



Feedstocks Methodology

January 2013



Crude

The Crude Overview gives a summary of the daily price movements of the benchmark WTI (West Texas Intermediate) and Brent futures contracts on the NYMEX and ICE exchanges, detailing any significant factors affecting the markets.

Naphtha

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

Ethane

Mount Belvieu TET (LDH) purity ethane (C₂) is a byproduct of petroleum refining and found in natural gasoline. Its chief use is as petrochemical feedstock for ethylene production. The product is priced out of Mount Belvieu's natural gas liquids facility in Texas.

Reformate

The product of the catalytic reforming process and used for motor or aviation gasoline blending, reformate has a typical Research Octane Number (RON) of 95 and a Motor Octane Number (MON) of 85. The typical boiling point is 383 degrees F (195 degrees C) for the summer grade product and 365 degrees F (185 degrees C) for winter grade product. The Reid Vapour Pressure for summer grade is typically 9.5 psi and 13.5 psi for winter grade.

LPG (Liquefied Petroleum Gas)

LPG is the generic name for commercial propane and commercial butane. These are hydrocarbon products produced by the oil and gas industries. Commercial Propane predominantly consists of hydrocarbons containing three carbon atoms, mainly propane (C₃H₈). Commercial Butane predominantly consists of hydrocarbons containing four carbon atoms, mainly n- and iso - butanes (C₄H₁₀). They have the special property of becoming liquid at atmospheric temperature if moderately compressed and reverting to gases when the pressure is sufficiently reduced. Advantage is taken of this property to transport and store these products in the liquid state, in which they are roughly 250 times as dense as they are when gases.

VGO (Vacuum Gasoil)

This product is utilized as a feedstock for fluid catalytic conversion units (FCC) which break down the large, complex hydrocarbon molecules into smaller more useful ones, such as high octane gasoline base stock or base oils.

Gasoil/Heating oil

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. Generally categorised between high and low-sulphur grades, with the latter containing less than 1.0 % sulphur by weight.

ICIS pricing quotes feedstocks in **Europe** and the **USA**

Frequency:

Published weekly on Fridays covering the physical, forward and futures markets.

Weekly Price Assessments (EUROPE/US GULF)

CRUDE

GENERAL

- DTD BFO (Brent/Forties/Oseberg – The North Sea marker grade): (USD/BBL)
- BFO forwards contract, front trading month: (USD/BBL)
- WTI (West Texas Intermediate – The US marker grade) forwards contract, front trading month: (USD/BBL)
- URALS (Russian Sour crude - delivered NWE) load month (USD/BBL)

FUTURES DAILY SETTLEMENTS

- ICE Gasoil: Monday, Tuesday, Wednesday, Thursday, Friday
- NYMEX Heating oil: Monday, Tuesday, Wednesday, Thursday, Friday
- NYMEX Gasoline: Monday, Tuesday, Wednesday, Thursday, Friday

NAPHTHA

- CIF CARGOES NWE (USD/MT)
- FOB BARGES ARA (USD/MT)
- CIF CARGOES MED (USD/MT)
- DEL USG (min 40 N+A) (CTS/GAL)
- DEL USG (Paraffinic) (USD/MT)

Ethane

- FOB MT. BELVIEU (CTS/GAL)

REFORMATE

- FOB BARGES ARA (USD/MT)

LPG

PROPANE

- FOB NORTH SEA CONTRACT month (USD/MT)
- FOB SEAGOING (USD/MT)
- FOB BARGE ARA (USD/MT)
- CIF NWE: 1-3000 mt (USD/MT)
- CIF NWE: 3000 mt+ (USD/MT)
- CIF S.FRANCE: 1-300 mt (USD/MT)
- CIF S.FRANCE: 3000 mt+ (USD/MT)
- EX-REF/STORAGE (FOB MED) (USD/MT)
- FOB RAS TANURA ARAMCO month (USD/MT)
- FOB BETHOUIA SONATRACH month (USD/MT)
- IN STORE MT. BELVIEU (CTS/GAL)
- CIF USG COAST (USD/MT)

BUTANE

- FOB NORTH SEA CONTRACT month (USD/MT)
- FOB SEAGOING (USD/MT)
- FOB BARGE ARA (USD/MT)

- CIF NWE: 1-3000mt (USD/MT)
- CIF NWE: 3000mt (USD/MT)
- CIF S.FRANCE: 1-3000mt (USD/MT)
- CIF S.FRANCE: 3000mt+ (USD/MT)
- EX-REF/STORAGE: FOB MED (USD/MT)
- FOB RAS TANURA ARAMCO month (USD/MT)
- FOB BETHOUIA SONATRACH month (USD/MT)

N-BUTANE

- IN STORE MT. BELVIEU (CTS/GAL)
- CIF USG COAST (USD/MT)

ISO-BUTANE

- MT. BELVIEU (CTS/GAL)
- CIF USG COAST (USD/MT)

75/25 NORMAL/ISO MIX:

- CIF USG COAST (USD/MT)

VGO

- 0.5% MAX CARGOES FOB NWE (USD/MT)
- 1.6% MAX CARGOES FOB NWE (USD/MT)
- 0.5% MAX CARGOES FOB MED (USD/MT)
- 1.6% MAX CARGOES FOB MED (USD/MT)
- 0.5% MAX CARGOES Del'd US GULF COAST (USD/BBL)
- 2.0% MAX CARGOES Del'd US GULF COAST (USD/BBL)

GAS OIL/HEATING OIL

EU GASOIL

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



MED GASOIL

- CIF CARGOES MED (USD/MT)

HEATING OIL

- US GULF COAST (CTS/GAL)

FUEL OIL

EUROPE

LS STRAIGHT RUN PREMIUM TO ICE BRENT:

- FOB CARGOES NWE (USD/MT)

US GULF

STRAIGHT RUN:

- 1.0% MAX CARGOES CIF USG: (USD/BBL)
- 3.0% MAX CARGOES CIF USG: (USD/BBL)

CRACKED FUEL:

EUROPE

CRACKED FUEL

- 1.0% CIF CARGOES NWE (USD/MT)
- 3.5% CIF CARGOES NWE (USD/MT)

US GULF

CRACKED FUEL

- 1.0% CARGOES CIF USG: (USD/BBL)
- 3.0% CARGOES CIF USG: (USD/BBL)

Assessment Window: Price assessments are based on information supplied by market participants through the day up to the normal close of business in each region on Friday. In Europe, this is 17:30.

Specifications:

EUROPE

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.

The reformat assessment is for barges of 99-101 RON grade material based against Friday's price range for Eurobob gasoline FOB Barges ARA.

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 ICE Gasoil Futures Contract. Cold properties vary seasonally.

Vacuum Gasoil (VGO) assessments are spot prices for cargoes of Low Sulphur (max 0.5% sulphur) and High Sulphur (max 1.6% Sulphur material).

Low-sulphur Fuel Oil (1.0% 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%.

US GULF

The products assessed are normal US domestic qualities traded in New York Harbour and on the US Gulf Coast.

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 56-60o 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 30-34o API.

Vacuum Gasoil (VGO) assessments are spot prices for cargoes of Low Sulphur (max 0.5% sulphur) and High Sulphur (max 2.0% Sulphur material).

The straight run and cracked fuel assessments for low-sulphur grades reflect 1.0 pct sulphur maximum, while high-sulphur grades reflect 3.0 pct sulphur maximum.

Timing: 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.

In the US, Barges FOB New York Harbour are assessed using a forward delivery window of 2-12 days. The Distillate assessments in the US Gulf relate to products moving into the Colonial Pipeline system, which normally operates on three cycles per month, and reflect the relevant forward cycle trading at the time of publication, typically 2-12 days. Fuel Oil in the US Gulf is assessed in a 5-15 day forward delivery window from the publication date.

Cargo Sizes: 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: In Europe, weekly price ranges are based on the highest price and lowest price from the week.

These are derived from daily price ranges published in the Daily Products Price Report.

In Europe, daily 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 are calculated as a differential to the CIF cargoes NWE assessment.

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

For Gasoil, the price assessments in NWE (Cargoes CIF NWE and Barges FOB ARA) are based on the average premiums or discounts assessed 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 gasoil premiums/discounts, they will be left unchanged, and the published price will be driven by the ICE gasoil settlement alone.

For low sulphur straight run, premiums 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, they will be left unchanged.

For VGO, price assessments are based on premiums or discounts to Friday's front month Brent crude oil values.

For Reformate, price assessments are based on premiums or discounts to Friday's price range for Eurobob gasoline FOB Barges ARA.

In the US, the price assessments are derived from actual trades reported, bid/offer levels and differentials to the NYMEX futures contracts. Heating Oil is 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.

31 January 2013