



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.

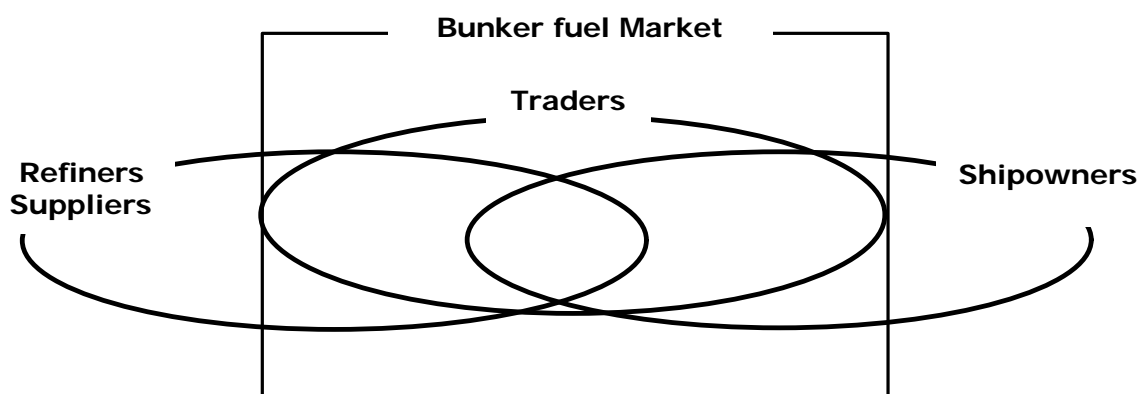
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Bunker Fuel Price Assessments

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:

Refiner/Supplier	A company that produces or imports bunker fuel and sells into the bunker fuel markets.
Trader	A company that sells bunker fuel on behalf of a refiner/supplier and buys bunker fuel on behalf of a shipowner.
Shipowner	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:

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

Assessment Window	RIM's assessment window for North America bunker fuel oil prices closes at 1:00 PM Tokyo time.
Price Unit	All RIM North America bunker fuel oil prices are in \$/mt
Time Window	All RIM North America bunker fuel oil prices are for lots to be delivered to ships during the period from 5 to 10 days ahead from the publication day.
Standard Size	All RIM North America 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.
Quality Specifications	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	MDO

RIM quotes the posted prices by PetroBras for the following Brazilian ports.

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

Assessment Window	RIM's assessment window for South America bunker fuel oil prices closes at 1:00 PM Tokyo time.
Price Unit	All RIM South America bunker fuel oil prices are in \$/mt
Time Window	All RIM South America bunker fuel oil prices are for lots to be delivered to ships during the period from 5 to 10 days ahead from the publication day.
Standard Size	All RIM South America 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.
Quality Specifications	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 and Thailand.

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

Port	Basis	Grade			
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	Delivered	180cst	280cst	380cst	MDO
Hong Kong	Delivered	180cst	280cst	380cst	MDO
Singapore	Delivered	180cst	280cst	380cst	MDO
Thailand	Delivered	180cst	280cst	380cst	MDO

RIM quotes the agreed prices between Nippon Oil Corp and NYK Line as a reference. The agreed prices are retroactive prices on a delivered basis.

RIM quotes posted prices of dominant suppliers in Taiwan, China, Sri Lanka.

Port	Supplier	Basis	Grade			
Taiwan	Chinese Petroleum Corp	Delivered	180cst	--	380cst	MDO
China, Dalian	China Marine Bunker Supply Co	Ex-Wharf	180cst	--	--	LDO
China, Shanghai	China Marine Bunker Supply Co	Ex-Wharf	180cst	--	380cst	LDO
China, Qingdao	China Marine Bunker Supply Co	Ex-Wharf	180cst	--	380cst	LDO
Sri Lanka, Colombo	Ceylon Petroleum Corp	Ex-Wharf	180cst	--	--	MDO

Assessment Window	RIM's assessment window for Asia bunker fuel oil prices closes at 1:00 PM Tokyo time.
Price Unit	All RIM Asia bunker fuel oil prices are in \$/mt
Time Window	All RIM Asia bunker fuel oil prices are for lots to be delivered to ships during the period from 5 to 10 days ahead from the publication day.
Standard Size	All RIM Asia 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.
Quality Specifications	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, Dammam/Ras Tanura, Jeddah/Yanbu, Kuwait, and AG/Offshore.

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

Port	Basis	Grade			
Suez	Delivered	180cst	--	380cst	MGO
Dammam/ Ras Tanura	Delivered	180cst	--	--	MGO
Jeddah/Yanbu	Delivered	180cst	--	--	MGO
Kuwait	Delivered	180cst	--	380cst	MGO
AG/Offshore	Delivered	180cst	--	380cst	MDO

Assessment Window	RIM's assessment window for Africa/Mideast bunker fuel oil prices closes at 1:00 PM Tokyo time.
Price Unit	All RIM Africa/Mideast bunker fuel oil prices are in \$/mt
Time Window	All RIM Africa/Mideast bunker fuel oil prices are for lots to be delivered to ships during the period from 5 to 10 days ahead from the publication day.
Standard Size	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.
Quality Specifications	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).

<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:

Port	Basis	Grade			
Rotterdam	Delivered	180cst	280cst	380cst	MDO
Antwerp	Delivered	180cst	280cst	380cst	MDO
Hamburg	Delivered	180cst	280cst	380cst	MDO

Assessment Window	RIM's assessment window for the Europe bunker fuel oil prices closes at 1:00 PM Tokyo time.
Price Unit	All RIM Europe bunker fuel oil prices are in \$/mt
Time Window	All RIM Europe bunker fuel oil prices are for lots to be delivered to ships during the period from 5 to 10 days ahead from the publication day.
Standard Size	All RIM Europe 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.
Quality Specifications	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 : Category ISOF-RMG 35

Density at 15 degree Celsius	Maximum 991.0kg/m ²
Kinematic Viscosity at 100 degree Celsius	Maximum 35.0mm ² /s
Flash Point	Minimum 60 degree Celsius
Upper Pour Point	Maximum 30 to the twenty first power degree Celsius
Carbon Residue Content	Maximum 18%
Ash Content	Maximum 0.15%
Water Content	Maximum 1.0%
Sulfur Content	Maximum 5.0%
Vanadium Content	Maximum 300mg/kg
Aluminum plus Silicon Content	Maximum 80mg/kg
Total Sediment Content	Maximum 0.1%

180cst : Category ISOF-RMG 25

Density at 15 degree Celsius	Maximum 991.0kg/m ²
Kinematic Viscosity at 100 degree Celsius	Maximum 25.0mm ² /s
Flash Point	Minimum 60 degree Celsius
Upper Pour Point	Maximum 30 to the twenty first power degree Celsius
Carbon Residue Content	Maximum 15%
Ash Content	Maximum 0.10%
Water Content	Maximum 1.0%
Sulfur Content	Maximum 5.0%
Vanadium Content	Maximum 200mg/kg
Aluminum plus Silicon Content	Maximum 80mg/kg
Total Sediment Content	Maximum 0.1%

280cst Quality in between 180cst and 380cst.

MDO: Category ISOF-RMB 10, and/or ISOF-DMB

Density at 15 degree Celsius	Maximum 981.0kg/m ²
Kinematic Viscosity at 100 degree Celsius	Maximum 10.0mm ² /s
Flash Point	Minimum 60 degree Celsius
Upper Pour Point	Maximum 24 to the thirty first power degree Celsius
Carbon Residue Content	Maximum 10%
Ash Content	Maximum 0.10%
Water Content	Maximum 0.5%
Sulfur Content	Maximum 3.5%
Vanadium Content	Maximum 150mg/kg
Aluminum plus Silicon Content	Maximum 80mg/kg
Total Sediment Content	Maximum 0.1%

MGO: Category ISOF-RMA 10, and/or ISOF-DMA

Density at 15 degree Celsius	Maximum 975.0kg/m ²
Kinematic Viscosity at 100 degree Celsius	Maximum 10.0mm ² /s
Flash Point	Minimum 60 degree Celsius
Upper Pour Point	For the Winter spec, Maximum 0 degree Celsius For the Summer spec, Maximum 6 to the thirty first power degree Celsius
Carbon Residue Content	Maximum 10%
Ash Content	Maximum 0.10%
Water Content	Maximum 0.5%
Sulfur Content	Maximum 3.5%
Vanadium Content	Maximum 150mg/kg
Aluminum plus Silicon Content	Maximum 80mg/kg
Total Sediment Content	Maximum 0.1%