Orleans	Ex-Wharf	180cst	280cst	380cst	MGO	LS380cst

<b>Assessment Window</b>	Rim's assessment window for North America bunker fuel oil prices closes at 12:30 Tokyo time.
<b>Price Unit</b>	All Rim North America bunker fuel oil prices are in \$/mt
<b>Time Window</b>	All Rim North America bunker fuel oil prices are for lots to be delivered to ships during the period from 3 to 7 days ahead from the publication day. *Assessment for bunker fuel oil delivery shifts to the following month during the last five days of the current month.
<b>Standard Size</b>	All Rim North America bunker high sulfur fuel oil prices are for a 200-2,000mt lots and low sulfur fuel oil for 200-1,000 lots, that Rim considers standard. Prices for smaller or larger cargoes are to be translated into estimated values that the prices could be if the cargoes were within the standard volumes.
<b>Quality Specifications</b>	All Rim North America bunker fuel oil prices are for cargoes of which quality is equivalent to the ISO standard for each grade (See "Quality Specifications" at the bottom).

**<SOUTH AMERICA>****Rim Assesses bunker fuel oil prices for cargoes to be traded in Panama.**

Port	Basis	Grade				
Panama	Ex-Wharf	180cst	280cst	380cst	MGO	LS380cst

**Rim quotes the posted prices by Petrobras for the following Brazilian ports.**

Port	Basis	Grade				
Rio De Janeiro	Delivered	180cst	280cst	380cst	MGO	LS380cst
Santos	Delivered	180cst	280cst	380cst	MGO	LS380cst

<b>Assessment Window</b>	Rim's assessment window for South America bunker fuel oil prices closes at 12:30 Tokyo time.
<b>Price Unit</b>	All Rim South America bunker fuel oil prices are in \$/mt
<b>Time Window</b>	All Rim South America bunker fuel oil prices are for lots to be delivered to ships during the period from 3 to 7 days ahead from the publication day. *Assessment for bunker fuel oil delivery shifts to the following month during the last five days of the current month.
<b>Standard Size</b>	All Rim South America bunker fuel oil prices are for a 200-2,000mt lots and low sulfur fuel oil for 200-1,000mt, that Rim considers standard. Prices for smaller or larger cargoes are to be translated into estimated values that the prices could be if the cargoes were within the standard volumes.
<b>Quality Specifications</b>	All Rim South America bunker fuel prices are for cargoes of which quality is equivalent to the ISO standard for each grade (See "Quality Specifications" at the bottom).

**<ASIA>**

**Rim Assesses bunker fuel oil prices for cargoes to be traded in Japan, South Korea, Hong Kong, Singapore, Thailand, China and Sri Lanka.**

<b>Port</b>	<b>Basis</b>	<b>Grade</b>				
Japan, Tokyo Bay	Delivered	180cst	280cst	380cst	MDO	--
Japan, West Japan	Delivered	180cst	280cst	380cst	MDO	--
Japan, Ise Bay	Delivered	180cst	280cst	380cst	MDO	--
South Korea (Southern ports)	Delivered	180cst	280cst	380cst	MGO	LS380cst
Hong Kong	Delivered	180cst	280cst	380cst	MGO	--
Singapore	Delivered	180cst	280cst	380cst	MGO	LS380cst
Thailand	Delivered	180cst	280cst	380cst	MGO	--
China, Dalian	Delivered	180cst	--	--	MGO	--
China, Shanghai	Delivered	180cst	--	380cst	MGO	--
China, Qingdao	Delivered	180cst	--	380cst	MGO	--
Sri Lanka, Colombo	Delivered	180cst	--	--	MGO	--

**Rim quotes posted prices of CPC in Taiwan**

<b>Port</b>	<b>Supplier</b>	<b>Basis</b>	<b>Grade</b>			
Taiwan (Kaohsiung)	CPC Corp, Taiwan	Delivered	180cst	--	380cst	MGO

<b>Assessment Window</b>	Rim's assessment window for Asia bunker fuel oil prices closes at 18:30 hours Tokyo time the day before the report is published.
<b>Price Unit</b>	All Rim Asia bunker fuel oil prices are in \$/mt
<b>Time Window</b>	All Rim Asia bunker fuel oil prices are for lots to be delivered to ships during the period from 3 to 7 days ahead from the day the report is published. *Singapore bunker fuel oil prices are for lots to be delivered to ships during the period from 3 to 10 days ahead. *Assessment for bunker fuel oil delivery shifts to the following month during the last five days of the current month.
<b>Standard Size</b>	All Rim Asia bunker fuel oil prices are for volumes in the range of 300-2,000mt and low sulfur fuel oil for 200-1,000mt lots, that Rim considers standard. Prices for smaller or larger cargoes are to be translated into estimated values that the prices could be if the cargoes were within the standard volumes.
<b>Quality Specifications</b>	All Rim Asia bunker fuel prices are for cargoes of which quality is equivalent to the ISO standard for each grade (See "Quality Specifications" at the bottom).





**<AFRICA/MIDEAST>**

**Rim Assesses bunker fuel oil prices for cargoes to be traded in Suez, Kuwait, Fujairah, Dammam/Ras Tanura and Jeddah/Yanbu.**

**The delivery basis and grades for prices assessed are as follows:**

<b>Port</b>	<b>Basis</b>	<b>Grade</b>			
Suez	Delivered	180cst	--	380cst	MGO
Kuwait	Delivered	180cst	--	380cst	MGO
Fujairah	Delivered	180cst	--	380cst	MGO

<b>Assessment Window</b>	Rim's assessment window for Africa/Mideast bunker fuel oil prices closes at 12:30 Tokyo time.
<b>Price Unit</b>	All Rim Africa/Mideast bunker fuel oil prices are in \$/mt
<b>Time Window</b>	All Rim Africa/Mideast bunker fuel oil prices are for lots to be delivered to ships during the period from 3 to 10 days ahead from the publication day. *Assessment for bunker fuel oil delivery shifts to the following month during the last five days of the current month.
<b>Standard Size</b>	All Rim Africa/Mideast bunker fuel oil prices are for a 500-2,000mt portion, lots that Rim considers standard. Prices for smaller or larger cargoes are to be translated into estimated values that the prices could be if the cargoes were within the standard volumes.
<b>Quality Specifications</b>	All Rim Africa/Mideast bunker fuel prices are for cargoes of which quality is equivalent to the ISO standard for each grade (See "Quality Specifications" at the bottom).

**Rim quotes posted prices of Saudi Aramco for the ports below**

<b>Port</b>	<b>Basis</b>	<b>Grade</b>			
Dammam/ Ras Tanura	Delivered	180cst	--	--	<b>MGO</b>
Jeddah/Yanbu	Delivered	180cst	--	--	<b>MGO</b>

**<EUROPE>**

**Rim Assesses bunker fuel oil prices for cargoes to be traded in Rotterdam, Antwerp, and Hamburg.**

**The delivery basis and grades for prices assessed are as follows:**

<b>Port</b>	<b>Basis</b>	<b>Grade</b>				
Rotterdam	Delivered	180cst	280cst	380cst	MGO	LS380cst
Antwerp	Delivered	180cst	280cst	380cst	MGO	LS380cst
Hamburg	Delivered	180cst	280cst	380cst	MGO	LS380cst

<b>Assessment Window</b>	Rim's assessment window for the Europe bunker fuel oil prices closes at 12:30 Tokyo time.
<b>Price Unit</b>	All Rim Europe bunker fuel oil prices are in \$/mt
<b>Time Window</b>	All Rim Europe bunker fuel oil prices are for lots to be delivered to ships during the period from 3 to 10 days ahead from the publication day. *Assessment for bunker fuel oil delivery shifts to the following month during the last five days of the current month.
<b>Standard Size</b>	All Rim Europe bunker fuel oil prices are for a 200-2,000mt portion, lots that Rim considers standard. Prices for smaller or larger cargoes are to be translated into estimated values that the prices could be if the cargoes were within the standard volumes.
<b>Quality Specifications</b>	All Rim Europe bunker fuel prices are for cargoes of which quality is equivalent to the ISO standard for each grade (See "Quality Specifications" at the bottom).

**[QUALITY SPECIFICATIONS]**

All bunker fuel prices in Rim Bunker Reports are for cargoes of which quality is equivalent to the following ISO standard.

**380cst : RMG380**

<b>Density at 15 degree Celsius</b>	Maximum 991.0kg/m <sup>2</sup>
<b>Kinematic Viscosity</b>	Maximum 380
<b>Flash Point</b>	Minimum 60 degree Celsius
<b>Upper Pour Point</b>	Maximum 30 to the twenty first power degree Celsius
<b>Carbon Residue Content</b>	Maximum 18%
<b>Ash Content</b>	Maximum 0.15%
<b>Water Content</b>	Maximum 0.5%
<b>Sulfur Content</b>	Maximum 3.5%
<b>Vanadium Content</b>	Maximum 300mg/kg
<b>Aluminum plus Silicon Content</b>	Maximum 80mg/kg
<b>Total Sediment Content</b>	Maximum 0.1%

**180cst : RME180**

<b>Density at 15 degree Celsius</b>	Maximum 991.0kg/m <sup>2</sup>
<b>Kinematic Viscosity</b>	Maximum 180
<b>Flash Point</b>	Minimum 60 degree Celsius
<b>Upper Pour Point</b>	Maximum 30 to the twenty first power degree Celsius
<b>Carbon Residue Content</b>	Maximum 15%
<b>Ash Content</b>	Maximum 0.10%
<b>Water Content</b>	Maximum 0.5%
<b>Sulfur Content</b>	Maximum 3.5%
<b>Vanadium Content</b>	Maximum 200mg/kg
<b>Aluminum plus Silicon Content</b>	Maximum 80mg/kg
<b>Total Sediment Content</b>	Maximum 0.1%

**280cst Quality in between 180cst and 380cst.****LS 380cst**

<b>Density at 15 degree Celsius</b>	Maximum 991.0kg/m <sup>2</sup>
<b>Kinematic Viscosity</b>	Maximum 380
<b>Flash Point</b>	Minimum 60 degree Celsius
<b>Upper Pour Point</b>	Maximum 30 to the twenty first power degree Celsius
<b>Carbon Residue Content</b>	Maximum 18%
<b>Ash Content</b>	Maximum 0.15%
<b>Water Content</b>	Maximum 0.5%
<b>Sulfur Content</b>	Maximum 1.0%
<b>Vanadium Content</b>	Maximum 300mg/kg
<b>Aluminum plus Silicon Content</b>	Maximum 80mg/kg
<b>Total Sediment Content</b>	Maximum 0.1%

**MDO: ISO specification**

<b>Kinematic Viscosity at 100 degree Celsius</b>	Maximum 10.0mm <sup>2</sup> /s
<b>Flash Point</b>	Minimum 60 degree Celsius
<b>Upper Pour Point</b>	Maximum 24 to the thirty first power degree Celsius
<b>Carbon Residue Content</b>	Maximum 10%
<b>Ash Content</b>	Maximum 0.01%
<b>Water Content</b>	Maximum 0.3%
<b>Sulfur Content</b>	Maximum 2.0%

**MGO: ISO specification**

<b>Kinematic Viscosity at 100 degree Celsius</b>	Maximum 10.0mm <sup>2</sup> /s
<b>Flash Point</b>	Minimum 60 degree Celsius
<b>Upper Pour Point</b>	For the Winter spec, Maximum 0 degree Celsius For the Summer spec, Maximum 6 to the thirty first power degree Celsius
<b>Carbon Residue Content</b>	Maximum 10%
<b>Ash Content</b>	Maximum 0.01%
<b>Water Content</b>	Maximum 0.3%
<b>Sulfur Content</b>	Maximum 1.5%