

METHODOLOGY AND SPECIFICATIONS GUIDE

Europe and Africa Refined Oil Products

(Latest Update: July 2014)

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INTRODUCTION

Platts' methodologies are designed to produce price assessments that are representative of market value, and of the particular markets to which they relate. Methodology documents describe the specifications for various products reflected by Platts' assessments and indexes, the processes and standards Platts adheres to in collecting data, and the methods by which Platts arrives at final assessment values for publication.

Platts discloses publicly the days of publication for its price assessments and indexes, and the times during each trading day in which Platts considers transactions in determining its assessments and index levels. This schedule of publication is available on Platts' website, at the following link: <http://www.platts.com/HolidayHome>.

The dates of publication and the assessment periods are subject to change in the event of outside circumstances that affect Platts' ability to adhere to its normal publication schedule. Such circumstances include network outages, power failures, acts of terrorism and other situations that result in an interruption in Platts' operations at one or more of its worldwide offices. In the event that any such circumstance occurs, Platts will endeavor, whenever feasible, to communicate publicly any changes to its publication schedule and assessment periods, with as much advance notice as possible.

All Platts methodologies reflect Platts' commitment to maintaining best practices in price reporting.

Platts' methodologies have evolved to reflect changing market conditions through time, and will continue to evolve as markets change. A revision history, a cumulative summary of changes to this and future updates, is included at the end of the methodology.

How this methodology statement is organized

This description of methodology for indexes and assessments is divided into seven major parts (I-VII) that parallel the entire process of producing the end-of-day price values.

- Part I describes what goes into Platts indexes and price values, including details on what data market participants are expected to

submit, the process for submitting data and criteria for timeliness of market data submissions.

- Part II describes any security and confidentiality practices that Platts uses in handling and treating data, including the separation between Platts price reporting and its news reporting.
- Part III is a detailed account of how Platts collects bids, offers, trades and other market data, and what Platts does with the data to formulate its indexes and assessments. It includes descriptions of the methods that Platts uses for reviewing data, and the methods used to convert raw data into indexes and assessments, including the procedures used to identify anomalous data. This section describes how and when judgment is applied in this process, the basis upon which transaction data may be excluded from a price assessment, and the relative importance assigned to each criterion used in forming the price assessment. This section describes the minimum amount of transaction data required for a particular price assessment to be published, and the criteria for determining which values are indexes, and which are assessments, based on reported transactions and other market information. Finally, this section describes how Platts addresses assessment periods where one or more reporting entities submit market data that constitute a significant proportion of the total data upon which the assessment is based.
- Part IV explains the process for verifying that published prices comply with Platts' standards.
- Part V lays out the verification and correction process for revising published prices and the criteria Platts uses to determine when it publishes a correction.
- Part VI explains how users of Platts assessments and indexes can contact Platts for clarification of data that has been published, or to share a complaint. It also describes how to find out more about Platts' complaint policies.
- Part VII is a list of detailed specifications for the trading locations and products for which Platts publishes indexes or assessments in this commodity. This section describes why specific units of measurement are used, and what conversion factors are used to move between units of measurement, where relevant.

PART I: DATA QUALITY AND DATA SUBMISSION

Platts' objective is to ensure that the submission of transactional information and other data inputs that editors use as the basis for their price assessments is of the highest quality. Ensuring that data used in Platts assessments is of high quality is crucial to maintaining the integrity of Platts' various price assessment processes.

Platts encourages entities that submit any market data for consideration in its assessment processes to submit all market data that they have which may be relevant to the assessment being made. Platts' aim is to determine the full circumstances surrounding all reported transactional data, including details of quality, specifications, order sizes, dimensions, lead times and any locational and loading/delivery information. Platts uses that information to determine a typical and repeatable market level for refined oil products being assessed.

Platts routinely, and as part of standard editorial practice, reviews the companies participating in its price assessment processes. These reviews ensure the suitability of data and information that are used to formulate Platts' end-of-day price assessments. These reviews are conducted on a regular basis, and may take into consideration an array of issues including, but not limited to, adherence to editorial guidelines, operational and logistical issues, as well as counterparty acceptance.

The reviews are not designed to impede a company's ability to bilaterally engage in market transactions; the objective at all times is to ensure the integrity of published price assessments. Platts does not disclose the nature or scope of routine reviews of data providers that participate in its price assessment activities.

What to report

- Firm bids that are open to the marketplace as a whole, with standard terms
- Firm offers that are open to the marketplace as a whole, with standard terms

- Expressions of interest to trade with published bids and offers, with standard terms
- Confirmed trades
- Indicative values, clearly described as such
- Reported transactional activity heard across the market, clearly described as such
- Other data that may be relevant to Platts assessments

Product	Phone number	Yahoo address
Naphtha	44 20 7176 3144	plattseuronaphtha
Gasoline	44 20 7176 6120	plattsgasoline
Jet	44 20 7176 6683	jetplatts
Diesel	44 20 7176 6684	Plattsdiesel
Gasoil	44 20 7176 6161	plattsgasoiel
Fuel Oil	44 20 7176 6104	plattsfueloil
Feedstocks	44 20 7176 6112	plattsfeedsuk
LPG	44 20 7176 6672	plattsjpg
Products Manager	44 20 7176 6164	platts_europeanmarketscan
Oil Manager	44 20 7176 6115	platts_european_oil

MOC data publishing principles

Platts assesses the value of oil globally using its Market on Close (MOC) assessment process. The MOC assessment process establishes core standards for how data is collected and published, how data is prioritized by value, and ultimately how data is analyzed in the course of completing Platts assessments.

Transparency underpins Platts’ data publishing processes in the oil markets. Under Platts MOC guidelines for collecting and publishing data, Platts publishes market information including but not limited to firm bids and offers from named companies, expressions of interest to trade and confirmed trades that are received from market participants throughout the day.

This information is published in real-time, as it is received, on Platts’ information service, Platts Global Alert. Platts publishes all information received so that it can be fully tested by the market at large. Information collected and published includes the identities of buyers and sellers, confirmed prices, volumes, location, and stated trading terms.

Platts assessments are designed to reflect repeatable market value at the close of the assessment process. Platts tracks market price evolution during the entire day, and publishes a wide range of data relating to market value as it does so. All data that has been published through the day is analyzed during the assessment process. Towards the close of the day, Platts focuses its assessment process to publish named firm bids and offers, expressions of interest to trade and confirmed trades, with all relevant details. This transparent data is prioritized in the assessment process, because it is available to the entire market for testing.

In order to ensure that all firm bids and firm offers that still stand at the close of the assessment process have been fully tested in the market at large, Platts has established clearly defined time cut-offs that apply when publishing firm bids and firm offers in the MOC process. Time cut-offs for the submission and subsequent publication of new bids and offers are applied so that MOC participants cannot bid or offer late in the process, and to ensure that every bid and offer published by Platts is logistically executable.

Bids and offers published by Platts are considered to be firm until Platts is informed otherwise, or until the close of the assessment process for the day, whichever comes first. Platts will consider all firm bids and offers as open to the market at large and executable unless informed otherwise by the counterparty submitting the market information. If no communication is made to Platts to withdraw or change the parameters of the bid or offer it is assumed that it is available to the marketplace. Platts seeks verification of any transaction originating from a bid or offer submitted for inclusion in the Platts MOC process.

Detailed guidelines on MOC timings can be found at <http://www.platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/Oil-timing-increment-guidelines.pdf>. The purpose of the time cut-offs is primarily to ensure logistical executability and standards of incrementability and repeatability to ensure orderly price discovery. As such, they may be changed at short notice if evolving market conditions require. To ensure proper dissemination of market information, new bids and offers for publication by Platts must be received by Platts no later than stated cut-off periods.

In order to ensure that all published data is fully tested in the market, Platts has established guidelines around how quickly bids and offers may be improved when they have been published, and by what amount. These incrementability guidelines define the quantum and speed at which bids and offers may typically be improved in the MOC assessment process. Incrementability does not apply to bids and offers that are moving away from market value, though Platts analyzes bids and offers that are moved lower, and higher, respectively, to ensure reasonability.

Incrementability varies between each market assessed through the MOC assessment process and can be found at <http://www.platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/timingincrementguidelines.pdf>.

How to report

- Platts accepts information provided for publication in real-time across a wide variety of media. The following reporting methods are accepted by Platts’ editorial staff:
- Commonly used Instant Messaging software
- eWindow
- Telephone
- Email
- Fax

Platts accepts any reasonable method of delivery/communication for bids, offers and transactions. Platts editors typically communicate with trading companies through phone, eWindow or online instant messaging systems. Platts tries to accommodate the communication needs of its customers and will endeavor to open any additional communication channels required.

Reporters covering the products markets in Europe are on the phone from around 09:30 to around 18:30 London time. The list below gives key telephone and Instant Messaging contact points for Platts European products team effective June, 2009. Please note that all telephone numbers and Yahoo IDs are subject to change.

Platts may notify the market of any adjustment to the standard increments in the event of market volatility or a disruptive event. A market participant can withdraw a bid or offer from Platts MOC process at any time, so long as no other potential trading counterparty has indicated that it has interest to buy or sell into the bid/offer.

Platts expects that market participants bidding and offering in the MOC process should perform on their bid/offer with the first company of record to express interest to Platts for publication during the MOC process. In the event of a dispute on the timing, Platts will review its records and determine which company communicated to Platts first its intention to execute on a bid/offer displayed on the Platts systems. All the Platts systems operate on a first come, first served basis. This sequence is critical for orderly price discovery.

Platts' editorial guidelines governing its assessment process require it must consider only those transactions, bids or offers where market participants perform under typical contractual terms. Platts accepts that individual companies may have trading limits with counterparties and that national legislation may prevent companies from dealing in materials of certain origins. Such counterparty issues are dealt with on a case-by-case basis. Platts tracks all circumstances surrounding trades reported during its MOC assessment process, and any issues regarding performance. Platts not only focuses on the performance of the transaction at the time of trade, but also on any significant issues stemming from such trades, including logistics and eventual delivery of the product. Post-deal tracking enables Platts to determine the actual performance of the participants in the trade and the validity of their inputs. Platts therefore may request documentary material to determine performance and validity.

Platts cannot make any guarantee in advance about how and whether market information received and published but not fully adhering to its defined methodology will be incorporated in its final assessments.

All bids and offers are firm from the moment of submission. For information communicated directly to a reporter, rather than through the eWindow software, bids and offers on barges for inclusion in the assessment process are to be submitted prior to 16:00:00 London time. Bids/offers which are time-stamped at 16:00:00 precisely will not be considered in the assessment process.

All swaps bids and offers are firm from the moment of submission. For information communicated directly to a reporter, bids and offers on

swaps for inclusion in the assessment process are to be submitted prior to 16:15:00 London time. Bids/offers which are timestamped at 16:15:00 precisely may not be considered in the assessment process.

Submissions of bids, offers or transactions should not be considered as received by Platts unless acknowledged as received by Platts. For communication initiated by phone Platts will consider the time when the trader actually communicated the bid/offer or transaction.

For bids/offers and transactions communicated online, traders should not assume that Platts has received the communication unless acknowledged by Platts. Acknowledgment may take the form of "yes," "OK," "y," "k" or any other reasonable form.

For communication initiated by phone Platts will consider the time when the trader actually communicated the bid/offer or transaction.

Bids and offers submitted on time but in an incomplete form, where the terms are only clarified after the cut-off deadline, will not be used in the assessment process.

As a general recommendation Platts advises market participants not to wait for the last possible minute before the cut-off deadlines for bids and offers, as the communication may not be completed on time.

A buyer or seller can communicate with Platts directly to express buying or selling interest. Platts may also take into consideration bids and offers made via a broker, provided the buyer or seller have communicated to Platts that they have authorized the broker to speak on their behalf.

Platts only considers for publication and assessment transactional interest that is expressed by participants for bids or offers that have already been published by Platts. Interest in bids or offers at prices that have not been published, and therefore may not be fully available for testing in the marketplace as a whole, may be disregarded. Should a buyer lower its bid or a seller increase its offer, an expression to trade at a previously published level will not be considered.

Platts' editorial processes require full clarity when communicating bids/offers and intentions to trade. When expressing an intention to hit a bid or lift an offer in the MOC processes, any message should typically include the specific price of the trade and the name of the counterparty.

Information may not be published if it is not sufficiently clear when communicated to Platts.

When expressing an intention to hit a bid or lift an offer in the European Market on Close assessment processes any message should include the specific price of the trade and the name of the counterparty.

Wide laycan dates should also be narrowed by the buyer/seller where applicable. In the case of middle distillate barges, buyers should provide the volume at the time of lifting an offer, e.g.: "Buyer 1 wants Seller 1 ULSD barge offer at September +\$25/mt for 2kt", would be best practice. Platts reserves the right not to publish indications to trade that do not meet the above conditions.

For information communicated directly to a reporter, all cargo bids and offers for inclusion in the assessment process are to be submitted prior to 15:45:00 London time. Bids/offers which are time-stamped at 15:45:00 precisely will not be considered in the assessment process.

Platts recognizes the time of receiving a message of a company's intent to buy/sell, as opposed to the time a message was sent by the trading party.

Following any trade, the original on-screen seller/buyer must revert immediately as to whether or not he/she is prepared to offer or bid. An intention to rebids or reoffer must be received by Platts as soon as is possible and within a reasonable time frame.

If this new bid or offer emerges after the cut-off point for the entry of new bids or offers (15:45 London for cargoes, 16:00 for barges, 16:15 for swaps), such a bid or offer may not be considered.

Unless sellers/buyers expressly inform Platts of their continued interest to buy/sell after a deal, Platts will presume the players are not there for more volume.

The rebid or reoffer must match the initial position's parameters, with the exception of price. A rebid or reoffer can be made at the same level or inferior to the traded price. For example Company B hits Company A's bid for \$500/mt during the MOC. Company A can rebid at \$500/mt or below this level. If the MOC process for the market includes a "freeze" period at the close of the process, bids and offers may only be repeated at the last published price.

When there are multiple bids or offers at the same level, the first person to reach the market maker bid/offer level is the first person to be filled. Subsequent deals will go to the second, third and fourth market maker. This means that as each market maker at a level gets filled, repeat bids and offers will move to the back of the bid/offer order.

In the event that more than one counterparty expresses his/her intention to execute a transaction based on an existing bid or offer, the logical counterparty should be the first party that demonstrated its intention to trade. Platts will monitor time stamps or any other available time mechanism in the event of a dispute with the aim of determining who the first potential buyer of record was.

In the event of a market maker rebidding or reoffering during the Platts MOC assessment process, the queue of market takers expressing interest in that position will reform once the rebid or reoffer is published on PGA pages 5, 3, and 468. Platts will not consider any interest expressed in a rebid or reoffer before the position is published to be executable during the MOC assessment process.

The volume, quality or loading/delivery timing cannot be changed from 15:45:00 on the cargoes and 16:00:00 on the barges. However, a seller or buyer may change the price of the offer or bid up to 16:28:00. No changes in price can be made from 16:28:00 precisely.

Buyers or sellers can withdraw bids/offers at any time, provided no prior interest to transact has been expressed by any potential counter-party. If a market maker takes out another position during the assessment process, they must communicate to Platts if they wish to withdraw their existing position following the trade. Otherwise, it is assumed the market maker's own position remains active.

All participants that have reported bids and offers for inclusion into page 5 are expected to promptly report any transactions stemming from their publicly available bids or offers.

Platts synchronizes its computer clocks every day precisely, and will compare the time of any submitted bid/offer or communication by a market participant intending to transact, against the computer time, in order to ensure that the cut-off points for new bids and offers, price changes and the market's close are accurate. Please note that Platts applies the timing deadlines strictly.

For the purposes of clock synchronization, market participants may find the following internet link to be helpful: www.time.gov. This link offers an atomic clock reading for US time zones.

In markets where Platts' eWindow is in operation, the eWindow clock will be used to determine the correct sequence of events when a bid or offer is amended, withdrawn, or traded by an interested counterparty. Bids or offers submitted by phone, or any other medium such as instant messaging software, shall be clocked at the time the bid, offer or trade indication is actually transmitted through the Platts eWindow system. As per Platts methodology, buyers or sellers can withdraw bids/offers at any time when communicating through eWindow, provided no prior interest to transact has been expressed by any potential counterparty. All bids and offers are firm from the moment submitted into Platts eWindow to the moment they are traded, the window period closes or the bid/offer is withdrawn from the system by the trader or a Platts editor.

PART II: SECURITY AND CONFIDENTIALITY

Data is stored in a secure network, in accordance with Platts' policies and procedures. Platts refined oil product assessments are produced in accordance with Platts Market on Close assessment methodology. This means that all data for use in Platts refined oil product assessments may be published by Platts editorial staff while assessing the value of the markets.

Platts does not have confidentiality agreements in place for information that is sent for use in its refined oil product assessments.

PART III: CALCULATING INDEXES AND MAKING ASSESSMENTS

The following section describes how Platts uses the specific volume, concluded and reported transactions, bids, offers and any other market information it has collected, in the manner described in section one, to formulate its price assessments. Additionally, this section describes other information, including the normalization of market data, assumptions and extrapolations that are considered when making a final assessment.

MOC price assessment principles

Through the MOC assessment process, Platts considers market information gathered throughout the normal trading day, and publishes such information throughout the day. Platts analyzes all published information in determining its final published price assessments.

Through the MOC assessment process, Platts seeks to establish and publish the value of markets that prevail at the close of the assessment process itself. Platts has aligned the timestamps reflected in its assessments with what typically is a period of high activity in the markets that Platts observes. The typical period of high activity in oil markets tends to be in the afternoon in every major trading location around the world. Platts believes that aligning its price assessments to typical periods of greater market activity and liquidity provides a robust basis upon which to derive a reliable assessment of market value.

Platts has adopted the MOC methodology in order to provide complete clarity over the precise point in time reflected in its market assessments. Like the quality of oil, its delivery location, delivery dates, contract terms, and the volume to be supplied, the time of commercial activity is an important attribute considered in Platts price assessments. The time that a bid or offer is shown to the market, or a transaction concluded, is vitally important in understanding the market value of the respective commodity, in the same way that the quality of the oil, where it will be delivered and when it will be delivered are important factors. By clearly reflecting value at a defined point in time Platts is able to properly reflect outright and spread values.

The clarity established by providing a well-defined timestamp for Platts assessments is important in understanding every oil assessment published by Platts. It is also important for understanding the relationships between the markets that Platts assesses. By ensuring that all assessments within a region reflect market values at the same moment in time, spreads that exist between those products are also able to be fully and properly reflected. For example, comparing the value of gasoline to crude oil is possible when both values have been determined at the same moment in time. By contrast, comparing the price of gasoline in the morning, to crude oil in the afternoon, might deeply impair the relationship between the products – particularly when the respective market prices move independently during the intervening period.

By providing clear timestamps for assessments, the Platts MOC process is designed to provide assessments that properly reflect outright and spread values during times of high volatility equally well as in times of modest volatility.

MOC guidelines are designed to avoid distortion of the final price assessments by eliminating inputs that are not fully verifiable, and by disregarding one-offs or unrepeatable transactions, or those that may distort the true market level. Transactions between related parties are, for instance, not considered in the assessment process.

Platts does not specify a minimum amount of transaction data, or a transaction data threshold, for the publication of its price assessments. Physical commodity markets vary in liquidity. Any particular market analyzed on its own will typically demonstrate rising and falling levels of transactional activity through time. Platts is committed to providing an assessment of value for every market that it covers, equally well in times of heightened or reduced liquidity.

Platts seeks to receive market information from as broad a cross section of the market as possible. If a very limited number of market-makers are active in the market, or if a limited number submit data that constitutes a significant proportion of the total data upon which the assessment is based, Platts will continue to seek fully transparent and verifiable data from the market at large and to apply Platts methodology principles of transparency and time sensitivity. Platts considers data for assessment of any market where a single company provides more than half of all available information to be one where such a company provides a significant proportion of data. For consideration in the MOC process such a company's bids or offers must be clearly available for execution by any other potential MOC trading counter party.

Normalization price adjustment techniques

Platts seeks to align the standard specifications for the oil markets it assesses and the timestamps reflected in its assessments with standard industry practice. However, physical commodity markets are generally heterogeneous in nature – not only can time of transactional activity considered for inclusion in the price assessment process vary through the day, other key attributes often vary from the base standard reflected in Platts assessments as oil is supplied to market.

The quality of fuel supplied, delivery location, and other specific terms of trade may be varied in the physical commodity markets assessed by Platts. This is one reason among many why data collected from the physical oil markets may not be simply averaged to produce a representative benchmark value.

Because of the complex nature of the physical oil markets, oil market data typically must be aligned with standard definitions to allow for a fully representative final published assessment. Platts aligns data collected through an analysis of the physical oil markets with its standard assessment specifications through a process called normalization.

Normalization is an essential price adjustment technique applied by Platts, to align reported market information to reflect the economic relationship between specific reported activity and the base standard reflected in Platts price assessments.

By surveying markets and observing the economic impact of variance from the base standard reflected in Platts assessments, Platts regularly normalizes disparate information from the diverse physical commodity markets back to the standard reflected in Platts price assessments. This is done by analyzing freight rates (for locational differences), quality premiums (for quality differences), the movements of all markets through time (for time differences) and other premiums associated with the size of trades and delivery terms.

Normalization for time may be done by analyzing movement in a related market observed through time, and that movement may provide a basis by which to align market value of an earlier reported bid, offer or transaction to market value at the MOC close. This alignment for time is essential to ensure that Platts price assessments reflect the prevailing value of a market at the close of the MOC process.

Prioritizing data

Platts assessment process considers firm bids, firm offers and transactions that are transparent and open to any counterparty with the proper financial and operational resources. Bids, offers or transactions that are not transparent may not be considered in the assessment process. Naturally, bids above transparent offers or offers below

transparent bids are not considered in the assessment process. Platts considers changes to bids or offers when those changes are made transparently and in normal increments.

The level of each bid or offer must stand firm in the marketplace long enough for any counterparty to hit the bid or lift the offer, otherwise the bid or offer may be deemed non-executable. Platts may not consider bids, offers or transactions that are the result of market gapping, i.e. changes that are in excess of normal market practice.

Transparency underpins Platts' assessment process, just as it does Platts data publishing processes, in the oil markets. When determining a final market assessment, Platts gives the greatest priority to fully verifiable and transparent market information. A firm bid or offer that has been published by Platts in accord with its data publishing standards, and which still stands open to the marketplace at the close of the assessment process, will establish clear parameters for Platts' final published assessments. Platts will typically assess market value somewhere between the best bid, and best offer, open to the market at the close of the MOC process. This ensures that Platts assessments reflect the transactable value of the commodities it is assessing at the close of the market.

Completed, transparent transactions that are fully published by Platts are important in helping establish where trading interest prevails in the market, and may help determine where, in a bid/offer spread, Platts may assess value for publication.

Firm bids and offers that are available to the entire market take precedence over trades that have been concluded earlier in the assessment process when establishing the value of the market, particularly if bids are available at the close above previously traded levels, or offers are available to the market below previously traded levels. Value is a function of time.

Similarly, firms bids and offers that are available to the entire market take precedence over transactional activity reported to Platts after the fact.

When no bid, offer or transaction data exists, Platts may consider other verifiable data reported and published through the day, including fully

and partially confirmed trades, notional trading values and other market information as provided for publication. Under such circumstances, Platts may also be able to observe direct market activity or the effect of commonly traded commodities on illiquid markets via spread differentials or via blending and shipping economics.

Platts also analyzes the relationships between different products, and factors these relationships into assessments for markets where transactional data falls to low levels. Finally, Platts normalizes other available data that may be relevant to the assessment during periods when low amounts or no transactional data exists, including transactional data from related markets, in the manner described above.

To do this, Platts takes into account representative transactions executed at arms-length in the open market occurring during the MOC price assessment period and additionally taking into account bid and offer information submitted during this period. Platts editors always seek direct verification from the principals to a reported bid, offer or deal.

- Platts MOC guidelines are designed to avoid any distortion of the final price assessment and so inputs that are not verifiable are eliminated and “one-off” or unrepeatable transaction data may be disregarded from the price assessment process.
- Single transactions may be a reflection of market value. However single transactions need to be measured against the broad span of similar transactions. If for instance a buyer decides to lift an offer but is unwilling to buy more material offered at the same level if the seller reoffers it would be determined that the buyer failed the repeatability test. Equally if the seller does not reoffer, the seller fails the repeatability test. As such the transaction may not be fully reflected in the price assessment.
- A variant on this action is price “gapping” when bids are made too high and offers are made too low through untested levels of price support or resistance. Platts may not publish such bids and offers during the MOC process. When transactions are concluded at levels that have not been fully tested by the market because price changes have been non incremental, Platts may determine that actual market value is somewhere between the last incremental bid and the transaction at the gapped level.

Assessment Calculations

Platts publishes its assessments reflecting the currencies and units of measurement in which the products typically trade.

Oil is generally traded in US dollars, and Platts assessments are typically published in that currency as a result. Certain markets, such as regional markets, trade using local currency. Platts assesses the value of such markets as appropriate in local currency.

Crude oil is typically traded in barrels or metric tons, and Platts publishes its assessments using these units of measurement as they prevail in practice. Likewise, refined oil products typically traded in barrels, metric tons or gallons, and Platts assessments for these markets reflect common practice in each market. The minimum and maximum volume considered for each individual Platts assessment of a physical market is described in section VII of this document. In certain cases Platts converts its assessments to other currencies or units of measurement to allow for ease of comparison or analysis in regional markets. Such conversions are done using published exchange rates and conversion factors.

Platts reporters follow specific methodology when exercising editorial judgment during their assessment process. Platts editors apply judgment when determining (1) whether information is suitable for publication, (2) when normalizing data and (3) when determining where to assess final value of market.

Judgment may be applied when analyzing transactional data to determine if it meets Platts standards for publication; judgment may also be applied when normalizing values to reflect differences in time, location, and other trading terms when comparing transactional data to the base standard reflected in Platts assessments.

All such judgment is subject to review by Platts editorial management for adherence to the standards published in Platts methodologies. The following section illustrates how these guidelines work when calculating indexes and making assessments.

To ensure the assessments are as robust as possible, Platts editorial systems are backed by a strong corporate structure that includes managerial and compliance oversight. To ensure reporters follow Platts

methodological guidelines in a consistent manner, Platts ensures that reporters are trained and regularly assessed in their own and each other’s markets.

Application of professional judgment guidelines promotes consistency and transparency in judgments and is systematically applied by Platts. Where professional judgment is exercised, all information available is critically analyzed and synthesized. The various possibilities are critically analyzed and fully evaluated to reach a judgment. Platts manages and maintains internal training guides for each of the different products assessed which aim to assist assessors and ensure Platts’ price assessments are produced consistently. Platts’ price assessments are reviewed prior to publication and exercise of professional judgment is further discussed and verified during this process. Finally, consistent with the concept of proportionality, assessments that are referenced by derivatives contracts are supported by assessment rationale, including the application of judgment, which is published together with the price assessment offering full transparency to the market.

Reporters are trained to identify potentially anomalous data. We define anomalous data as any information, including transactions, which is inconsistent with or deviates from our methodology or standard market conventions.

As a publisher owned by McGraw Hill Financial, independence and impartiality are at the heart of what Platts does. Platts has no financial interest in the price of the products or commodities on which it reports. Platts’ aim is to reflect where the actual market level is.

Platts focuses primarily on assessing the value of oil trading in the spot market. A spot price for a physical commodity is the value at which a standard, repeatable transaction for merchantable material takes place, or could take place in the open market at arms’ length. In oil, Platts’ spot price assessments reflect the value at which transactions take place, or could take place, at precisely the close of the MOC process.

Platts’ overall objective is to reflect the transactable value of the commodity assessed. In cases where the apparent value of the commodity includes extra optionalities, the intrinsic value of the commodity may be masked. In such cases, Platts may use its editorial judgment to factor out such extraneous elements from the value of the commodity, or it may decide not to use the bid, offer or transaction in its assessment process. Optionalities

that may mask the value of the commodity include but are not limited to loading or delivery options held by the buyer or seller, volume option tolerances exercisable by the buyer or seller or quality specifications.

Platts assesses the outright value of oil around the world, as well as differentials for oil when it trades with reference to a benchmark. Platts analyses all data collected and published by Platts throughout the day. Final assessments are above firm bids, and below firm offers, that stand at the close of the Market on Close assessment process. This is true for outright values and differentials. In the event of an observed conflict between outright values and differentials, outright values prevail in Platts final published assessments.

Platts produces time-sensitive assessments that reflect the value of the markets it covers precisely at the close of the MOC price assessment process in Singapore, Dubai, London and Houston. By providing clear timestamps for every region the Platts assessment process is designed to provide price assessments that properly reflect outright and spread values.

Assessment parameters

Platts' cargo assessments generally reflect bids/offers and transactions for loading/delivery 10 to 25 days from the day of publication. For example, on October 1 Platts' CIF cargo assessments would reflect cargoes for delivery between October 11 and October 26.

Platts' barge assessments consider bids, offers and transactions for loading 3 to 15 days from the day of publication. For example on October 1, Platts barge assessments would reflect barges loading between October 4 and October 16. In the case of 3.5% fuel oil barges, a 5-15 day window is reflected on Thursdays and Fridays.

Typically, Platts will take into consideration bids and offers made in 5-day loading or delivery windows, inclusive of the first and fifth day. For instance on October 1, Platts would consider bids and offers made starting with October 11-15 and ending with October 22-26.

Please note that a bid and offer made for October 20-25 actually has a six-day window. A fully representative bid or offer would need to be October 20-24 or October 21-25.

Time gradient

Platts is very stringent in following timings for loading or delivery due to the variability in market values across time. This variability increases as the backwardation or contango in the markets increases.

It is not uncommon in times of tight supply for the backwardation to be over \$15.00/mt per month or roughly the equivalent of \$0.50/mt per day. This means that cargoes loading one week apart can vary in price by close to \$3.50/mt, or possibly more, depending on the steepness of the price curve. Thus it is extremely important for Platts to follow pricing windows very methodically.

Platts factors in the backwardation/contango and reflects its impact on the published assessment. The assessment reflects the value of the commodity normalized to the center of the loading/delivery window. In a contango market, the excess of prompt barrels causes the front end to be significantly cheaper than barrels available at the end of the window. In a backwardated market the tightness of supply causes the prompter barrels to be at a higher price than barrels available at the end of the window.

Platts' methodology eliminates any arbitrary movement in assessments caused simply by the different loading/delivery ranges traded. By normalizing prices to the mid-point of a clearly defined date range, the consistency of prices is maintained. The day-to-day changes in the price assessments therefore reflect an actual price move in the value of the commodity, rather than an artificial change because a cargo happens to be loading/delivering in the front end of the window rather than the back end, or vice versa.

The date ranges reflected by Platts reflect the prevailing trading practices in the European region. By not taking the first ten days into consideration, transactions reflecting distressed prices are excluded.

Determination of backwardation or contango

Platts' assessments determine fair market value and therefore consider backwardation and contango. Where indications are on differing date ranges, a calculation is made to determine the value the market is assigning for the difference between loading dates. In calculating this time gradient, the prices of tradable instruments such as futures and swaps may be used.

Typical calculations include a determination made for the difference in price for a month, and a daily value is then assigned for each day.

The three main factors used in the European products market for price determination are:

- Outright price
- Premiums
- Paper/Swaps

Outright price

The ultimate question in the mind of an end-user, producer, refiner, trader or broker is price. Outright prices are the simple statement of a price at which something can be bought or sold, with the entire value stated – for example, an offer of a cargo of naphtha at \$950/mt. Price in turn determines expense, refining margin, profit, loss, etc. The spot market trades actively on a outright price basis and a floating price basis. Platts takes both into account in its assessments. Platts will publish activity on both a fixed and floating basis.

Premiums/discount

Many transactions are carried out in relation to a benchmark. In this case a differential, also known as premium/discount is generated. Premiums/discounts can arise if the quality, volumes or loading times differ from the benchmark. In addition, floating price transactions are done in relation to assessments that will be published in the future – for example, an bid for a cargo of naphtha at \$10/mt above the Platts CIF NWE naphtha, as published immediately before, during and after delivery of the cargo.

Premiums will usually rise in those times when the market is backwardated, and the steeper the curve, the greater the premium. In a contango situation, premiums will have a tendency to turn into discounts. Platts will publish activity on both a fixed and a floating basis.

Paper/Swaps

Paper/swaps are a major determinant in price. Swaps trade freely in an over the counter market and can trade at any time. Paper markets are very reactive and may provide players with an instant feedback of market

conditions. Swaps react to arbitrage conditions or movements in overseas markets as well as local conditions.

Swaps or paper are risk-management tools. Swaps allow players to lock prices because swaps enable players to transform floating prices to fixed or fixed to floating. Swaps are also used as a speculative tool. Swap market values and indications are carried in real-time on PGA page 5.

Buyers and sellers may show buying and selling interest for all derivatives assessed by Platts through MOC processes in the same way as is done in physical markets.

The spot market

These three factors — outright price, premiums and paper – converge in a spot price. Platts may use all three in its assessments.

For instance, if a physical fuel cargo trades at \$150.00/mt for a 30,000 metric tonne parcel loading 15-19 days forward FOB NWE, this commodity’s spot level is clearly around \$150.00/mt.

In the absence of outright prices, swaps and prevailing premiums/ discounts may be used in the assessments.

For example, if a jet cargo CIF NWE trades at a premium of \$30.00/ mt over November ICE gasoil futures, then the outright price equivalent is precisely \$30.00/mt over November ICE gasoil futures. If the gasoil November futures contract is trading at \$550.00/mt then the price of the jet cargo is \$580.00/mt.

If a jet cargo loading in November trades at a premium of \$2.00/mt over Platts assessments in November, then Platts would need to determine the value of the Platts swaps after factoring in any ICE rolls of months within November and add the \$2.00 to obtain the outright price equivalent in November.

Law

Contracts using English law are considered standard in the assessment process.

Embargoed products

Laws stating that nationals from specific countries may not buy products from embargoed countries may prevent market participants from lawfully executing transactions. A seller therefore may not assume that a buyer has the obligation to buy embargoed materials. Under Platts Market on Close assessment guidelines, commodities supplied from countries or entities that are subject to trading embargoes and sanctions recognized under international law should not be delivered against transactions concluded during the Platts MOC assessment processes. Bids and offers that contain statements surrounding delivery of embargoed materials will be considered by Platts for publication, and if published after review may be subject to normalization in value.

Force majeure

Force majeure is part of trading and may be invoked under very special circumstances. Platts editors will monitor the application of it to ensure that force majeure is not invoked frivolously.

Specification

Platts assessments will reflect typically traded qualities of products. Specifications are available on the Platts website www.platts.com.

Note that Platts assessments reflect undyed material. Dyed material may trade at a differential to normal undyed material. If a transaction occurs for dyed product it will be normalized to the value of undyed material.

Testing of products

Products traded are subject to standard testing techniques to determine contractual performance. Platts typically follows the standards already in place in the trading market, although it may monitor these to ensure that the standards are adequate.

Implied guarantees in specifications

Bids and offers submitted to Platts that include numerical specifications will be assumed to have a series of zeroes to the right of the decimal point or to the right of the last digit to the right of the decimal point.

As an example, a fuel oil cargo with a maximum guarantee of 0.1 Shell Hot Filtration will be considered as 0.1000 etc. If the specification guarantees are otherwise, the buyer or seller should specify it clearly to avoid potential disputes.

Merchantability

Platts only considers in its assessments products that are merchantable. Hence, buyers may assume that offers or transactions are for a product that is merchantable. Sellers must ensure their offers or transactions are for merchantable products.

Shipping considerations

Bids: For the cargo assessment processes bids may be expressed with a specific location. Bids with excessive limitations – whether expressed or implied – may be deemed atypical and not considered for assessment purposes.

The name of the buyer and the location chosen set the conditions for any potential counterparty considering trading. The implied set conditions for a CIF bid include:

Up front conditions	Conditions to be met
Name of the buyer	Ship must meet vetting conditions of buyer
Volume	Volume delivered must match volume requested +/- normal tolerances (in cargos this tolerance is commonly 10%; tolerance is usually specified at time of bid, offer or trade)
Port	Ship must meet physical limitations of port, e.g., draft, beam, etc. Ship must also meet conditions set by country of destination.

Offers: Offers may be made into a specific location or to meet a broad area. CIF offers may be made with a named or unnamed ship.

Up front conditions	Conditions to be met
Name of Ship	Buyer to determine if ship is acceptable to its vetting department
Unnamed ship	Seller has the responsibility to declare its commitment to meet either the vetting requirement of any buyer or conversely to declare up front how many ship vettings the seller is confident the ship will meet. Platts standard requires a seller name at least 3 relevant oil majors.

Please note that offers made with ships that have restrictions limiting the number of potential buyers would be considered atypical and not used in the assessment process.

Platts will also monitor vetting to ensure that ships are not rejected because of commercial considerations but only because of internal and consistently applied company standards.

Nomination Procedure

In all European CIF refined oil product cargo bids, offers and transactions, Platts guidelines require that the seller should narrow the five day delivery range to a three day delivery range by the earliest of five clear calendar or three clear working days before the first day of the narrowed delivery range, whichever falls sooner. Platts also expects the seller to nominate the performing vessel by the earliest of either five clear calendar or three clear working days. For CIF Mediterranean gasoil cargo nominations, the vessel nomination and the narrowing of the delivery range should be made by the earliest of seven clear calendar or five clear working days before the first day of the actual delivery range, again, which ever falls sooner. Platts FOB Northwest European and FOB Mediterranean oil product cargo assessments reflect market activity where the seller nominates the loading terminal 7 calendar days ahead of the first day of the 5-day laycan. Additionally, Platts reflects cargoes which stipulate the buyer must nominate the vessel 7 calendar days ahead of the first day of the original 5-day laycan. Buyer must also narrow the 5-day laycan to a 3-day laycan at the same time. On barges, the buyer must give the seller 48 clear working hours notice of the date required.

CIF transactions

A CIF buyer has the right to request a deviation of the ship to another port, provided the ship-owner has granted, or has the ability to grant, the deviation to the charterer. Any incremental expenses associated with the deviation are borne by the buyer as he/she is initiating the request for the deviation.

Charges incurred because of the deviation must be transparent and be granted at cost and in line with normal market practices. Platts will monitor such charges if they result in anomalies.

Ship-to-ship transfers

Platts CIF refined product cargo assessments in Northwest Europe and in the Mediterranean reflect offers where the seller has the option to make final delivery on a vessel that had received its cargo on a ship-to-ship basis.

Should the seller elect to deliver a CIF cargo that has loaded on a ship-to-ship basis, the binding quantity and quality would be established on a ship's composite basis in the final delivering vessel.

The seller may not unreasonably withhold a buyer's request for title to transfer after the separation of the vessels involved in the ship-to-ship transfer.

Furthermore, Platts reflects offers which grant the buyer the option to request delivery into a vessel, rather than into a port. Under these circumstances the quantity and quality as title and risk will pass in line with typical practices in CIF transactions.

Location

Platts publishes assessments for several locations on a FOB and CIF basis. The location parameters for each assessment are published in Platts Guide to Specifications.

The following notes are intended to clarify Platts' working practice in making its FOB ARA barge assessments, in particular how freight differentials are being applied when the location basis is other than

Rotterdam. These are based on current trading patterns. Platts may adjust these as market conditions change.

Barges

Platts reflects barge deals where the buyer has the right to request alternative loading mechanisms after the seller nominates a loading terminal. These alternative loading terms may include pumpover, inter tank transfer or cargo loading. The seller should not unreasonably withhold these requests and any alternative loading basis should be granted at operational cost only to the buyer.

Platts FOB barge assessments, basis ARA, reflect bids and offers where the buyer commits to load the contractual volumes as per the agreed volume at the time of trade, where the quantity delivered to a buyer is measured in line with the typical practice established at the nominated terminal at the loading port. According to research undertaken by Platts, the typical method of measuring quantity in the ARA barge market uses the terminal's shore tank results, where quantity is metered between the shore tank and the receiving barge's flange. Platts assessment processes reflect these standard processes and conventions.

Any potential for short loading -beyond the normal 5% operational tolerance- for logistical reasons, such as water level issues on inland waterways, must be agreed with the seller prior to the commencement of loading.

The seller retains the option on whether to accept or reject the buyers request to short load. Any buyer who wishes to retain an option to short load barges due to water level concerns on inland waterways must express this in their bid. Bids with such stipulations will be considered atypical and may be subject to normalization.

PART IV: PLATTS EDITORIAL STANDARDS

All Platts' employees must adhere to the McGraw Hill Financial Code of Business Ethics (COBE), which has to be signed annually. The COBE reflects McGraw Hill Financial's commitment to integrity, honesty and acting in good faith in all its dealings.

In addition, Platts requires that all employees attest annually that they do not have any personal relationships or personal financial

interests that may influence or be perceived to influence or interfere with their ability to perform their jobs in an objective, impartial and effective manner.

Market reporters and editors are mandated to ensure adherence to published methodologies as well as internal standards that require accurate records are kept in order to document their work.

Platts has a Quality & Risk Management (QRM) function that is independent of the editorial group. QRM is responsible for ensuring the quality and adherence to Platts' policies, standards, processes and procedures. The QRM team conduct regular assessments of editorial operations, including checks for adherence to published methodologies.

McGraw Hill Financial's internal auditor, an independent group that reports directly to the parent company's board of directors, reviews the Platts risk assessment programs.

PART V: CORRECTIONS

Platts is committed to promptly correcting any material errors. When corrections are made, they are limited to corrections to data that was available when the index or assessment was calculated.

PART VI: REQUESTS FOR CLARIFICATIONS OF DATA AND COMPLAINTS

Platts strives to provide critical information of the highest standards, to facilitate greater transparency and efficiency in physical commodity markets.

Platts customers raise questions about our methodologies and the approach we take in our price assessments, proposed methodology changes and other editorial decisions in relation to our price assessments. These interactions are strongly valued by Platts and we encourage dialog concerning any questions a customer or market stakeholder may have.

However, Platts recognizes that occasionally customers may not be satisfied with responses received or the services provided by Platts and wish to escalate matters. Full information about how to contact Platts to request clarification around an assessment, or make a complaint, is available on our website, at: <http://www.platts.com/ContactUs/Complaints>.

PART VII: DEFINITIONS OF THE TRADING LOCATIONS FOR WHICH PLATTS PUBLISHES DAILY INDEXES OR ASSESSMENTS

The following specifications guide contains the primary specifications and methodologies for Platts refined oil products assessments throughout Europe and Africa. The various components of this guide are designed to give Platts subscribers as much information as possible about a wide range of methodology and specification issues.

This methodology is current at the time of publication. Platts may issue further updates and enhancements to this methodology and will announce these to subscribers through its usual publications of record. Such updates will be included in the next version of the methodology. Platts editorial staff and managers will usually be ready to provide guidance when assessment issues require clarification.

LPG

Assessment	CODE	Mavg	Pavg	Wavg	CONTRACT BASIS	LOCATION	DELIVERY PERIOD	MIN SIZE	MAX SIZE	CURRENCY	UOM	CONV
Propane CIF NWE 1-3kt	PMAAZ00	PMUED03	-	AABEX00	CIF	NWE	5-15 days forward	1,000	3,600	US \$	metric ton	5.21
Propane CIF NWE 7000+ MT	PMABA00	PMUEE03	-	AABEY00	CIF	NWE	10-25 days forward	8,500	20,000	US \$	metric ton	5.21
Propane CIF NWE 7kt+ Month to Date	PMUDK00	-	-	AABFB00	CIF	NWE				US \$	metric ton	5.21
Propane FOB NWE Seagoing	PMABB00	PMUEA03	-	AABEU00	FOB	NWE	5-15 days forward	1,000	3,600	US \$	metric ton	5.21
Propane FOB NWE Seagoing Month to Date	PMUDI00	-	-	-	FOB	NWE				US \$	metric ton	5.21
Propane ARA CIF Large Swap Mo01	PMABU00	-	-	-	CIF	ARA				US \$	metric ton	5.21
Propane ARA CIF Large Swap Mo02	PMUDH00	-	-	-	CIF	ARA				US \$	metric ton	5.21
Propane ARA CIF Large Swap Qr01	PMUDE00	-	-	-	CIF	ARA				US \$	metric ton	5.21
Propane FOB ARA	PMAAS00	PMUEB03	-	-	FOB	ARA	3-10 days forward	420	1,100	US \$	metric ton	5.21
Propane FOB Large Cargoes	PMABH00	PMUEC03	-	AABEW00	FCA	ARA	3-10 days forward	20	500	US \$	metric ton	5.21
Propane FCA ARA	AAVKH00	AAVKH03	-	AAVKH04	FOB	NWE	10-25 days forward	8,500	20,000	US \$	metric ton	12.429
Propane W Med CIF 7000+ MT	PMABE00	PMUEH03	-	-	CIF	West Med (basis Lavera)	10-25 days forward	7,000	+	US \$	metric ton	5.21
Propane W Med FOB Ex-Ref/Stor	PMABC00	PMUEF03	-	AABEZ00	FOB	West Med (basis Lavera)	5-15 days forward		3,000	US \$	metric ton	5.21
Propane W Med FCA Ex-Ref/Stor	PMABJ00	PMUEG03	-	AABFA00	FCA	West Med (basis Lavera)	3-10 days forward	20	500	US \$	metric ton	5.21
Butane CIF NWE 1-3kt	PMAAJ00	PMUDX03	-	AABER00	CIF	NWE	5-15 days forward	1,000	3,600	US \$	metric ton	4.53
Butane CIF NWE 3kt+	PMAAK00	PMUDY03	-	AABES00	CIF	NWE	10-25 days forward	4,000	+	US \$	metric ton	4.53
Butane FOB NWE Seagoing	PMAAL00	PMUDU03	-	AABE000	FOB	NWE	5-15 days forward	1,000	3,600	US \$	metric ton	4.53
Butane FOB ARA	PMAAC00	PMUDV03	-	AABEP00	FOB	ARA	3-10 days forward	420	1,100	US \$	metric ton	4.53
Butane FOB Large Cargoes	AAVKI00	AAVKI03	-	AAVKI04	FOB	NWE	10-25 days forward	4,000	+	US \$	metric ton	12.429
Butane FCA ARA	PMABI00	PMUDW03	-	AABEQ00	FCA	ARA	3-10 days forward	20	500	US \$	metric ton	4.53
Butane W Med FOB Ex-Ref/Sto	PMAAM00	PMUDZ03	-	AABET00	FOB	West Med (basis Lavera)	5-15 days forward	2,500	+	US \$	metric ton	4.53

LPG

Platts typically reflects outright price bids, offers and transactions in its assessments, but may use additional indications as appropriate including the market value of spread relationships with other oil products where there is a demonstrable price relationship with LPG, as well as associated markets such as derivatives. In certain illiquid markets, Platts may establish FOB or CIF values based on freight differentials. However Platts recognizes that FOB and CIF prices within northwest Europe may operate independently.

Propane CIF 1-3,000 MT: This assessment reflects the value of pressurized vessels loading 5-15 days from date of publication, including both field-grade and refinery material with a minimum of 93% C3s and a maximum of 30% olefinic content. A slight premium may be reflected for normalization for product with a higher C3 content. The assessment reflects full cargoes of 1,000-3,600 mt, sold on a CIF basis. Slightly smaller CIF cargoes may be considered for normalization in assessments, while CIF cargoes of more than 3,600 mt may occasionally be sold at prices that correspond most to the 1-3,600 mt market, and therefore may also be included in the 1-3,600 mt assessment. The assessment covers an area represented by a triangle, with Wilhelmshaven (Germany), Teesside (UK) and Le Havre (France) as its three corners, and also including Milford Haven, Fawley and Grangemouth. Product from ports on the French Atlantic coast, as well as Portugal and the Spanish Atlantic coast, are not included in assessments. Sales into the port of Brest on the French Atlantic coast may be included in the assessment. Please note that Platts has not formally renamed this assessment even though volumes larger than 3,000 mt are currently considered for normalization.

Propane CIF Large Cargoes: This assessment reflects the value of refrigerated cargoes, delivered 10-25 days from the date of publication. The assessment refers to full-cargoes of between 8,500-20,000 mt, and reflects commercial propane meeting Braefoot Bay specifications. The assessment reflects an area represented by a triangle, with Wilhelmshaven (Germany), Teesside (UK) and Le Havre (France) as its three corners, and also including Milford Haven, Fawley and Grangemouth. Product from ports on the French Atlantic coast, as well as Portugal and the Spanish Atlantic coast, are not included in assessments. Sales into the port of Brest on the French Atlantic coast may be included in the assessment. Sales made into selected western Scandinavian ports - Stenungsund, Rafnes, Porvoo and Karsto - are included, but will be

normalized to Flushing. Please note that Platts has not formally renamed this assessment even though volumes larger than 7,000 mt are now typically considered.

Propane CIF Large Cargoes Monthly Rolling Average: This value reflects the month-to-date average of Platts daily Propane CIF Large Cargo assessments. The average takes each of the daily data points published during the month to date, and divides by the number of working days there have been during the month.

Propane FOB Seagoing: This assessment reflects the value of pressurized vessels loading 5-15 days from date of publication, including both field-grade and refinery material with a minimum of 93% C3s and a maximum of 30% olefinic content. A slight premium may be reflected for normalization for product with a higher c3 content. The assessment refers to coasters ex-refinery/storage with full cargoes between 1,000-3,600 mt, although smaller full cargoes or split cargoes may be considered for normalization in assessments. The assessment covers an area represented by a triangle, with Wilhelmshaven (Germany), Teesside (UK) and Le Havre (France) as its three corners, and also including Milford Haven, Fawley and Grangemouth. Product from ports on the French Atlantic coast, as well as Portugal and the Spanish Atlantic coast, are not included in assessments.

Propane FOB Seagoing Monthly Rolling Average: This value reflects the month-to-date average of Platts daily Propane FOB Seagoing assessments. The average takes each of the daily data points published during the month to date, and divides by the number of working days there have been during the month.

Propane Swaps Basis CIF NWE: Platts assesses the forward swap market for CIF Northwest Europe 7,000+ mt cargoes for the balance of the month, four months and four quarters forward. The swaps are settled against the monthly average of daily assessments for propane CIF NWE 7,000+ mt. The swap months roll forward on the first day of the month, and the swap quarter quoted rolls on the first day of the quarter. Thus on July 1, monthly swap assessments would roll forward to reflect August, September and October. On July 1, the quarter published would roll from Q3 (Jul, Aug, Sep) to Q4 (Oct, Nov, Dec).

Propane FOB ARA: This assessment reflects the value of pressurized vessels loading ex-refinery/storage between 3-10 days from date of

publication, including both field-grade and refinery material with a minimum of 95% C3s and a maximum of 30% olefinic content. The assessment refers to sales onto barges of full cargoes between 420-1,100 mt, FOB Amsterdam-Rotterdam-Antwerp.

Propane FOB Large Cargoes: This assessment reflects the value of refrigerated cargoes, loading FOB Northwest Europe, 10-25 days from the date of publication. The assessment typically reflects full-cargoes of between 8,500-20,000 mt, and reflects commercial propane meeting Braefoot Bay specifications. The assessment is derived as a freight netback from the Propane CIF Large Cargo assessment using the daily Propane freight rate published in Platts LPGaswire.

Propane FCA ARA: This assessment reflects the value of pressurized material sold onto railcars and trucks in the Amsterdam-Rotterdam-Antwerp region. The assessment reflects loadings ex-refinery/storage between 3-10 days from date of publication including both field-grade and refinery material with a minimum of 95% C3s and a maximum of 30% olefinic content. The assessment reflects parcels of 20-500 mt.

Propane W Med CIF 7000+ MT: This assessment reflects the value of refrigerated commercial propane, meeting Sonatrach specification, loading in the west Mediterranean region, with all trades normalized to basis FOB Lavera, 10-25 days from the date of publication. The assessment takes into consideration trades in the area west of Italy – including Algeria, Tunisia and Morocco. To the north, Italy and France are included, as well as the east and south coasts of Spain. The assessment reflects full cargoes 7,000 mt and bigger.

Propane W Med FOB Ex-Ref/Stor: This assessment reflects the value of pressurized vessels, loading basis FOB Lavera, 5-15 days from the date of publication, including both field-grade and refinery material with a minimum of 93% C3s and a maximum of 30% olefinic content. The assessment is FOB basis Lavera, but includes the area west of Italy -- including Algeria, Tunisia and Morocco. To the north, Italy and France are included, as well as the east and south coasts of Spain. Trades basis other locations are normalized to a Lavera basis by analysing freight costs. The assessment reflects sales of up to 3,000 mt.

Propane W Med FCA Ex-Ref/Stor: This FCA ex-refinery storage assessment reflects the value of pressurized material sold onto autos, railcars and trucks in basis Lavera, loading 3-10 days from the date

of publication, including both field-grade and refinery material with a minimum of 93% C3s and a maximum of 30% olefinic content. The assessment reflects values in the area west of Italy -- including Algeria, Tunisia and Morocco. To the north, Italy and France are included, as well as the east and south coasts of Spain. The assessment reflects parcels of 20-500 mt.

Butane CIF 1-3,000 MT: This assessment reflects the value of pressurized vessels loading 5-15 days from date of publication, including both field-grade and refinery grade butane with a maximum of 30% olefins, 85% normal butane and 49% isobutane. For CIF values, product is normalized to a specification of 70:30 split with a maximum olefin content of 10%. Isobutane is considered to be any product with over 50% isobutane content, and such product is not assessed by Platts, except in the US. The assessment refers to full cargoes of between 1,000-3,600 mt sold on a CIF basis. Slightly smaller CIF cargoes may be considered for normalization in assessments, while CIF cargoes slightly over 3,600 mt may occasionally be sold at prices that correspond most to the 1,000-3,600 mt market, and therefore may also be included in the 1,000-3,600 mt assessment. The assessment covers an area represented by a triangle, with Wilhelmshaven (Germany), Teesside (UK) and Le Havre (France) as its three corners, and also including Milford Haven, Fawley and Grangemouth. Product from ports on the French Atlantic coast, as well as Portugal and the Spanish Atlantic coast, are not included in assessments. Sales into the port of Brest on the French Atlantic coast may be included in the assessment. Please note that Platts has not formally renamed this assessment even though volumes larger than 3,000 mt are currently considered.

Butane CIF Large Cargoes: This assessment reflects the value of refrigerated cargoes, delivered 10-25 days from the date of publication. The assessment refers to cargoes of more than 4,000 mt sold into NWE on a CIF basis. Occasionally, part-cargoes of less than 4,000 mt from large shipments may be sold at prices which reflect the 4,000 mt+ market, and

these prices may be reflected in the assessment. The assessment reflects mixed butane meeting Braefoot Bay specifications with a typical split of 70% normal and 30% isobutene. Pure normal butane and isobutane are not assessed by Platts, although pure normal prices may be considered for normalization in the assessment. The assessment reflects an area represented by a triangle, with Wilhelmshaven (Germany), Teesside (UK) and Le Havre (France) as its three corners, and also including Milford Haven, Fawley and Grangemouth. Product from ports on the French Atlantic coast, as well as Portugal and the Spanish Atlantic coast, are not included in assessments. Sales into the port of Brest on the French Atlantic coast may be included in the assessment. Please note that Platts has not formally renamed this assessment even though volumes larger than 3,000 mt are now typically considered.

Butane FOB Seagoing: This assessment reflects the value of pressurized vessels loading 5-15 days from date of publication, including both field-grade and refinery grade butane with a maximum of 30% olefins, 85% normal butane and 49% isobutane. For CIF values, product is normalized to a specification of 70:30 split with a maximum olefin content of 10%. Isobutane is considered to be any product with over 50% isobutane content, and such product is not assessed by Platts, except in the US. The assessment refers to coasters ex-refinery/storage with full cargoes between 1,000-3,600 mt, although smaller full cargoes or split cargoes may be considered for normalization in assessments. The assessment covers an area represented by a triangle, with Wilhelmshaven (Germany), Teesside (UK) and Le Havre (France) as its three corners, and also including Milford Haven, Fawley and Grangemouth. Product from ports on the French Atlantic coast, as well as Portugal and the Spanish Atlantic coast, are not included in assessments.

Butane FOB ARA: This assessment reflects the value of pressurized vessels loading ex-refinery/storage between 3-10 days from date of both field-grade and refinery grade butane with a maximum of 10% olefins, 85% normal butane and 49% isobutane. Isobutane is considered to be any

product with over 50% isobutane content, and such product is not assessed by Platts, except in the US. The assessment reflects sales onto barges of full cargoes between 420-1,100 mt, FOB Amsterdam-Rotterdam-Antwerp.

Butane FOB Large Cargoes: The assessment is derived as a freight netback from the Butane CIF Large Cargo assessment using the daily Propane freight rate published in Platts LPGaswire. The assessment reflects the value of refrigerated cargoes, loading FOB Northwest Europe, 10-25 days from the date of publication. The assessment typically reflects cargoes of more than 4,000 mt, and reflects mixed butane meeting Braefoot Bay specification with a typical split of 70% normal and 30% isobutane. Pure normal butane and isobutane are not assessed by Platts, although pure normal prices may be considered for normalization in the assessment.

Butane FCA ARA: This assessment reflects the value of pressurized material sold onto railcars and trucks in the Amsterdam-Rotterdam-Antwerp region. The assessment reflects loadings ex-refinery/storage between 3-10 days from date of publication including both field-grade and refinery butane with a maximum of 10% olefins, 85% normal butane and 49% isobutane. The assessment reflects parcels of 20-500 mt. Isobutane is considered to be any product with over 50% isobutane content, and such product is not assessed by Platts, except in the US.

Butane W Med FOB Ex-Ref/Stor: This assessment reflects the value of pressurized vessels, loading basis FOB Lavera, 5-15 days from the date of publication, field-grade and refinery grade butane is included in the assessment with a maximum of 30% olefins, 85% normal butane and 49% isobutane. The assessment is FOB basis Lavera, ex-refinery storage, and includes the area west of Italy -- including Algeria, Tunisia and Morocco. To the north, Italy and France are included, as well as the east and south coasts of Spain. Trades basis other locations are normalized to a Lavera basis by analysing freight costs. The assessment reflects a minimum size of at least 2,500 mt.

GASOLINE

Assessment	CODE	Mavg	Pavg	Wavg	CONTRACT BASIS	LOCATION	DELIVERY PERIOD	MIN SIZE	MAX SIZE	CURRENCY	UOM	CONV
Gasoline Prem Unleaded 10ppmS FOB Med Cargo	AAWZA00	AAWZA03	-	-	FOB	Med (basis Italy)	10-25 days forward	25,000	30,000	US \$	metric ton	8.33
Gasoline Prem Unleaded 10ppmS CIF Med Cargo	AAWZB00	AAWZB03	-	-	CIF	Med (basis Genoa/Lavera)	10-25 days forward	25,000	30,000	US \$	metric ton	8.33
Gasoline 10ppmS CIF NWE Cargo	AAXFQ00	AAXFQ03	-	-	CIF	NWE (basis Thames)	10-25 days forward	9,000	11,000	US \$	metric ton	8.33
Gasoline Eurobob FOB ARA Barge	AAQZV00	AAQZV03	-	-	FOB	AR	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	5,000	US \$	metric ton	8.33
Gasoline Prem Unleaded 10ppmS FOB Rdam Barges	PGABM00	PGABM03	-	-	FOB	AR	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	5,000	US \$	metric ton	8.33
Gasoline Reg Unleaded 98 FOB ARA Barges	AAKOD00	AAKOE00	-	-	FOB	AR	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	5,000	US \$	metric ton	8.33

GASOLINE

Gasoline barges are typically basis AR (Amsterdam/Rotterdam). Any transactions occurring at other loading ports in NWE (including Antwerp) are normalized on an incremental freight differential basis into the main consuming area, which is typically Germany.

Seasonal Changes: The switch in gasoline quality from summer to winter grade and vice versa may have a significant impact on gasoline prices in Europe. Platts typically has reflected winter spec material until April 1, after which summer grade only is reflected; similarly, Platts has reflected summer grade until October 1, after which winter grade only is reflected. These dates are subject to change, depending on observed implementation of seasonal switching in the market itself. Platts generally announces a phase-in period for the summer and winter grades on cargoes and barges, in which the incoming seasonal grade is given an increasing weighting in the assessment.

For example: In the gasoline cargo market on March 7 2014, Platts began reflecting summer grades of gasoline on a pro-rated basis in the Northwest Europe and Mediterranean cargo assessments, with March 11 being the first day on which summer gasoline can be bid or offered and March 17 being the last day on which winter gasoline could be bid or offered. The last day on which winter was reflected in the assessment was March 21.

In the AR gasoline barge market, on March 17, 2014 Platts started reflecting summer grades of gasoline on a pro-rated basis, with March 21 being the first day on which summer gasoline could be bid. March 24

was the last day on which winter could be offered. The last day on which winter was reflected in the assessment was March 26.

Premium gasoline 10 PPM Cargoes FOB Med: Mediterranean unleaded cargo assessments represent EN 228 95 RON meeting Italian, French, and Spanish specifications. The RON is 95 and the MON is 85. The specific gravity for Mediterranean assessments is 0.755 g/ml. Aromatics limit is 35 max. Cargo assessments reflect parcels of 25,000-30,000 mt each, though FOB cargoes of up to 33,000 mt may be considered. The assessment reflects cargoes loading FOB basis Italy. Platts also reflects sales of gasoline that occur across the berth at jetties within the Platts FOB Med gasoline assessment. Should the seller elect to deliver a cargo that has loaded across the jetty, the binding quantity and quality would be established on a ship's composite basis in the final delivering vessel. The assessment reflects material for loading 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

Effective September 8 Platts will change the reference maximum Reid Vapor Pressure [RVP] for winter specification gasoline in its FOB and CIF Mediterranean 10 ppm gasoline assessments in which the incoming seasonal grade is given an increasing weighting in the assessment in line with the typical phase-in period. Under change the Premium unleaded 10 ppm FOB Mediterranean and CIF Mediterranean gasoline cargo assessments would reflect a maximum RVP of 80 kPa.

Since January 2014, Platts has reflected bids, offers and trades into the North Africa port of Tangier Med, Morocco, in its Mediterranean cargo

assessments. Under Platts methodology, certain approved alternative locations to the basis assessment port for many oil product assessments may be bid and offered during the Market on Close assessment process. Platts may normalize bids, offers or trades that include the port of Tangier Med as their basis location or as a charter party option, which reflects Platts current assessment standards of non-basis locations and non-standard charter party options. The Tangier Med basis location is subject to the same performance requirements as other ports already reflected in Platts assessment process.

Premium gasoline 10 PPM Cargoes CIF Med: The CIF Med gasoline assessment is assessed as a freight differential to the FOB Med assessment, using Platts cross-Med clean tanker assessment. Effective Jan 2, 2014 the Worldscale basket flat rate used to calculate the CIF Med assessment is \$7.76. Mediterranean unleaded cargo assessments represent EN 228 95 RON meeting Italian, French, and Spanish specifications. The RON is 95 and the MON is 85. The specific gravity for Mediterranean assessments is 0.755 g/ml. Aromatics limit is 35 max. Cargo assessments reflect parcels of 25,000-30,000 mt each. Assessment is CIF basis Genoa/Lavera with normal CP options within the Med. The assessment reflects material for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

Premium gasoline 10 PPM Cargoes CIF NWE: NWE cargo assessments represents EN 228 95 RON material with a maximum sulfur of 10 ppm. Specific gravity is basis 0.755 g/ml. The Motor Octane (MON) number is 85. The aromatics limit is 35 max. In line

with prevailing market practices, the assessment reflects material with a maximum oxygenate content of 0.9% (by wt). Platts also reflects material with a maximum evaporation (E70) of 43% in winter specification material and 41% in summer specification material. Offers of material with a higher evaporation (E70) level should state the maximum limit in the offer. Gasoline 10 ppm CIF cargo assessments reflects 10,000 metric tonnes +/- 10% operational tolerance, The assessment is basis Thames with normal charter-party options within NWE. The assessment reflects material for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

Eurobob Gasoline Barges FOB AR: The barge assessment represents EN 228 material after the addition of 4.8% of ethanol with maximum sulfur 10 ppm, specific gravity of 0.755 g/ml. The RON is 95 and the MON is 85. The Aromatics limit is 35

max, and a maximum oxygenate content of 0.9% (by wt). Barge assessments reflect parcels of 1,000-5,000 mt each. Gasoline barges are typically basis AR (Amsterdam/Rotterdam). The assessment reflects material for loading 3-15 (Monday-Tuesday) or 5-15 (Wednesday through Friday) days from date of publication, with values normalized to reflect the mean value of the loading period. Full window bids which give the buyer a wider optionality may be disregarded in the assessment process.

Premium Gasoline 10 PPM Barges FOB AR: The barge assessment represents EN 228 material with a 95 RON, 85 MON and a specific gravity basis of 0.755 g/ml. The maximum sulfur is 10 ppm. Aromatics limit is 35 max. Barge assessments reflect parcels of 1,000-5,000 mt each. Gasoline barges are typically basis AR (Amsterdam/Rotterdam). The assessment reflects material for loading 3-15 (Monday-Tuesday) or 5-15 (Wednesday through Friday) days from date of publication,

with values normalized to reflect the mean value of the loading period. Full window bids which give the buyer a wider optionality may be disregarded in the assessment process.

98 RON Gasoline 10 PPM Barges FOB AR: The NWE barge assessment represents EN 228 material with maximum sulfur 10 ppm, specific gravity of 0.755 g/ml. The RON is 98 and the MON is 88. Aromatics limit is 35 max. Barge assessments reflect parcels of 1,000-5,000 mt each. Gasoline barges are typically basis AR (Amsterdam/Rotterdam). The assessment reflects material for loading 3-15 (Monday-Tuesday) or 5-15 (Wednesday through Friday) days from date of publication, with values normalized to reflect the mean value of the loading period. Full window bids which give the buyer a wider optionality may be disregarded in the assessment process. Because this market is illiquid, it is generally established through a differential to Prem Unl 10 ppm barges.

NAPHTHA

Assessment	CODE	Mavg	Pavg	Wavg	CONTRACT BASIS	LOCATION	DELIVERY PERIOD	MIN SIZE	MAX SIZE	CURRENCY	UOM	CONV
Naphtha CIF NWE Cargo	PAAAL00	PAAAL03	-	-	CIF	NWE (basis Rotterdam)	10-25 days forward	10,000	30,000	US \$	metric ton	8.9
Naphtha CIF NWE Swap Mo01	PAAAJ00	PAAAJ03	-	-	CIF	NWE				US \$	metric ton	8.9
Naphtha FOB Med Cargo	PAAAI00	PAAAI03	-	-	FOB	Med (basis Alexandria)	10-25 days forward	27,500	27,500	US \$	metric ton	8.9
Naphtha CIF Med Cargo	PAAAH00	PAAAH03	-	-	CIF	Med (basis Lavera)	10-25 days forward	27,500	27,500	US \$	metric ton	8.9
Naphtha FOB Rdam Barge	PAAAM00	PAAAM03	-	-	FOB	ARA (basis Rotterdam)	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	5,000	US \$	metric ton	8.9

NAPHTHA

Naphtha Cargoes CIF NWE: The CIF NWE cargo assessment reflects open spec material with a min 65 paraffin content and a typical specific gravity of 0.69 to 0.73 g/ml. Other qualities, for instance 70-min paraffins and pipe spec, may be taken into account when traded but these may command a premium or discount to cargoes fitting Platts' typical specifications. The assessment is always normalized to the open spec quality naphtha and any market indicator that fits those parameters overrides signals stemming from other quality cargoes. The premium or discount to be applied will be at the reporter's discretion, based on relevant market activity. Likewise, naphtha with larger than normal mercury levels may not be considered in the assessment process. The maximum mercury considered in the assessment is 5 parts per billion. Platts also reflects material with a maximum MTBE content of 50 ppm and a total oxygenate content of 100 ppm.

The physical assessment reflects parcels of 12,500 mt +/- a maximum 10% operational tolerance, full or part-cargo. A cargo meeting these volume specifications meets the standard and overrides values demonstrated from other cargo sizes. Specific volumes in the range 10,000-15,000 mt with a maximum 10% operational tolerance, full or part-cargo, may be considered in the assessment if any other clear indicators are lacking. Other cargo sizes—for example 10,000-15,000 mt sellers' option or cargoes up to 30,000 mt may be taken into account when traded but these may command a premium or discount to cargoes fitting Platts' typical specifications. The assessment reflects naphtha for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

The assessment reflects cargoes delivered CIF basis Rotterdam. Where part-cargoes are delivered CIF basis Rotterdam, it is assumed that the

buyer should not be disadvantaged by the seller's decision to not deliver a full cargo. Therefore, Platts will tend to reflect deals in which charter party and demurrage paid by the buyer is on a pro-rata basis to normal destinations in NWE, even when these are outside the ARA range. Platts reflects bids and offers with typical charter-party options including ARA, the Le Havre-Hamburg range and the East Coast UK.

Platts only reflects offers of Tuapse loading naphtha cargoes when the seller commits to deliver on a CIF basis, but with the quantity established by means of a ship's composite at disport.

Platts European naphtha assessments have included bids, offers and transaction where the seller has committed to meeting the receivers' reasonable shipping and vetting requirements. Platts has also adopted in its assessment processes bids, offers and transactions where the buyer requests delivery into a ship. Platts will continue to adhere to and follow these standards provided the vessel the buyer requests delivery into is of widespread acceptability. Platts will continue to review vessel acceptability as needed.

With effect from July 1, 2013, Platts assessments reflect trades cargoes where sellers may substitute vessels nominated to buyers up until one clear working day before the first day of the narrowed three day delivery period (laycan). As an example, for a laycan narrowed by a seller to Wednesday, June 26 until Friday, June 28, a seller would be permitted to substitute the vessel up until the close of business on Monday, June 24. Platts also expects parties to be reasonable when exceptional circumstances may require later substitutions, and also in managing buyers' requests to change discharge orders. Under Platts guidelines, a nominated cargo need solely meet the specifications defined in Platts methodology and those expressed by the market maker in MOC. Re-nominated vessels need to be able to meet the logistical requirements

of the originally agreed discharge port.

Platts CIF Northwest European naphtha cargo assessments reflect bids, offers and transactions where the vessel is not guaranteed to have an inert gas system (IGS) if the material is delivered in a coaster vessel, typically of 12.5kt. Platts has reviewed market practices in the region where such vessels are delivered. In those situations where the buyer requires a vessel with an IGS facility, that buyer should specify it in the bid or declare the delivery port which requires an IGS vessel.

Naphtha Swaps Basis CIF NWE: Platts assesses the forward swap market for CIF NWE Naphtha derivatives for the front month ahead of current month of publication. The rollover is on the first day of each month. Therefore on June 1, July swaps are assessed. The swaps are settled against the monthly average of daily assessments for Naphtha Cargoes CIF NWE.

Naphtha Cargoes FOB MED: The FOB MED cargo assessment includes both full range and paraffinic grades, with values normalized to reflect 65 min paraffins. The assessment reflects 27,500 mt cargoes, loading FOB basis Alexandria, for loading 10-25 days from date of publication, with values normalized to the mid-point of this loading period. FOB Mediterranean naphtha is assessed as a freight differential to the CIF Northwest Europe assessment. Effective Jan 2, 2014 the Worldscale basket flat rate used to calculate FOB Med naphtha is \$14.60/mt. Rotterdam port fees are \$0.97/mt. The actual rate applied to the netback will fluctuate daily based on changes in Platts UKC-Med freight assessments for 27,500 mt naphtha cargoes, applied against the \$15.39/mt rate.

Naphtha Cargoes CIF MED: The CIF MED cargo assessment includes both full range and paraffinic grades, with values normalized to reflect

65 min paraffins. The assessment reflects 27,500 mt cargoes, delivered CIF basis Laver, for delivery 10-25 days from date of publication, with values normalized to the mid-point of this delivery period. The differential between FOB Med and CIF Med naphtha assessment is evaluated using the freight value between Alexandria and Lavera. This is calculated using Platts cross-Med clean tanker assessments for 27,500 mt naphtha cargoes. Adjustments to the freight cost are made on the first working

day of January each year. Effective Jan 2, 2014, the Worldscale flat rate used to calculate the CIF MED Naphtha assessment became \$9.28/mt based on published freight values between Alexandria and Lavera using Platts cross-Med clean tanker naphtha assessments.

Naphtha Barges FOB ARA: Barge naphtha assessments reflect the value of open spec material, with values normalized to reflect 65

min paraffins. Barge assessments reflect parcels of 1,000-5,000 mt each, loading FOB Amsterdam-Rotterdam-Antwerp, basis Rotterdam. Barge assessments reflect parcels for loading 3-15 (Monday-Tuesday) or 5-15 (Wednesday through Friday) days forward from the date of publication. Because of illiquidity in this market, the barge assessment is established through a fixed differential to the CIF NWE cargo assessment.

JET FUEL

Assessment	CODE	Mavg	Pavg	Wavg	CONTRACT BASIS	LOCATION	DELIVERY PERIOD	MIN SIZE	MAX SIZE	CURRENCY	UOM	CONV
Jet CIF NWE Cargo	PJAAU00	PJAAU03	-	-	CIF	NWE	10-25 days forward	25,000	45,000	US \$	metric ton	7.89
Jet FOB NWE Cargo	PJAAV00	PJAAV03	-	-	FOB	NWE	10-25 days forward	25,000	45,000	US \$	metric ton	7.89
Jet FOB Rdam Barge	PJABA00	PJABA03	-	-	FOB	ARA	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	2,000	5,000	US \$	metric ton	7.89
Jet FOB Med Cargo	AAIDL00	AAIDM00	-	-	FOB	Med	10-25 days forward	27,500	27,500	US \$	metric ton	7.89
Jet CIF Med Cargo	AAZBN00	AAZBN03	-	-	CIF	Med	10-25 days forward	30,000	30,000	US \$	metric ton	7.89
Jet CIF Med Cargo	AAZBN00	AAZBN03	-	-	CIF	Med	10-25 days forward	30,000	30,000	US \$	metric ton	7.89

JET FUEL

Platts European jet fuel assessments reflects standard commercial Jet-A1 specifications, as defined by UK Ministry of Defence in DEFSTAN 91-91 and the Joint Fuelling System Checklist. The UK Ministry of Defence has updated DEFSTAN 91-91 periodically and Platts reflects the latest issue. Typical DEFSTAN specifications under issue 7 are as follows: Sulfur is 0.3% maximum, specific gravity is 0.775-0.840 g/ml, flash point is 38 degrees C minimum, freeze point is minus 47 degrees C maximum. The Joint Fuelling System Checklist requires jet fuel to meet the more stringent requirements of DEFSTAN 91-91 issue 7 and the American Society for Testing & Materials', Standard Specification D 1655-04a.

Jet barges are basis FOB Rotterdam. Any transactions occurring at other loading ports in NWE are typically normalized on a freight differential basis back to Rotterdam. Platts considers bids and offers from Rotterdam, Antwerp, Amsterdam, Ghent and Flushing.

Jet Cargoes CIF NWE: Cargo assessments reflect standard tradable parcels. Because of a change in the production and consumption patterns in Europe, spot parcels have become increasingly larger, with typical spot trade within 25,000-45,000 mt with a standard emerging at around 30,000 mt. Platts takes into account spot deliveries made in full or part cargoes at seller's option. Typically the assessment is normalized to 30,000 mt full or part-cargo, seller's option, delivered basis a "par" port within NWE where the seller guarantees lay-time of 36 plus 6 hours to the buyer of each parcel. Bids, offers and trades into other locations will be considered, and will be normalized to reflect a "par" port. "Par" ports

are typically considered to be those with flexibility to handle a variety of cargo sizes from MR to LR. Offers or bids basis non-par ports may be considered in the assessment, but these will typically be normalized to the standard. Full-cargo only bids will be considered restrictive.

Typically, cargoes delivered into ARA, UK and northern France are considered in the assessment. Because trading patterns are diverse, no single base location is reflected. Deliveries into Scandinavia including Copenhagen are not considered, however. Offers are assumed to carry a normal range of CP options within NWE.

The assessment reflects material for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

Following a review of market feedback, Platts confirmed on October 15 2013 that it would reflect ex-duty cargoes of jet fuel in its benchmark Jet CIF Northwest Europe Cargo assessment with effect from January 1, 2014. This decision followed a consultation launched by Platts on July 18, 2014, and a proposal published on September 10.

Under this approach, Platts considers for publication in its assessment process bids, offers and trades for any jet fuel cargoes that meet standard quality specifications, for arrival into Europe from January 1, 2014.

Platts updated this methodology following European Union changes in taxation policy, which would make substantial supplies of jet fuel subject to possible taxation after January 1. Platts jet fuel assessments will be

exclusive of import duty, were they to apply. Platts assessments will reflect merchantable quality jet fuel regardless of origin.

Platts had previously reflected market conventions in its Jet CIF Northwest European physical cargo assessment, where jet fuel cargoes are expected to be "EU-qualified," which means free from exposure to import taxes.

Jet Cargoes FOB NWE: The FOB NWE assessment is typically derived from the CIF value based on a freight differential representing freight costs for handy size vessels on typical routes within NWE. Platts uses the \$/mt for cross UK Cont vessels carried in Platts Clean Tankerwire, rounded to the nearest \$0.25/mt. This assessment reflects the value of parcels loading 10-25 days forward from the date of publication, with values normalized to the mid-point of this delivery period, FOB NWE. Cargo assessments reflect standard tradable parcels. Because of a change in the production and consumption patterns in Europe, spot parcels have become increasingly larger with typical spot trade within 25-45,000 mt. Platts will also take into account spot deliveries made in full or part cargoes.

Jet Barges FOB ARA: This assessment reflects parcels of 2,000-5,000 mt each (with values normalised to reflect the 2,000mt to 3,000mt range), loading basis FOB Rotterdam, for loading 3-15 (Monday-Tuesday) or 5-15 (Wednesday through Friday) days from date of publication, with values normalized to reflect the mean value of the loading window. Transactions occurring at other loading ports in NWE are typically normalized on a freight differential basis back to Rotterdam. Platts considers bids and offers from Rotterdam, Antwerp,

Amsterdam, Ghent and Flushing. Parcels of 1,000 mt are not considered in the assessment. Platts Jet FOB ARA Barge continues to reflect "EU-qualified" material.

Jet Fuel FOB MED: This assessment reflects the value of cargoes of 27,500 mt loading FOB Mediterranean basis Augusta, for loading 10-25 days from date of publication, with values reflecting the mean value of the delivery period. This assessment is established as a netback from the CIF Northwest European jet assessment. Details of the calculation methodology for Jet Fuel FOB Med are as follows: The calculation takes the spot Worldscale rate as published in Platts Marine Alert and Platts Clean Tankerwire, for jet fuel Med-Northwest Europe pro-rated from

30,000 mt to 27,500 mt. This total is multiplied by the flat rate Augusta-Rotterdam as defined by Worldscale, and the appropriate allowance for harbor dues at Rotterdam is then added. The result of this formula is rounded to the nearest \$0.25/mt and subtracted from the mean of the CIF Northwest European jet assessment, to define the FOB Med mean.

Platts Marine Department assesses the Worldscale rate for jet cargoes for the route Med-Northwest Europe. The rate is published on a daily basis in Platts Marine Alert and in the daily Clean Tankerwire. This rate is applied to determine the netback calculation of the FOB Mediterranean Jet Aviation Fuel assessment. Adjustments to the formula are made on the first working day of January each year to reflect updated Worldscale

flat rates as published by Worldscale. Effective Jan 2, 2014 the Worldscale flat rate Augusta-Rotterdam used to calculate the netback formula for FOB Med jet fuel became \$12.87/mt. Rotterdam harbor dues will be \$1.17/mt

Jet Fuel CIF MED: This assessment reflects the value of cargoes of 30,000 mt delivered CIF Mediterranean, for delivery 10-25 days from date of publication. The assessment is established by analysing a freight differentials against the CIF Northwest Europe assessment. Freight is calculated using the lump sum differential of the Platts Persian Gulf to Northwest Europe route, versus the Persian Gulf to the Mediterranean, as published in the Platts Clean Tankerwire.

ULSD												
Assessment	CODE	Mavg	Pavg	Wavg	CONTRACT BASIS	LOCATION	DELIVERY PERIOD	MIN SIZE	MAX SIZE	CURRENCY	UOM	CONV
ULSD 10ppmS CIF NWE Cargo	AAVBG00	AAVBG03	-	-	CIF	NWE (basis ARA)	10-25 days forward	10,000	35,000	US \$	metric ton	7.45
ULSD 10ppmS CIF NWE Basis Le Havre Cargo	AAWZC00	AAWZC03	-	-	CIF	NWE (basis Le Havre)	10-25 days forward	10,000	25,000	US \$	metric ton	7.45
ULSD 10ppmS CIF NWE Basis UK Cargo	AAVBH00	AAVBH03	-	-	FOB	NWE (basis UK)	10-25 days forward	10,000	10,000	US \$	metric ton	7.45
ULSD 10ppmS FOB NWE Cargo	AAVBF00	AAVBF03	-	-	FOB	NWE (basis ARA)	10-25 days forward	10,000	35,000	US \$	metric ton	7.45
ULSD 10ppmS FOB NWE Basis Le Havre Cargo	AAWZD00	AAWZD03	-	-	FOB	NWE (basis Le Havre)	10-25 days forward	10,000	25,000	US \$	metric ton	7.45
ULSD 10ppmS CIF Med Cargo	AAWYZ00	AAWYZ03	-	-	CIF	Med (basis Lavera)	10-25 days forward	25,000	30,000	US \$	metric ton	7.45
ULSD 10ppmS FOB Med Cargo	AAWYY00	AAWYY03	-	-	FOB	Med (basis Lavera)	10-25 days forward	25,000	30,000	US \$	metric ton	7.45
ULSD 10ppmS FOB Rdam Barge	AAJUS00	AAJUW00	-	-	FOB	ARA (basis Rotterdam)	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	5,000	US \$	metric ton	7.45

ULSD

Seasonal Changes: Platts set out its schedule for changing the seasonal specification of diesel fuels in early spring and late summer, ahead of the switch from winter to summer (including intermediate where appropriate) and then summer to winter grades (again, including intermediate where appropriate). Platts intends to follow broadly similar schedules each year, but the exact dates may be varied in line with prevailing patterns of refining activity and trading liquidity. As trading and seasonal patterns change from year to year, any schedule is provisional and subject to change with only limited notice.

Trace elements of biodiesel: Platts defines non-intentionally blended trace elements of biodiesel in hydrocarbon diesel assessments as diesel with a maximum biodiesel content of no more than 0.30%. This is in line with the current technology for repeatable testing the bio-content of hydrocarbon diesel.

10ppm ULSD barges are FOB basis Rotterdam and all other load ports are typically normalized on an incremental freight differential basis. i.e. if the barge is loading from Antwerp, the freight differential from Antwerp to Germany against the freight differential from Rotterdam to Germany would generally be applied.

Part Cargoes: Platts CIF European ULSD and gasoil assessment processes reflect bids, offers and trades that allow a seller to deliver oil from a part cargo providing the vessel was named at the time sale, either as a named vessel in the offer or by hitting a bid with a named vessel.

Additionally, when selling on a part cargo basis, any seller must commit to supplying the performing volume in segregated tanks with separate BLs. The seller must also commit to discharging any additional volume, above the contractual volume, prior to discharge of the main cargo and also protect the buyer against any additional freight exposure caused by delivering on a part cargo basis. When supplying on a part cargo basis the seller must provide a vessel commensurate with typical trade patterns in that market.

ULSD 10ppm Cargoes CIF NWE (AAVBG00): This assessment reflects Benelux and French quality diesel fuel with a maximum sulfur of 10 ppm and SG in the range 0.82-0.845. The reference density is 0.845 g/l. Bids, offers and transactions for other 10 ppm grades, such as UK or German specifications, into typical CIF NWE locations will be considered in the assessment process and normalized to the base assessment. Typical cargo sizes of 10,000-35,000 mt are reflected. Platts currently normalizes to reflect 20,000 mt size. Platts monitors changes in shipping practices to ensure its assessments are in line with shipping logistics. The CIF assessment reflects Amsterdam-Rotterdam-Antwerp delivery basis with typical charter party options, including the Hamburg-Bordeaux and North Spain range, German North Sea, the German Baltic Sea, ARA, Poland, Thames, the East Coast and the South Coast of the UK. West Coast UK charter party options may not be unreasonably withheld.

The assessment reflects material for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

Diesel 10ppm NWE Cargoes CIF NWE (AAWZC00): This assessment is established as a freight-related netback to the ULSD 10 ppm CIF NWE assessment (basis Amsterdam) using daily freight rates published in the Platts Clean Tankerwire. The assessment reflects Benelux and French quality diesel fuel with a maximum sulfur of 10 ppm and SG in the range 0.82-0.845. The reference density is 0.845 g/l. Typical cargo sizes of 10-25,000 mt are reflected. Platts currently normalizes to reflect the standard flexi volume of 20,000 mt as this is the prevailing cargo size at present. The CIF assessment is basis Le Havre with normal charter party options in the Hamburg to Bordeaux and North Spain range.

The assessment reflects material for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

Diesel 10ppm UK Cargoes CIF NWE (AAVBH00): This assessment is established as a freight-related netback to the ULSD 10 ppm CIF NWE assessment (basis Amsterdam-Rotterdam-Antwerp), based on a freight differential to typical UK ports. The CIF assessment is calculated as a freight netback using a Worldscale rate published in Platts Clean Tankerwire and a basket of flat rates including typical destinations into the UK: London, Cardiff and Immingham. Thames contributes 50 per cent of the UK assessment, with Cardiff accounting for 30 per cent and Immingham 20 per cent.

The assessment reflects the value of cargoes of 10,000 mt for delivery 10-25 days from date of publication.

ULSD 10ppm Cargoes FOB NWE (AAVBF00): This assessment reflects Benelux and French quality diesel fuel with a maximum sulfur of 10 ppm and SG in the range 0.82-0.845. The reference density is 0.845 g/l. Typical cargo sizes of 10-35,000 mt are reflected. Platts currently normalizes to reflect 20,000 mt size. Platts monitors changes in shipping practices to ensure its assessments are in line with shipping logistics. The assessment reflects material for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

Typically the FOB assessment is derived at a freight differential to the CIF assessment, based on the following routes: Brofjorden, Porvoo, Slagen, Primorsk, Riga and Kaliningrad in to ARA. Effective January 2, 2014, the Worldscale flat rate used to calculate the netback formula for ULSD 10ppm FOB NWE is \$8.43/mt.

Diesel 10ppm NWE Cargoes FOB NWE (AAWZD00): This assessment is typically derived as a freight-related netback to the CIF assessment, based on the following routes: Amsterdam, Rotterdam, Antwerp, Klaipeda, Wilhemshaven, Ventspils. Effective January 2, 2014, the Worldscale flat rate used to calculate the netback formula for Diesel 10ppm FOB NWE is \$8.68/mt.

The assessment reflects Benelux and French quality diesel fuel with a maximum sulfur of 10 ppm and SG in the range 0.82-0.845. The reference density is 0.845 g/l. Typical cargo sizes of 10-25,000 mt are reflected. Platts currently normalizes to reflect the standard flexi volume of 20,000 mt as this is the prevailing cargo size at present.

The assessment reflects cargoes for loading FOB NWE 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

10ppm ULSD Cargoes CIF MED: This assessment typically reflects French spec diesel but other grades such as Italian and Spanish may be considered for normalization. The assessment reflects the value 25,000-30,000 mt cargoes, delivered CIF basis Lavera, with normal CP options within the Med considered, for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

Since January 2014, Platts has reflected bids, offers and trades into the North Africa port of Tangier Med, Morocco, in its Mediterranean cargo assessments. Under Platts methodology, certain approved alternative locations to the basis assessment port for many oil product assessments may be bid and offered during the Market on Close assessment process. Platts may normalize bids, offers or trades that include the port of Tangier Med as their basis location or as a charter party option, which reflects Platts current assessment standards of non-basis locations and non-standard charter party options. The Tangier Med basis location is subject to the same performance requirements as other ports already reflected in Platts assessment process.

10ppm ULSD Cargoes FOB MED: This assessment is calculated as a freight netback from the 10ppm ULSD CIF MED assessment, using a Worldscale rate published in Platts Clean Tankerwire and a basket of flat rates including typical routes in the Mediterranean from Genoa and Lavera: Santa Panagia, Aliaga, Aghio, Batumi. The actual freight applied

to the netback will fluctuate daily based on changes in Platts Med-Med assessments in the Clean Tankerwire for 30,000 mt cargoes applied against the respective year's flat rates. Effective January 2, 2014, the Worldscale flat rate used to calculate the netback formula for ULSD FOB Med is \$9.21/mt.

The assessment typically reflects French spec diesel but other grades such as Italian and Spanish may be considered. The assessment reflects the value 25,000-30,000 mt cargoes, loading FOB Mediterranean, for loading 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

Diesel 10ppm Barges: This assessment reflects German spec diesel with a maximum sulfur content of 10 ppm. The typical density is basis 0.845 g/ml (actual SG ranges from 0.82 to 0.845 g/ml). Platts increased the minimum assessable barge volume from 1,000 mt to a range of 1,000-2,000 mt, where the buyer has the option to choose the actual volume. However, the buyer has the obligation to specify the actual volume at the time of the deal. Platts will continue to include in the assessment process transactions of up to 5,000 mt.

The assessment reflects the value of barges loading FOB basis Rotterdam, for loading 3-15 (Monday-Tuesday) or 5-15 (Wednesday through Friday) days forward, with values normalized to the midpoint of these loading ranges. Other load ports are typically normalized on an incremental freight differential basis. i.e. if the barge is loading from Antwerp, the freight differential from Antwerp to Germany against the freight differential from Rotterdam to Germany would generally be applied.

GASOIL

Assessment	CODE	Mavg	Pavg	Wavg	CONTRACT BASIS	LOCATION	DELIVERY PERIOD	MIN SIZE	MAX SIZE	CURRENCY	UOM	CONV
Gasoil 0.1%S CIF NWE Cargo	AAYS00	AAYS03	-	-	CIF	NWE (basis Le Havre)	10-25 days forward	10,000	30,000	US \$	metric ton	7.45
Gasoil 0.1%S FOB NWE Cargo	AAWR00	AAWR03	-	-	FOB	NWE (basis Le Havre)	10-25 days forward	10,000	30,000	US \$	metric ton	7.45
Gasoil .1%S (1000ppm) CIF Med Cargo	AAVJ00	AAVJ03	-	-	CIF	Med (basis Genoa)	10-25 days forward	25,000	30,000	US \$	metric ton	7.45
Gasoil 0.1%S FOB Med Cargo	AAVJI00	AAVJI03	-	-	FOB	Med (basis Genoa)	10-25 days forward	25,000	30,000	US \$	metric ton	7.45
Gasoil .1%S (1000ppm) FOB ARA Barge	AAWT00	AAWT03	-	-	FOB	ARA (basis Rotterdam)	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	5,000	US \$	metric ton	7.45
Gasoil .005%S (50ppm) FOB ARA Barge	AAUQC00	AAUQC03	-	-	FOB	ARA	5-15 days forward	1,000	3,000	US \$	metric ton	7.45

GASOIL

European NWE gasoil assessments currently reflect 0.1% maximum sulfur as a result of European Union directives aimed to reduce the sulfur in gasoil to 0.1% maximum from the beginning of 2008.

0.1 gasoil barges and 10ppm ULSD barges are FOB basis Rotterdam. Transactions occurring at other loading ports in NWE are typically normalized on a freight differential basis back to Rotterdam.

Part Cargoes: Platts CIF European ULSD and gasoil assessment processes reflect bids, offers and trades that allow a seller to deliver oil from a part cargo providing the vessel was named at the time sale, either as a named vessel in the offer or by hitting a bid with a named vessel. Additionally, when selling on a part cargo basis, any seller must commit to supplying the performing volume in segregated tanks with separate BLs. The seller must also commit to discharging any additional volume, above the contractual volume, prior to discharge of the main cargo and also protect the buyer against any additional freight exposure caused by delivering on a part cargo basis. When supplying on a part cargo basis the seller must provide a vessel commensurate with typical trade patterns in that market.

Gasoil 0.1% Cargoes CIF NWE: This assessment reflects material meeting the minimum requirements of French Fuel Oil Domestique (FOD), Spanish (B&C) and German Deutsche Industrie Norm (DIN) (with a maximum color rating of 2, clear and bright, a maximum density of 860g/ml and minimum flash of 57) quality gasoil fuel with a maximum sulfur of 0.1%, and reflects cracked gasoil for heating oil use. The quality is normalized to reflect French FOD gasoil fuel. SG is basis 0.845 g/l for the final assessment.

The assessment reflects typical cargo sizes of 10,000-30,000 mt, normalized to reflect 20,000 mt, for delivery basis CIF Le Havre with normal charter party options. Cargoes with charter party options in the range Hamburg to North Spain would typically be included. The assessment reflects material for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

Gasoil 0.1% Cargoes FOB NWE: This assessment is derived at a freight differential to the CIF assessment, based on the following routes: Ventspils, Antwerp, Stockholm. Effective January 2, 2014, the Worldscale flat rate used to calculate the netback formula for Gasoil 0.1% FOB NWE is \$9.33/mt.

The assessment reflects material meeting the minimum requirements of French Fuel Oil Domestique (FOD), Spanish (B&C) and German Deutsche Industrie Norm (DIN) (with a maximum color rating of 2, clear and bright, a maximum density of 860g/ml and minimum flash of 57) quality gasoil fuel with a maximum sulfur of 0.1%, and reflects cracked gasoil for heating oil use. The quality is normalized to reflect French FOD gasoil fuel. SG is basis 0.845 g/l for the final published value.

Typical cargo sizes of 10,000-30,000 mt are reflected, for loading 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period. Platts currently normalizes to reflect 20,000 mt.

Gasoil 0.1% Cargoes CIF MED: This assessment reflects Spanish B+C for heating oil use. Grades which are not widely merchantable, (for instance because of low cetane or above normal water content), may

not be reflected in the assessments. The assessment reflects the value of 25,000-30,000 mt cargoes, delivered CIF assessment is basis Genoa with normal CP options considered, for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

Since January 2014, Platts has reflected bids, offers and trades into the North Africa port of Tangier Med, Morocco, in its Mediterranean cargo assessments. Under Platts methodology, certain approved alternative locations to the basis assessment port for many oil product assessments may be bid and offered during the Market on Close assessment process. Platts may normalize bids, offers or trades that include the port of Tangier Med as their basis location or as a charter party option, which reflects Platts current assessment standards of non-basis locations and non-standard charter party options. The Tangier Med basis location is subject to the same performance requirements as other ports already reflected in Platts assessment process.

Effective January 2012, the European requirement for off road diesels moved to 10 ppm. Spanish B grade typically reflects off road diesel requirements. Platts will continue to monitor the development of this market.

Gasoil 0.1% Cargoes FOB MED: This assessment is typically calculated as a freight netback from the Genoa and Lavera, using a Worldscale rate published in Platts Clean Tankerwire and a basket of flat rates including typical routes within the Mediterranean. The routes include origin ports Malta, Novorossiysk, and Batumi and destination ports Genoa/Lavera. Effective January 2, 2014, the Worldscale flat rate used to calculate the netback formula for Gasoil 0.1% FOB Med is \$10.42/mt.

The assessment reflects Spanish B+C for heating oil use. Grades which are not widely merchantable, (for instance because of low cetane or above normal water content), may not be reflected in the assessments. The assessment reflects the value of 25,000-30,000 mt cargoes, loading FOB Mediterranean including material from Black Sea ports and Malta, for loading 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

Gasoil 0.1% Barges: This assessment reflects heating oil grades with a specific gravity of 0.845 g/ml with a maximum sulfur content of 0.1%. The assessment reflects barges of 1,000-2,000 mt where the buyer has the option to choose the actual volume. However, the buyer has the obligation to specify the actual volume at the time of the deal.

Platts will continue to include in the assessment process transactions of up to 5,000 mt.

The assessment reflects the value of barges loading FOB basis Rotterdam, for loading 3-15 (Monday-Tuesday) or 5-15 (Wednesday through Friday) days forward, with values normalized to reflect the mean value of these loading ranges. Transactions occurring at other loading ports in NWE are typically normalized on a freight differential basis back to Rotterdam.

Gasoil 50ppm Barges: This assessment reflects German spec heating oil with a maximum sulfur content of 50 ppm. The typical density is basis 0.845 g/ml. Since September 1, 2011, the assessment has reflected

barges of 1,000-3,000 mt, with zero operational tolerance. Previously, the assessment had reflected barges of 2,000 mt only.

The assessment reflects the value of barges loading FOB basis Amsterdam-Rotterdam-Antwerp, for loading 5-15 days forward from the date of publication, with values normalized to reflect the mean value of the loading range. A seller may elect to supply from another relevant location in the region, such as Flushing and Ghent, providing any additional freight costs are for the seller's account.

Platts will only reflect bids, offers and trades that are for the front end (first five days of the assessed period), middle window (middle five days of the assessed period) and back end (last five days of the assessed period).

FUEL OIL

Assessment	CODE	Mavg	Pavg	Wavg	CONTRACT BASIS	LOCATION	DELIVERY PERIOD	MIN SIZE	MAX SIZE	CURRENCY	UOM	CONV
FO 1%S CIF Med Cargo	PUAAJ00	PUAAJ03	ABWGF00	ABWGF03	CIF	Med (Milazo)	10-25 days forward	25,000	30,000	US \$	MT	6.35
FO 1%S FOB Med Cargo	PUAAK00	PUAAK03	ABWGH00	ABWGH03	FOB	Med (Milazo)	10-25 days forward	25,000	30,000	US \$	MT	6.35
FO 1%S CIF NWE Cargo	PUAAL00	PUAAL03	ABWGG00	ABWGG03	CIF	NWE (Antwerp)	10-25 days forward	25,000	30,000	US \$	MT	6.35
FO 1%S FOB NWE Cargo	PUAAM00	PUAAM03	AAQCG00	AAQCG03	FOB	NWE (Antwerp)	10-25 days forward	25,000	30,000	US \$	MT	6.35
FO 1%S FOB Rdam Barge	PUAAP00	PUAAP03	ABWGI00	ABWGI03	FOB	NWE (Rotterdam)	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	1,000	US \$	MT	6.35
FO 3.5%S CIF Med Cargo	PUAAY00	PUAAY03	ABWKG00	ABWKG03	CIF	Med (Italy)	10-25 days forward	25,000	30,000	US \$	MT	6.35
FO 3.5%S FOB Med Cargo	PUAAZ00	PUAAZ03	ABWGM00	ABWGM03	FOB	Med (Genoa/Lavera)	10-25 days forward	25,000	30,000	US \$	MT	6.35
FO 3.5%S CIF NWE Cargo	PUABA00	PUABA03	ABWGL00	ABWGL03	CIF	Rotterdam (NWE)	10-25 days forward	25,000	30,000	US \$	MT	6.35
FO 3.5%S FOB NWE Cargo	PUABB00	PUABB03	ABWGN00	ABWGN03	FOB	NWE (Rotterdam)	10-25 days forward	25,000	30,000	US \$	MT	6.35
FO 3.5%S FOB Rdam Barge	PUABC00	PUABC03	AAQCK00	AAQCK03	FOB	NWE (Rotterdam)	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	2,000	5,000	US \$	MT	6.35

FUEL OIL

Platts European fuel oil assessments represent the value of cracked fuel oil, unless otherwise stated. In the high and low sulfur cracked fuel oil markets, a multitude of qualities trade and varying qualities are considered in the assessment process. Platts may in some cases incorporate freight differentials in establishing FOB to CIF spreads. Platts assesses a number of European freight routes in Platts Dirty Tankerwire, which typically link FOB and CIF Northwest European, Mediterranean and NWE-to-Med fuel oil assessments.

In the past utility companies used to buy 3.5% sulfur cargoes for burning purposes, but limits endorsed by the EU on the sulfur content mean that utility grade trades on high sulfur are rare. Most utilities now use 1% sulfur max for burning purposes.

Fuel Oil 1.0% Cargoes CIF MED: This assessment reflects a wide variety of specifications, normalized to material with a maximum sulfur of 1%, material with a density of up to 0.991 kg/l and a maximum viscosity of 380 CST (at 50 degrees C), a maximum combined Aluminium and Silicone content of max 60 ppm, 30 degrees Celsius max Pour Point, Flash min 65 degrees C, CCR min 15%, Ash max 0.1%, Water max 0.5%, Vanadium max 150 mg/kg, NCV min 9650 kcal/kg, Asphaltenes max 7 %. Material with higher densities such as 0.998 kg/l may be considered at a

discount to this typical quality while material with lower densities such as 0.980kg/l may be considered at a premium.

The assessment reflects the value of cargoes of 25,000-30,000 mt or 30,000 mt each, delivered CIF basis Milazzo. Platts considers bids, offers and transactions into a range of East and West Mediterranean locations and normalizes these values to basis Milazzo. The assessment represents EU-qualified material.

The assessment reflects material for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

When the CIF Med market is illiquid, and when there is insufficient local supply to meet utility demand in the region, Platts may derive the CIF Med value using FOB NWE plus freight into Milazzo.

Since January 2014, Platts has reflected bids, offers and trades into the North Africa port of Tangier Med, Morocco, in its Mediterranean cargo assessments. Under Platts methodology, certain approved alternative locations to the basis assessment port for many oil product assessments may be bid and offered during the Market on Close assessment process. Platts may normalize bids, offers or trades that include the port of Tangier Med as their basis location or as a charter party option, which reflects

Platts current assessment standards of non-basis locations and non-standard charter party options. The Tangier Med basis location is subject to the same performance requirements as other ports already reflected in Platts assessment process.

Fuel Oil 1.0% Cargoes FOB MED: This assessment are established using a freight differential to the CIF Med assessment, using a flat rate based on a basket of typical tanker routes, multiplied by the daily Worldscale rate assessed in Platts Dirty Tankerwire. Effective January 2, 2014, the Worldscale flat rate used to calculate the netback formula for 3.5% FOB Med Fuel Oil is \$8.19/mt.

The assessment reflects a wide variety of specifications, normalized to material with a maximum sulfur of 1%, material with a density of up to 0.991 kg/l and a maximum viscosity of 380 CST (at 50 degrees C), a maximum combined Aluminium and Silicone content of max 60 ppm, 30 degrees Celsius max Pour Point, Flash min 65 degrees C, CCR min 15%, Ash max 0.1%, Water max 0.5%, Vanadium max 150 mg/kg, NCV min 9650 kcal/kg, Asphaltenes max 7 %.

The assessment reflects the value of cargoes of typically 25,000-30,000 mt, loading FOB Mediterranean, for EU-qualified material, for loading 10-25 days from date of publication, with values normalized to reflect the mean value of the loading window.

Fuel Oil 1.0% Cargoes CIF NWE: This assessment reflects a wide variety of specification, but normalizes to material with a maximum sulfur of 1%, material with a density of up to 0.991 kg/l and a maximum viscosity of 380 CST (at 50 degrees C), a maximum combined Aluminium and Silicone content of max 60 ppm, 30 degrees Celsius max Pour Point, Flash min 65 degrees C, CCR min 15%, Ash max 0.1%, Water max 0.5%, Vanadium max 150 mg/kg, NCV min 9650 kcal/kg, Asphaltenes max 7 %.

The assessment reflects the value of cargoes of 25,000-30,000 mt or 30,000 mt each, delivered CIF basis Antwerp. Platts considers bids, offers and transactions into a range of NWE locations and normalizes these prices to basis Antwerp. The assessment represents EU-qualified material.

The assessment reflects material for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

In recent years, CIF NWE trade has been extremely limited. In the absence of outright price bids/offers, the CIF NWE assessment may be calculated as a freight differential to the FOB NWE assessment using a flat rate based on a basket of typical tanker routes, multiplied by the current Worldscale rate assessed in Platts Dirty Tankerwire. Effective Jan 2, 2014 the Worldscale basket flat rate used to calculate cross NWE low sulfur fuel oil is \$7.23/mt.

Please note that FOB/CIF fuel oil differentials reflect actual market conditions and are not set according to a fixed freight netback. As such the differentials may be affected by arbitrage openings and other market factors.

Fuel Oil 1.0% Cargoes FOB NWE: This assessment reflects a wide variety of specification, normalized to material with a maximum sulfur of 1%, material with a density of up to 0.991 kg/l and a maximum viscosity of 380 CST (at 50 degrees C), a maximum combined Aluminium and Silicone content of max 60 ppm, 30 degrees Celsius max Pour Point, Flash min 65 degrees C, CCR min 15%, Ash max 0.1%, Water max 0.5%, Vanadium max 150 mg/kg, NCV min 9650 kcal/kg, Asphaltenes max 7 %.

The assessment reflects the value of cargoes of 25,000-30,000 mt or 30,000 mt each, loading FOB basis Antwerp. Platts considers bids,

offers and transactions into a range of NWE locations and normalizes these prices to basis Antwerp. The assessment represents EU-qualified material.

The assessment reflects material for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

Fuel Oil 1.0% Barges: This assessment reflects material with a maximum density of 0.991 kg/l and a viscosity of 380 CST (at 50 degrees C) with a maximum combined aluminium and silicon content of 80 ppm and a maximum sulfur of 1%, 30 max Pour Point, Flash min 60 degrees C, CCR min 18%, Ash max 0.15%, Water max 0.5%, Vanadium max 300 mg/kg, TSP 0.1%, Zinc max 15 mg/kg, Phosphorus max 15 mg/kg, Calcium max 30 mg/kg. Platts has in the past reflected German DIN spec material and other utility grades, though these are no longer typical under current market conditions.

The assessment reflects the value of barges of 1,000 mt each, loading FOB Amsterdam-Rotterdam-Antwerp, basis Rotterdam, for loading 3-15 (Monday-Tuesday) or 5-15 (Wednesday through Friday) days forward.

Specifications typically conform to the ISO 8217: 2005 RMG reference.

Fuel Oil 3.5% Cargoes CIF MED: This assessment reflects 3.5% maximum sulfur with 380 CST max viscosity (at 50 degrees C) and 0.991kg/l density with a maximum combined aluminium and silicon content of 80 ppm, 30 max Pour Point, Flash min 60 degrees C, CCR min 18%, Ash max 0.15%, Water max 0.5%, Vanadium max 300 mg/kg, TSP 0.1%, Asphaltenes max 8 %, Zinc max 15 mg/kg, Phosphorus max 15 mg/kg, Calcium max 30 mg/kg Platts takes an inclusive approach to the assessment, as the quality of fuel oil in the Mediterranean is less homogenous than that in North west Europe.

The assessment reflects the value of cargoes of 25,000-30,000 mt or 30,000 mt each, delivered CIF basis Genoa/Lavera, although smaller volumes may be considered. The smaller volume on CIF typically reflects local port constraints.

The assessment reflects material for delivery 10-25 days from date of

publication, with values normalized to reflect the mean value of the delivery period.

Since January 2014, Platts has reflected bids, offers and trades into the North Africa port of Tangier Med, Morocco, in its Mediterranean cargo assessments. Under Platts methodology, certain approved alternative locations to the basis assessment port for many oil product assessments may be bid and offered during the Market on Close assessment process. Platts may normalize bids, offers or trades that include the port of Tangier Med as their basis location or as a charter party option, which reflects Platts current assessment standards of non-basis locations and non-standard charter party options. The Tangier Med basis location is subject to the same performance requirements as other ports already reflected in Platts assessment process.

Fuel Oil 3.5% Cargoes FOB MED: This assessment is established using a freight differential to the CIF Med assessment, using a flat rate based on a basket of typical tanker routes, multiplied by the daily Worldscale rate assessed in Platts Dirty Tankerwire. Effective January 2, 2014, the Worldscale flat rate used to calculate the netback formula for 3.5% FOB Med Fuel Oil is \$8.19/mt.

The assessment reflects the value of 3.5% maximum sulfur with 380 CST max viscosity (at 50 degrees C) and 0.991kg/l density with a maximum combined aluminium and silicon content of 80 ppm, 30 max Pour Point, Flash min 60 degrees C, CCR min 18%, Ash max 0.15%, Water max 0.5%, Vanadium max 300 mg/kg, TSP 0.1%, Asphaltenes max 8 %, Zinc max 15 mg/kg, Phosphorus max 15 mg/kg, Calcium max 30 mg/kg Platts takes an inclusive approach to the assessment, as the quality of fuel oil in the Mediterranean is less homogenous than that in Northwest Europe.

The assessment reflects the value of cargoes of 25,000-30,000 mt or 30,000 mt each, loading FOB Mediterranean basis Italy. Cargoes up to 50,000 mt may be taken into account when arbitrage openings present themselves, for instance to Asia. .

The assessment reflects material for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

Fuel Oil 3.5% Cargoes CIF NWE: This assessment reflects 3.5% sulfur

cracked fuel oil with 0.991 mg/kg max density and 12 engler max viscosity. Typically, standard cracked Russian quality M-100 is reflected in the assessment. The quality of M-100 may vary widely in density, viscosity, water content, and metals among other factors.

The assessment reflects the value of cargoes of 25,000-30,000 mt or 30,000 mt each, delivered CIF NWE basis Rotterdam.

Timing: Reflects material for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

When the market is illiquid, CIF NWE values may be derived as a differential to FOB barge values, reflecting blending economics, break-bulk cost and time gradients.

Fuel Oil 3.5% Cargoes FOB NWE: This assessment reflects the value of standard cracked Russian quality M100 with 0.991 max

density and 12 Engler max viscosity. The quality of M100 may vary widely in density, viscosity and water content, and Platts monitors differentials to the two means formula in making the assessment. Effective January 2, 2014, the Worldscale flat rate used to calculate the netback formula for FOB NWE 3.5% Fuel is \$8.59/mt. Rotterdam port dues are \$0.93/mt

These cargo assessments typically reflect parcels of 25,000-30,000mt each, although smaller volumes may be considered, loading FOB Baltic ports, for loading 10-25 days from date of publication, with values normalized to the mid-point of this delivery period.

Fuel Oil 3.5% Barges: This assessment reflects the value of 3.5% maximum sulfur with 380 CST max viscosity (at 50 degrees C) and 0.991kg/l density with a maximum combined aluminium and silicon content of 80 ppm, 30 max Pour Point, Flash min 60 degrees C, CCR min 18%, Ash max 0.15%, Water max 0.5%, Vanadium max 300 mg/kg, TSP

0.1%, Asphaltenes max 8 %, Zinc max 15 mg/kg, Phosphorus max 15 mg/kg, Calcium max 30 mg/kg.

Barge assessments reflect parcels of 2,000 to 5,000mt each. Barges are traded typically in 2,000 mt lots. In all cases the smallest tradeable volume is considered to be the strongest indication of value, and in this case the smallest volume applicable is 2,000mt.

The assessment reflects the value of barges loading FOB basis Rotterdam, for loading 3-15 (Monday-Tuesday) or 5-15 (Wednesday through Friday) days forward, with values normalized to reflect the mean value of these loading ranges.

Barges typically trade for the front five days, middle five days or the back five days. Platts 3.5% barge assessment is based on bids/offers and deals for 5-day loading windows.

BUNKER FUEL

Assessment	CODE	Mavg	Pavg	Wavg	CONTRACT BASIS	LOCATION	DELIVERY PERIOD	MIN SIZE	MAX SIZE	CURRENCY	UOM	CONV
Bunker FO 180 CST 1.0% Antwerp	AASUB00	AASUB03	-	-	Dlvd	Antwerp (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 1.0% Gdansk	AASUH00	AASUH03	-	-	Dlvd	Gdansk (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 1.5% Algeciras	AAXDA00	AAXDA03	-	-	Dlvd	Algeciras (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 1.0% Antwerp	AASUA00	AASUA03	-	-	Dlvd	Antwerp (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 1.0% Gdansk	AASUG00	AASUG03	-	-	Dlvd	Gdansk (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 1.0% Gothenburg	AAVZ00	AAVZ03	-	-	Dlvd	Gothenburg (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 1.0% GreatBelt	AASUE00	AASUE03	-	-	Dlvd	Great Belt (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 1.0% Hamburg	AASUC00	AASUC03	-	-	Dlvd	Hamburg (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 1.0% Rotterdam	AASTY00	AASTY03	-	-	Dlvd	Rotterdam (NWE)	1-8 days forward	300	1,000	US \$	MT	6.35
Bunker FO 380 CST 1.0% St Petersburg	AASUI00	AASUI03	-	-	Dlvd	St Petersburg (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 1.0% Dunkirk	AASUM00	AASUM03	-	-	Dlvd	Dunkirk (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 1.0% Falmouth	AASUK00	AASUK03	-	-	Ex-Wharf	Falmouth (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 1.5% Algeciras	AAXCZ00	AAXCZ03	-	-	Dlvd	Algeciras (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 1.5% Malta	AARTD00	AARTD03	-	-	Dlvd	Malta (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 1.5% Piraeus	AARTF00	AARTF03	-	-	Dlvd	Piraeus (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 1.5% Gibraltar	AAVIW00	AAVIW03	-	-	Dlvd	Gibraltar (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 1.5% Genoa	AARSR00	AARSR03	-	-	Ex-Wharf	Genoa (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Augusta	PUAED00	PUAED03	-	-	Ex-Wharf	Augusta (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Dunkirk	PUAEL00	PUAEL03	-	-	Dlvd	Dunkirk (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Falmouth	PUAFC00	PUAFC03	-	-	Ex-Wharf	Falmouth (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% FrenchMed	PUAE000	PUAE003	-	-	Ex-Wharf	French Med (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Genoa	PUAFD00	PUAFD03	-	-	Ex-Wharf	Genoa (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Trieste	PUAXT00	PUAXT03	-	-	Ex-Wharf	Trieste (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Algeciras	PUAFA00	PUAFA03	-	-	Dlvd	Algeciras (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Antwerp	PUAEE00	PUAEE03	-	-	Dlvd	Antwerp (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Ceuta	PUAEG00	PUAEG03	-	-	Ex-Wharf	Ceuta (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Gdansk	AAHTA00	AAHTB00	-	-	Dlvd	Gdansk (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Gothenburg	AAVX00	AAVX03	-	-	Dlvd	Gothenburg (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% GreatBelt	AAHTG00	AAHTH00	-	-	Dlvd	Great Belt (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Hamburg	PUAEQ00	PUAEQ03	-	-	Dlvd	Hamburg (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Istanbul	PUAET00	PUAET03	-	-	Dlvd	Istanbul (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Las Palmas/Tenerife	PUAFB00	PUAFB03	-	-	Dlvd	Las Palmas/ Tenerife (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Malta	PUBFH00	PUBFH03	-	-	Dlvd	Malta (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Novorosiisk	AASHF00	AASHF03	-	-	Dlvd	Novorosiisk (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Piraeus	PUAFL00	PUAFL03	-	-	Dlvd	Piraeus (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Rotterdam	PUAFN00	PUAFN03	-	-	Dlvd	Rotterdam (NWE)	1-8 days forward	300	1,000	US \$	MT	6.35

BUNKER FUEL CONTINUED

Assessment	CODE	Mavg	Pavg	Wavg	CONTRACT BASIS	LOCATION	DELIVERY PERIOD	MIN SIZE	MAX SIZE	CURRENCY	UOM	CONV
Bunker FO 380 CST 3.5% St Petersburg	AAHSU00	AAHSV00	-	-	Divd	St Petersburg (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Suez	PUAFU00	PUAFU03	-	-	Divd	Suez (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 380 CST 3.5% Gibraltar	AAKAB00	AAKAC00	-	-	Divd	Gibraltar (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 1.0% Gothenburg	AAVWA00	AAVWA03	-	-	Divd	Gothenburg (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 1.0% GreatBelt	AASUF00	AASUF03	-	-	Divd	Great Belt (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 1.0% Hamburg	AASUD00	AASUD03	-	-	Divd	Hamburg (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 1.0% Rotterdam	AASTZ00	AASTZ03	-	-	Divd	Rotterdam (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 1.0% St Petersburg	AASUJ00	AASUJ03	-	-	Divd	St Petersburg (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 1.0% Dunkirk	AASUN00	AASUN03	-	-	Divd	Dunkirk (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 1.0% Falmouth	AASUL00	AASUL03	-	-	Ex-Wharf	Falmouth (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 1% Gibraltar	AARSS00	AARSS03	-	-	Divd	Gibraltar (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 1% Malta	AARTC00	AARTC03	-	-	Divd	Malta (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 1% Piraeus	AARTE00	AARTE03	-	-	Divd	Piraeus (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 1% Genoa	AARSQ00	AARSQ03	-	-	Ex-Wharf	Genoa (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Augusta	PUABF00	PUABF03	-	-	Ex-Wharf	Augusta (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Dunkirk	PUABT00	PUABT03	-	-	Divd	Dunkirk (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Durban	PUABR00	PUABR03	-	-	Ex-Wharf	Durban (Africa)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Falmouth	PUACW00	PUACW03	-	-	Ex-Wharf	Falmouth (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% FrenchMed	PUABX00	PUABX03	-	-	Ex-Wharf	French Med (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Genoa	PUACX00	PUACX03	-	-	Ex-Wharf	Genoa (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Trieste	PUAXU00	PUAXU03	-	-	Ex-Wharf	Trieste (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Algeciras	PUACT00	PUACT03	-	-	Divd	Algeciras (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Antwerp	PUABG00	PUABG03	-	-	Divd	Antwerp (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Ceuta	PUABL00	PUABL03	-	-	Ex-Wharf	Ceuta (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Gdansk	AAHSY00	AAHSZ00	-	-	Divd	Gdansk (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Gibraltar	AAJZZ00	AAKAA00	-	-	Divd	Gibraltar (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Gothenburg	AAVVY00	AAVVY03	-	-	Divd	Gothenburg (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% GreatBelt	AAHTE00	AAHTF00	-	-	Divd	Great Belt (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Hamburg	PUABZ00	PUABZ03	-	-	Divd	Hamburg (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Istanbul	PUACG00	PUACG03	-	-	Divd	Istanbul (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Las Palmas/Tenerife	PUACU00	PUACU03	-	-	Divd	Las Palmas/ Tenerife (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Malta	PUBFG00	PUBFG03	-	-	Divd	Malta (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Novorosiisk	AASHE00	AASHE03	-	-	Divd	Novorosiisk (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Piraeus	PUADK00	PUADK03	-	-	Divd	Piraeus (Med)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Rotterdam	PUADN00	PUADN03	-	-	Divd	Rotterdam (NWE)	1-8 days forward	-	-	US \$	MT	6.35

BUNKER FUEL CONTINUED

Assessment	CODE	Mavg	Pavg	Wavg	CONTRACT BASIS	LOCATION	DELIVERY PERIOD	MIN SIZE	MAX SIZE	CURRENCY	UOM	CONV
Bunker FO 180 CST 3.5% St Petersburg	AAHSS00	AAHST00	-	-	Dlvd	St Petersburg (NWE)	1-8 days forward	-	-	US \$	MT	6.35
Bunker FO 180 CST 3.5% Suez	PUADY00	PUADY03	-	-	Dlvd	Suez (Med)	1-8 days forward	-	-	US \$	MT	6.35
FO 380 CST Rdam	PUAYW00	PUAYW03	AAUHE00	AAUHE03	Dlvd	Rotterdam (NWE)	1-8 days forward	300	1,000	US \$	MT	6.35
Marine Gasoil Istanbul	POACF00	POACF03	-	-	Dlvd	Istanbul (Med)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Piraeus	POADG00	POADG03	-	-	Dlvd	Piraeus (Med)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Algeciras	AARSH00	AARSH03	-	-	Dlvd	Algeciras (Med)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Antwerp	AARSI00	AARSI03	-	-	Dlvd	Antwerp (NWE)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Ceuta	AARSK00	AARSK03	-	-	Ex-Wharf	Ceuta (Med)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Gdansk	AARSP00	AARSP03	-	-	Dlvd	Gdansk (NWE)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Gibraltar	AARSU00	AARSU03	-	-	Dlvd	Gibraltar (Med)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Gothenburg	AAVWC00	AAVWC03	-	-	Dlvd	Gothenburg (NWE)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil GreatBelt	AARSX00	AARSX03	-	-	Dlvd	Great Belt (NWE)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Hamburg	AARSZ00	AARSZ03	-	-	Dlvd	Hamburg (NWE)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Las Palmas/Tenerife	AARTB00	AARTB03	-	-	Dlvd	Las Palmas/ Tenerife (Med)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Malta	PBADH00	PBADH03	-	-	Dlvd	Malta (Med)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Novorosiisk	AASHG00	AASHG03	-	-	Dlvd	Novorosiisk (Med)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Rotterdam	AARTG00	AARTG03	-	-	Dlvd	Rotterdam (NWE)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil St Petersburg	AARTJ00	AARTJ03	-	-	Dlvd	St Petersburg (NWE)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Suez	POADS00	POADS03	-	-	Dlvd	Suez (Med)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Augusta	PBABJ00	PBABJ03	-	-	Ex-Wharf	Augusta (Med)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Dakar	POABP00	POABP03	-	-	Ex-Wharf	Dakar (West Africa)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Dunkirk	POABT00	POABT03	-	-	Dlvd	Dunkirk (NWE)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Durban	AAADB00	AAADB03	-	-	Ex-Wharf	Durban (Africa)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Falmouth	POACU00	POACU03	-	-	Ex-Wharf	Falmouth (NWE)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil French Med	POABX00	POABX03	-	-	Ex-Wharf	French Med (Med)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Genoa	PBABK00	PBABK03	-	-	Ex-Wharf	Genoa (Med)	1-8 days forward	-	-	US \$	MT	7.45
Marine Gasoil Trieste	PBABQ00	PBABQ03	-	-	Ex-Wharf	Trieste (Med)	1-8 days forward	-	-	US \$	MT	7.45

BUNKER FUEL

Globally, Platts assesses four grades of marine fuel: Intermediate Fuel Oil (IFO) 180 centisoke (CST), IFO 380 CST, Marine Diesel (MDO) and Marine Gasoil (MGO). Since January 3, 2012, Platts has fully reflected revised bunker fuel specifications set out by the International Convention for the Prevention of Pollution from Ships (MARPOL) in global bunker fuel assessments. Under amendments to Annex VI of the convention, high sulfur bunker fuel supplied at major global bunkering locations from 2012 onwards must contain a maximum of 3.5% sulfur, down from the previous maximum sulfur content of 4.5%.

The worldwide market generally follows similar specifications for these grades in all locations. The specifications most commonly followed are those defined by the International Organization for Standardization in document ISO 8217:2005 (E) - Petroleum products - Fuels (class F) - Specifications of marine fuels. New ISO standards issued in 2010 have not yet become commonly reflected in most bunker supplies around the world. Platts regularly reviews market conditions, and will monitor for evidence that newer standards are being traded more broadly in the market. Unless otherwise specified, Platts bunker fuel assessments for all European ports reflect the following standards:

IFO 380: Specifications generally conform with that for RMG 380 CST. Approximate Kinematic Viscosity: At 50 C, max 380 CST. Flash point 60 C minimum. Pour point (upper) winter quality, 30 C maximum; summer quality, same. Ash 0.15 m/m maximum. Sulfur, maximum 3.5%. Vanadium max 300 mg/kg. Aluminium plus silicon, 80 mg/kg max; water, 0.5% maximum.

IFO 180: Specifications generally conform with that for RME 180 CST. Approximate Kinematic Viscosity: At 50 C, max 180 CST. Flash point 60 C minimum. Pour point (upper) winter quality, 30 C maximum; summer

quality, same. Ash 0.10 m/m maximum. Sulfur, maximum 3.5%. Vanadium max 200 mg/kg. Aluminium plus silicon, 80 mg/kg max. ; water, 0.5% maximum.

Marine Gasoil: Specifications generally conform with that for DMA 0.1% sulfur. Kinematic Viscosity at 40 degrees C, 1.5 min CST, max 6 CST, Flash point 60 degrees C min, Pour point (upper) winter quality, - 6 degrees C, pour point upper, summer quality 0 degrees C, Ash 0.01 % max, Sulfur maximum 0.1%. Cetane index minimum 40, Zinc max 15 mg/kg, Phosphorus max 15 mg/kg, Calcium max 30 mg/kg.

Low sulfur bunker fuels: Platts assesses low sulfur 380 CST and 180 CST bunker fuel in the ports of Rotterdam, Antwerp, Hamburg, Great Belt, Gdansk, St Petersburg, Falmouth, Dunkirk, Gibraltar, Genoa, Malta, Algeciras and Piraeus. The current maximum sulfur content of this fuel is 1% in Northwest European ports. Effective July 1, 2013, Platts low sulfur bunker fuel assessments in the Mediterranean also reflected fuel with a maximum sulfur content of 1%.

On September 2, 2013, Platts discontinued its European Marine Diesel assessments. Platts had been assessing MDO for several ports in the EMEA region since 1986. Since that time, demand for MDO had generally been replaced by demand for marine gasoil, or other similar fuels. As of mid-2013, MDO typically accounted for less than 1% of bunker fuel supplied at major ports in the EMEA region. Prior to the discontinuation, specifications had generally conformed with that for DMB. Kinematic viscosity at 40 C, max 11 cst, Flash point 60 C minimum; Pour point (upper) winter quality 0 degrees C; pour point upper summer quality 6 degrees C, Ash 0.01% max, sulfur, maximum 2%; ; water, 0.3% maximum, Zinc max 15 mg/kg, Phosphorus max 15 mg/kg, Calcium max 30 mg/kg

Timing: Platts bunker assessments in Europe reflect the market value at 1630 London time, for bunker fuel supplied one to eight days forward from the date of publication. They do not represent an average of the day's

trades. Confirmed trades, bids and offers reported throughout the day will be included in the assessment process, with values normalized towards representative values for the close of the market as needed. In addition to such information, activity on the physical and derivative European fuel oil markets will also be taken into account during assessment.

Typical Size: Typical sizes vary from port to port. Sizes defined for specific assessments are typical, not minimums and maximums. However, trades reported for volumes outside typical ranges may be considered atypical when assessing standard tradable volumes.

Delivery: Bunkers are assessed on either an ex-wharf or delivered basis which includes all barging costs. The following ports are assessed ex-wharf: Ceuta, Falmouth, Fos, Augusta, Genoa, Trieste, Dakar and Durban. The following ports are assessed delivered: Rotterdam, Antwerp, Hamburg, Great Belt, Gdansk, St Petersburg, Gibraltar, Algeciras, Dunkirk, Las Palmas, Tenerife, Malta, Istanbul, Novorossiisk, Suez and Piraeus. Effective July 1, 2013, Platts updated assessments for the north African port of Ceuta to reflect an ex-wharf basis. It had previously been assessed as delivered. Similarly, effective July 1, 2013, Platts updated assessments for the France's northern port of Dunkirk to reflect a delivered basis. Dunkirk had previously been assessed as ex-wharf.

Rotterdam Bunker 380 CST: This assessment reflects IFO 380 standards, and specifications generally conform with that for RMG 380 CST Bunker fuel. Approximate Kinematic Viscosity: At 100degC, max 25 30 cst; at 50degC, max 225 380 cst. Flash point 60degC minimum. Pour point (upper) winter quality, 30degC maximum; summer quality the same. Ash 0.15 m/m maximum. Sulfur, maximum 3.5%. Vanadium max 500 mg/kg. Aluminum plus silicon, 80 mg/kg max; water, 1% maximum.

Typical volumes reflected are between 300-1,000 mt, delivered on board, i.e. delivered into ship, at Rotterdam, for product to be supplied 1-8 days forward from the date of publication.

FEEDSTOCKS

Assessment	CODE	Mavg	Pavg	Wavg	CONTRACT BASIS	LOCATION	DELIVERY PERIOD	MIN SIZE	MAX SIZE	CURRENCY	UOM	CONV
Straight Run 0.5-0.7%S FOB NWE cargo	PKABA00	PKABA03	ABWHG00	ABWHG03	FOB	NWE (Rotterdam)	10-25 days forward	25,000	55,000	US \$	MT	
VGO 0.5-0.6% FOB NWE	AAHMX00	AAHMY00	-	-	FOB	NWE (Rotterdam)	10-25 days forward	15,000	55,000	US \$	MT	
VGO 2.0%S CIF NWE	AAHND00	AAHNE00	-	-	CIF	ARA (NWE)	10-25 days forward	15,000	35,000	US \$	MT	
VGO 2.0%S FOB NWE	AAHNB00	AAHNC00	-	-	FOB	NWE (Rotterdam)	10-25 days forward	15,000	55,000	US \$	MT	
VGO 2.0%S FOB Rdam barge	AAHNI00	AAHNJ00	-	-	FOB	ARA, NWE (Rotterdam)	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	5,000	US \$	MT	

FEEDSTOCKS

With effect from July 1, 2013, Platts updated the cargo sizes reflected in its European low sulfur vacuum gasoil and high sulfur vacuum gasoil assessments, to reflect an increasing role played by larger cargo sizes in the European VGO market. From July 1, 2013, European CIF cargo assessments reflected cargoes of 15,000-35,000 mt in size, normalized to 30,000 mt. At the same time, Platts updated the cargo size reflected in European FOB LSVG and HSVG assessments to 15,000-35,000 mt, normalized to 30,000 mt, with FOB cargoes of up to 55,000 mt eligible for assessment when arbitrage openings make these a significant market factor.

Platts had previously reflected European CIF LSVG and HSVG cargoes of 10,000-25,000 mt; and European FOB LSVG and HSVG cargoes of 10,000-25,000 mt, with FOB cargoes of up to 50,000 mt eligible for assessment when arbitrage openings make larger cargoes a significant market factor.

Straight-run 0.5-0.7% Cargoes FOB NWE: This assessment reflects the value of straight-run fuel oil from Northwest Europe with the following specifications: Sulfur 0.5-0.7%, normalized to 0.6% CCR max 7 Density 0.935-0.95 at 15 degrees, Viscosity 200cst max at 50 degrees Vanadium

10 ppm Sodium 10 ppm Nickel 10 ppm. Cargo assessments typically reflects parcels of 25,000-30,000mt each within NWE, but cargoes of up to 55,000 tonnes may be taken into account when arbitrage openings present themselves. The assessment reflects cargoes for loading FOB NWE basis Rotterdam, for loading 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

LSSR is commonly traded at a differential to ICE Brent crude oil futures. When this occurs, the prevailing value of ICE Brent at 1630 London time is used, together with assessed differentials, in establishing an outright level for assessment. The ICE trading month used in the calculation is generally the front-month, trading 17.5 days from the publication date. A conversion factor of 6.77 is used to calculate the dollars per barrel value in dollars per metric ton.

VGO 0.5-0.6% Cargoes FOB NWE: This assessment represents the value of VGO cargoes of 0.5-0.6% sulfur with a specific gravity of 0.900-0.920 g/ml. Cargo assessments reflect parcels of 15,000-35,000 mt, normalized to 30,000 mt, with FOB cargoes of up to 55,000 mt eligible for assessment when arbitrage openings make these a significant market factor. The assessment represents cargoes loading FOB NWE basis Rotterdam, for loading 10-25 days from date of publication, with values normalized to reflect the mean value of the loading window.

VGO 2% MAX Cargoes CIF NWE: This assessment represents the value of VGO cargoes of 2% max sulfur with a specific gravity of 0.900-0.920 g/ml. Cargo assessments reflect parcels of 15,000-35,000 mt in size, normalized to 30,000 mt, for delivery CIF NWE basis ARA, for delivery 10-25 days from date of publication, with values normalized to reflect the mean value of the delivery period.

VGO 2% MAX Cargoes FOB NWE: This assessment represents the value of VGO cargoes of 2% max sulfur with a specific gravity of 0.900-0.920 g/ml. Cargo assessments reflect parcels of 15,000-35,000 mt, normalized to 30,000 mt, with FOB cargoes of up to 55,000 mt eligible for assessment when arbitrage openings make these a significant market factor. The assessment represents cargoes loading FOB NWE basis Rotterdam, for loading 10-25 days from date of publication, with values normalized to reflect the mean value of the loading window.

VGO 2% MAX Barges: This assessment represents the value of VGO cargoes of 2% max sulfur with a specific gravity of 0.900-0.920 g/ml. Barge assessments reflect parcels of 1,000 to 5,000mt each, loading FOB ARA basis Rotterdam, for loading 3-15 (Monday-Tuesday) or 5-15 (Wednesday through Friday) days forward.

REVISION HISTORY

June 16, 2014: Platts completed an annual update to the Europe & Africa Refined Oil Products Guide in June 2014. In this update, Platts reviewed all content. The guide was updated to include a description of seasonal specification changes in the European gasoline market; remove database codes for monthly averages associated with Month-To-Date cumulative averages for LPG (monthly averages for cumulative MTD assessments were discontinued in July 2013); remove description of jet fuel Mediterranean assessments that were previously discontinued; and remove codes for discontinued MDO assessments in Europe and Africa. Platts added more information around typical volume tolerance in the cargo market; the inclusion of Tangiers, Morocco as a location considered in Mediterranean cargo assessments for gasoline, middle distillates and fuel oil and clarified wording around CIF cargo destination deviations. Gasoline barge names were clarified in text to be simply "AR", not "ARA" where they had been erroneously labelled. Platts consolidated guidelines around publishing information during the MOC assessment process into the MOC Data Publishing Principles section, and incorporated clarification

guidance about how to express interest in bids and offers that were published in January 2014 and May 2014.

March 2014: Platts updated the Europe & Africa Refined Oil Products Guide in February 2014. The updated guide includes nomination procedures for cargoes and barges that were published in an older copy of the guide, but were omitted from recent issues.

February 2014: Platts updated the Europe & Africa Refined Oil Products Guide in February 2014. The updated guide provides updates to 2014 netback calculations, clarifies wording and terminology in the bunker fuel section and updates the naphtha methodology to include guidance on inert gas system vessels that was originally published in 2010.

November 15, 2013: Platts updated this guide, making minor edits through the text, particularly clarifying statements regarding how

product assessments are normalized to reflect the mean value of loading and delivery dates. In this update, Platts noted that ex-duty cargoes of jet fuel will be reflected in its benchmark Jet CIF Northwest Europe Cargo assessment with effect from January 1, 2014. Platts also incorporated a clarification regarding how measurements of the quantity delivered are typically conducted in the ARA barge market. Platts also removed references to MDO assessments, which have been suspended.

August 2013: Platts revamped all Oil Methodology and Specifications Guides, including its Europe & Africa Refined Oil Products Guide, in August 2013. This revamp was completed to enhance the clarity and usefulness of all guides, and to introduce greater consistency of layout and structure across all published methodology guides. Methodologies for market coverage were not changed through this revamp, unless specifically noted in the methodology guide itself.