



Products Methodology

September 2013



Gasoline

Gasolines are a blend of light hydrocarbons for use as a motor fuel. Quality specifications vary between regions due to climate and environmental requirements, together with seasonal quality variations.

Naphtha

Naphtha is a blend of light hydrocarbons used as a feedstock for either gasoline blending or for further processing into petrochemical derivatives.

Jet Kerosene

Jet Kerosene is a middle distillate fuel generally produced to exacting specifications for use as the civil aviation fuel. In some regions a lower quality specification kerosene or a dual-purpose grade is produced and used as a domestic heating fuel, especially in Asia and notably in Japan and Korea. The product covered by ICIS pricing is the high quality civil aviation jet fuel grade.

Diesel/Gasoil

Diesel, Gasoil and Heating oil are middle distillate fuels used either as an automotive fuel (diesel), as a fuel for plant and machinery, or as a domestic/light industrial heating fuel. In some regions the material is produced as a dual-purpose fuel. Diesel fuel has additional quality specifications to ensure efficient combustion and environmental standards for automotive use. Both diesel and gasoil fuel qualities vary between regions depending upon climatic conditions and seasons.

Fuel Oils

Residual fuels represent the heavy yields from the refining processes. Straight-run fuel oils are produced solely from atmospheric distillation and are generally used as an intermediate feedstock for further processing within the refining system to increase the yields of lighter products. Cracked fuel oils are used as fuel for power generation, marine bunkers and large industrial heating plants. These fuel oils are generally categorised between high and low-sulphur grades, with the latter containing less than 1% sulphur.

ICIS pricing quotes Products in **Europe, Asia-Pacific** and the **USA**

Frequency:

Published daily covering the physical, forward and futures markets for the main grades of refined products.

Daily Spot Price Assessments (EUROPE/ASIA)

PREMIUM UNLEADED GASOLINE

- FOB BARGES ARA (USD/MT & conversion to USD/GAL)
- CIF CARGOES NWE (USD/MT & conversion to USD/GAL)
- FOB CARGOES NWE (USD/MT & conversion to USD/GAL)

UNLEADED REGULAR GASOLINE

- CIF CARGOES NWE (USD/MT)

EUROBOB GASOLINE

- FOB BARGES ARA (USD/MT)

NAPHTHA Open Spec Physical

- CIF CARGOES NWE (USD/MT)
- FOB BARGES ARA (USD/MT)
- CARGOES FOB MED (USD/MT)
- FOB SINGAPORE (USD/MT)

JAPAN Open Spec

- C+F JAPAN 1H (USD/MT)
- 2H (USD/MT)
- SWAPS CLOSE (USD/MT)

JET KEROSENE

- CIF CARGOES NWE (USD/MT)
- FOB BARGES ARA (USD/MT)
- FOB CARGOES MED (USD/MT & conversion to USD/GAL)
- FOB SINGAPORE (USD/BBL & conversion to USD/GAL)
- CFR JAPAN (USD/BBL & conversion to USD/GAL)

GAS OIL

- EU CIF CARGOES NWE (USD/MT)
- EU FOB BARGES ARA USD/MT)

MED GAS OIL

- CIF CARGOES (USD/MT)

PREMIA: LOW SULPHUR DIESEL

- CIF CARGOES NWE (USD/MT & conversion to USD/BBL)

FUEL OIL 1.0%

- CIF CARGOES NWE (USD/MT)
- FOB BARGES ARA (USD/MT)

FUEL OIL 3.5%

- CIF CARGOES NWE (USD/MT)
- FOB CARGOES NWE (USD/MT)
- FOB BARGES ARA (USD/MT)

LS STRAIGHT RUN PREMIUM TO ICE BRENT

- FOB CARGOES NWE (USD/BBL)

Daily Spot Price Assessments (USA)

GASOLINE PREMIUM UNLEADED

- FOB NYH (US CTS/GAL & conversion to USD/MT)
- US GULF (US CTS/GAL & conversion to USD/MT)

GASOLINE REGULAR UNLEADED

- FOB NYH (US CTS/GAL & conversion to USD/MT)
- US GULF (US CTS/GAL & conversion to USD/MT)
- FOB CHICAGO (US CTS/GAL & conversion to USD/MT)
- FOB GROUP 3 (US CTS/GAL & conversion to USD/MT)

RBOB

- FOB NYH (US CTS/GAL & conversion to USD/MT)
- US GULF (US CTS/GAL & conversion to USD/MT)

CBOB

- FOB NYH (US CTS/GAL & conversion to USD/MT)
- US GULF (US CTS/GAL & conversion to USD/MT)
- FOB CHICAGO (US CTS/GAL & conversion to USD/MT)

REFORMING NAPHTHA

- FOB BARGES (US CTS/GAL & conversion to USD/MT)

JET KEROSENE

- FOB NYH (US CTS/GAL & conversion to USD/MT)
- US GULF (US CTS/GAL & conversion to USD/MT)

ULTRA-LOW SULPHUR DIESEL

- FOB NYH (US CTS/GAL & conversion to USD/MT)
- US GULF (US CTS/GAL & conversion to USD/MT)

NO 2 HEATING OIL

- FOB NYH (US CTS/GAL & conversion to USD/MT)
- US GULF (US CTS/GAL & conversion to USD/MT)

RESIDUAL FUEL NO 6

- NO. 6 1.0% (USD/BBL & conversion to USD/MT)
- NO. 6 3.0% (USD/BBL & conversion to USD/MT)

Assessment Window:

Price assessments are based on information supplied by market participants throughout the day up to the normal close of business in each region. In Europe, this is 17:00.

Specifications:

ASIA

The Naphtha assessments are based on an open-specification petrochemical grade with a 65 pct minimum paraffins content that is generally intended for olefins cracking plants.

Jet Kerosene assessments are based on the standard commercial aviation quality as defined by the UK Ministry of Defence in DEFSTAN 91/91 latest issue (previously DERD 2494) or ASTM D1655. The product would have a typical density of 0.800 at 15 deg C and a freeze point of -47 deg C maximum.

EUROPE

Gasoline qualities are based on the European Union Directive EN 228. Premium Unleaded grade represents 95 RON/85 MON material with a density of 0.755 at 15 deg C.

Cargo assessments are based on product with a sulphur content of 50 ppm maximum, while Barge assessments represent 10 ppm maximum sulphur content. Regular Unleaded cargo assessments are based on typical qualities of 91 RON/82.5 MON, a density of 0.745 at 15 deg C and a 50 ppm maximum sulphur content.

Naphtha assessments are based on open-specification petrochemical grade with 65 pct minimum paraffins content and a typical density of 0.690 to 0.730 at 15 deg C.

Jet Kerosene quality is based on the standard commercial aviation quality as defined by the UK Ministry of Defence in DEFSTAN 91/91 latest issue (previously DERD 2494). The product would have a typical density of 0.800 at 15 deg. C. and a freeze point of -47 deg. C maximum.

EU Gasoil Cargo assessments are based on qualities meeting the French Fuel Oil Domestique (FOD) and German Deutsche Industrie Norm (DIN) heating oil grades with a typical density of 0.845 at 15 deg C and a sulphur content of 0.20 pct maximum. For Barges the assessment is based on German DIN quality as above and in line with the IPE Gasoil Futures Contract. Cold properties vary seasonally.

The Low-sulphur Diesel Premium covers material meeting the EU Directive EN 590 with a sulphur content of 50 ppm maximum.

Low-sulphur Fuel Oil (1% sulphur maximum) assessments are based on cracked material with a typical viscosity of 380 cst at 50 deg C and a density of 0.965 to 0.990 at 15 deg C.

High-sulphur Fuel Oil (3.5% sulphur maximum) assessments are based on cracked material with a typical viscosity of 380-420 cst at 50 deg C and a density of 0.991 to 0.998 at 15 deg C.

The Low Sulphur (LS) Straight Run assessment represents premiums or discounts to ICE Brent crude oil futures. The range is based upon straight run fuel oil with a sulphur content of 0.5-0.7%.

The products assessed are normal US domestic qualities traded in New York Harbour and on the US Gulf Coast. For Gasolines and Distillates the products reflect fungible qualities meeting the appropriate Colonial Pipeline Company specifications for the respective grades, with the usual seasonal variations.

Gasolines

Regular Unleaded grade for Colonial Pipeline Company is based on 87 octane R+M/2, with an API gravity of 62 for the US GULF and the NEW YORK HARBOR.

For regular unleaded grade in Chicago, the products reflect fungible qualities meeting the appropriate Explorer Pipeline specifications.

For regular unleaded grade in GROUP 3, the products reflect fungible qualities meeting the appropriate Magellan Pipeline specifications.

Premium Unleaded grade for the US GULF and NEW YORK HARBOR the Colonial Pipeline Company is based on 93 octane R+M/2, a density of 0.745 at 15 deg C and a 50 ppm maximum sulphur content.

Reformulated Blendstock for Oxygenate Blending (RBOB) for the Colonial Pipeline Company is based on 83.7 octane R+M/2 before blending.

For Conventional Blendstock for Oxygenated Blending (CBOB) on the US Gulf transported by the Colonial Pipeline, octane of min 82 (R+M)/2 before blending with 10% denatured ethanol, Sulfur of max 80ppm.

For Conventional Blendstock for Oxygenated Blending (CBOB) in the New York Harbor market, the product reflects fungible qualities meeting the appropriate Buckeye Pipeline specifications.

For conventional blendstock for oxygenated blending (CBOB) in Chicago, the products reflect fungible qualities meeting the appropriate Explorer Pipeline specifications.

The Reforming Naphtha assessment reflects a typical naphtha quality for use in reforming into gasoline with a 40 pct N+A content and a gravity of 56-60 API>

The Jet Kerosene quality is based fungible product meeting the Colonial Pipeline Company specification for 54 grade.

Ultra-Low Sulphur Diesel quality is based fungible product meeting the Colonial Pipeline Company specification for 62 grade meeting 0.20% maximum sulphur sulphur and minimum gravity of 30 API.

No 2 Heating Oil quality is based fungible product meeting the Colonial Pipeline Company specification for 86 grade meeting 40 minimum cetane, 200 ppm maximum sulphur and a typical gravity of 30-34 API.

The Residual Fuel No 6 assessment for low-sulphur grades reflect 1.0 pct sulphur maximum with a typical gravity of 8 API and a viscosity of 225 ssf, while high-sulphur grades reflect 3.0 pct sulphur maximum with a typical gravity of 10.5 API and a viscosity of 150-250 ssf.

Timing:

In Asia, the Naphtha and Jet Kerosene Cargo assessments delivered Japan are based on a delivery window of 4-6 weeks forward from the publication date. Jet Kerosene Cargoes FOB Singapore reflect a forward delivery window of 15-30 days.

In Europe the forward delivery window for Cargoes is 5-15 days from the publication date, while on Barges FOB ARA a forward delivery window of 2-12 days is used.

Gasolines – In the US, Barges FOB New York Harbour are assessed using a forward delivery window of 2-12 days. The Gasoline assessments in the US Gulf relate to products moving into the Colonial Pipeline system, which normally operates on 10 cycles per month, and reflect the relevant forward cycle trading at the time of publication, typically 2-12 days. In Group 3 on the Magellan pipeline, gasoline is assessed using a forward delivery window of 2-12 days.

For the Chicago FOB market on the Explorer pipeline, the pipeline operates on three running cycles with the most recent cycle used for assessments. In Europe, delivery is usually 15 days forward for barges.

Cargo Sizes: In Asia the FOB Singapore and CFR Japan assessments for Naphtha and Jet Kerosene are based on minimum cargo sizes of 12,500 tonnes or 100,000 bbls and up to a maximum of 250,000 bbls.

In Europe, Barges FOB ARA are typically traded in parcels of 1,000-5,000 tonnes. For Cargoes in NW Europe shipments in the range 10,000-30,000 tonnes are considered in the assessments, while for cargoes in the Mediterranean the typical cargo size is 20,000-30,000 tonnes. Naphtha cargoes in NW Europe generally reflect the 10,000-15,000 tonnes open-specification trade.

In the US, a minimum parcel size of 10,000 bbls is considered for the Barges FOB New York Harbour assessments and for pipeline deliveries a minimum parcel size of 25,000 bbls is used. For Residual Fuel Oil in the US Gulf Coast market a minimum parcel size of 40,000 bbls is considered.

Assessment Basis:

Asian spot naphtha prices are strongly correlated to crude oil prices, the supply/demand balance is reflected in the premium/discount over the CFR Japan quote. There are two types of prices — CFR Japan price and FOB Singapore, which reflect the price for that trading day for open-specification grades. Daily Asian prices are also reflected by CFR Japan and FOB Singapore quotes, dominated by Japanese spot prices, which are quoted in two-week blocks. ICIS pricing publishes quotes six weeks in advance of the current reporting dates. For example, if the publishing date is 16 January, quotes would be for the second-half March and first-half April. The FOB Singapore prices are generally CFR Japan minus freight differential. The benchmark normally used is freight rates for medium-range vessels between Singapore and Chiba, Japan. In the event of a public holiday in Singapore when Asian Naphtha and Jet Kerosene markets are closed, prices are assessed unchanged from the previous trading day and are notional.

In Europe the price assessments are based on actual recorded trades or, if there are no trades, bid/offer levels throughout the European day up to and including the afternoon trading window. Some assessments are the product of calculation alone, for example in markets where insufficient market activity takes place to permit price assessment, or where a market habitually itself sets prices according to a formula.

Assessments for naphtha FOB barges ARA, FOB cargoes Med and CIF cargoes Med are calculated as a differential to the CIF cargoes NWE assessment.

Assessments for Premium gasoline CIF Cargoes NWE, FOB cargoes NWE and Unleaded Regular CIF cargoes NWE are calculated as a differential to the Premium Gasoline FOB barges ARA assessment.

Fuel oil assessments for CIF cargoes NWE and FOB cargoes NWE are calculated as a differential to the FOB Barges ARA range.

The Jet Kerosene Cargoes FOB MED assessment is calculated as a netback of the Cargoes CIF NWE price using spot freight rates sourced from shipbrokers for a clean modern 30,000 tonnes cargo basis Augusta to Rotterdam.

For Jet Kerosene, Gasoil and Low Sulphur Diesel the price assessments in NWE (Cargoes CIF NWE and Barges FOB ARA) are based on the premiums or discounts traded, bid for or offered throughout the day, and added to or deducted from the settlement price for the appropriate month of ICE (Intercontinental Exchange) Gasoil Futures Contract.

If there is a paucity of market activity, or if insufficient information is obtained to assess premiums/discounts, they will be left unchanged. Jet kerosene and gasoil prices will be driven by the ICE gasoil settlement alone.

For Low Sulphur Straight Run, premiums or discounts are quoted against ICE Brent crude oil futures.

If there is a lack of market activity, or if insufficient information is obtained to assess premiums / discounts, they will be left unchanged.

In the US, the price assessments are derived from actual trades reported, bid/offer levels and differentials to the NYMEX futures contracts. For Gasolines the prices are linked to the settlement prices for the relevant month of the NYMEX Unleaded Gasoline Futures Contract. Jet Kerosene, Ultra low-sulphur Diesel and Heating Oil are linked to the settlement prices for the relevant month of the NYMEX Heating Oil Futures Contract.

Residual Fuel price assessments are derived from actual trades reported, bid/offer levels discussed and reported during the trading day.

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