S&P Global
Platts

Agriculture

Methodology and specifications guide
Biofuels

Latest update: May 2018

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. These guides are freely available on Platts' website for public review.

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 register 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 the product 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 market accepted terms
- Firm offers that are open to the marketplace as a whole, with market accepted terms
- Expressions of interest to trade with published bids and offers, with market accepted 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

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 software managed by Intercontinental Exchange, Inc. (ICE)
- Telephone
- Email

Data publishing principles

Platts assesses the value of agriculture and biofuel products 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.

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 Biofuels 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.

Platts applies a survey assessment methodology where market conditions do not support an MOC assessment environment. Platts collects a wide variety of transactional and market information through a survey of participants, which typically includes communicating with sources via phone, email, and instant messaging, among other communication methods. Although the survey assessment methodology is in many respects similar to the MOC assessment methodology there are key distinctions between the assessment approaches.

In such environments, Platts collects as much data as possible, including bids, offers, interest to trade, transactions that have been previously concluded, and indications of value from participants in the market. Platts seeks to collect, confirm and analyse as much information as possible in survey markets, and encourages market participants to provide all relevant information. Platts publishes credible information collected that meets our methodological standards, typically through real-time information services and with as much transparency as possible. This information is considered when determining and completing a final assessment.

All Platts market reporters are trained to analyse the data they receive and to question sources to establish the fullest set of information possible around price data. Reporters are trained to seek a wide variety of information to test reported transactional activity, including the specific price agreed, the counterparty to the trade, the point of origin and destination for delivery of the commodity, the size of the transaction, any physical quality commitments agreed as part of the trade, the terms and conditions of a trade and when a trade was agreed.

Survey and MOC environments are linked. Survey assessment environments are a common ground for future MOC assessment environments, and Platts regularly reviews its survey environments to determine which may be suited to an MOC approach. Similarly, MOC environments are underpinned by data

collected by surveying sources throughout the day, to ensure that Platts is aware of market values as the MOC process begins, and so that Platts has data to review when considering information collected through MOC, particularly if an MOC environment yields little or no data on a given day.

For analysis of the data, Platts survey methodologies will typically give priority to data collected that is confirmed and published, and which is most relevant to closing values in the markets covered.

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/methodology-specifications/agriculture. 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 that they are reasonable.

Incrementability varies between each market assessed through the MOC assessment process and can be found at http://www.platts.com/methodology-specifications/agriculture. 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 may 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 (with the appropriate trading relationship) 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 widely market accepted 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.

PART II: SECURITY AND CONFIDENTIALITY

Data is stored in a secure network, in accordance with Platts' policies and procedures. Platts agriculture and biofuel assessments are produced in accordance with Platts' Market on Close assessment methodology.

Platts believes that all subscribers have a right to review and analyze market data that is provided for use in its assessments, and therefore Platts does not have confidentiality agreements for information provided for use in 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.

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 the product, 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 product, 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 agriculture and biofuel 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, including the relationships between agriculture or biofuel and feedstocks and oil products such as gasoline, are also able to be fully and properly reflected.

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 parties are submitting data 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. 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 available for execution by any other potential MOC trading counter party.

Normalization price adjustment techniques

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 the product is supplied to market. Platts seeks to align the specifications for agriculture and biofuel assessments with standard industry practice.

The quality of the product 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 markets may not be simply averaged to produce a benchmark value.

Because of the complex nature of the physical agriculture and biofuel markets, 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 agriculture and biofuel 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

Some assessments are derived by a relationship to another assessment, driven by factors which include freight, quality differentials or a fixed differential. This may be done in areas where liquidity is limited.

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 would either be not considered or given less weight in the assessment process. 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 the defined 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.

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 transparent 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 or is inconclusive in determining value. 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 transactions are concluded through untested levels of price support or resistance. 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.

Agricultural and biofuel products are 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.

Agricultural and biofuel products are typically traded in metric tons, and Platts publishes its assessments using these units of measurement as they prevail in practice. 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) 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 analysed and synthesised. The various possibilities are critically analysed 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, assessments 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 S&P Global, 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 actual market levels.

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 defines a spot price for a physical commodity as the value at which a standard, repeatable transaction for merchantable material takes place, or could take place in the open market at arms' length.

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 agricultural and biofuel products around the world, as well as differentials for those products when they trade with reference to a benchmark. Platts analyses all data collected and published 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, 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.

Assessments reflect typical loading and delivery schedules for each market assessed. The standard loading and delivery windows are specified under each data code.

Market structure such as backwardation and contango is also factored into the Platts' assessment process. If a company offers a cargo loading 10 days forward, the offer may provide market information for the Platts assessment for barges loading 10 days forward. However, Platts would still need to assess days 11 through 25 (in a 10-25 day market) and publish an assessment that reflects market value 10-25 days forward ahead of the day of assessment.

PART IV: PLATTS EDITORIAL STANDARDS

All Platts' employees must adhere to the S&P Global Code of Business Ethics (COBE), which has to be signed annually. The COBE reflects S&P Global'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.

S&P Global'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 due to data available at the time of assessment being interpreted or processed erroneously.

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 its methodologies and the approach taken in price assessments, proposed methodology changes and other editorial decisions in relation to Platts' price assessments. Platts strongly values these interactions and encourages dialogue 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 the Platts 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 Global Biofuels specifications guide contains the primary specifications and methodologies for Platts Biofuels assessments throughout the world. 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.

ASIA

Assessment	CURRENCY	CODE	Mavg	Wavg	CONTRACT TYPE	CONTRACT BASIS	LOCATION	DELIVERY PERIOD	MIN SIZE	MAX SIZE	UOM
Bioethanol (Fuel Grade)											
Bioethanol CIF Philippines	$/ cu m	AAWAA00	AAWAA03	AAWAA04	Spot	CIF	Subic Bay, Manila, Batangas		3,000	5,000	cubic meter
Bioethanol CIF Philippines H3	$/ cu m	AAWAB00	AAWAB03	AAWAB04	Spot	CIF	Subic Bay, Manila, Batangas	30-45 days forward	3,000	5,000	cubic meter
Bioethanol CIF Philippines H4	$/ cu m	AAWAC00	AAWAC03	AAWAC04	Spot	CIF	Subic Bay, Manila, Batangas	45-60 days forward	3,000	5,000	cubic meter
Bioethanol CIF Philippines H5	$/ cu m	AAWAE00	AAWAE03	AAWAE04	Spot	CIF	Subic Bay, Manila, Batangas	60-75 days forward	3,000	5,000	cubic meter
Ethanol (Industrial)											
Ethanol Grade B CFR Ulsan	$/ cu m	AAXVA00	AAXVA03	AAXVA04	Spot	CFR	Ulsan	60-90 days forward	5,000		cubic meter
Biodiesel											
Biodiesel FOB Southeast Asia	$/mt	AAVSV00			Spot	FOB	Pasir Gudang, Port Klang, Lahad Datu	15-30 days forward	2,000	10,000	metric ton

Asia

Bioethanol (fuel grade) CIF Philippines and FOB Thailand

Platts Asia fuel grade bioethanol assessments are daily assessments basis CIF Philippines based on latest information sourced from the market up to the close of the assessment window at 1630 Singapore time. Price assessments are subject to the typical guidelines of the Platts Market-On-Close assessment process. Weekly averages of daily assessments CIF Philippines are published on Fridays. Assessments are published in $/cubic meters.

Timing: Platts assesses three time cycles for the CIF Philippines bioethanol arrival. The time cycles are reflective of half-monthly cycles. The daily CIF Philippines marker (AAWAA00) averages the three cycles. The three cycles that Platts publishes are as follows:

1) 30-45 days forward

2) 45-60 days forward

3) 60-75 days forward

These assessments are rolled over on the 1st and 16th of each month. For example, on April 1, Platts assesses:

1) Second half May

2) First half June

3) Second half June

These assessments would be rolled over on April 16. They would then read as:

1) First half June

2) Second half June

3) First half July

Basis and locations: CIF Philippines reflect prices on a CIF Subic Bay basis, with pricing information for other Philippines ports normalized accordingly.

Cargo size: 3,000 – 5,000 cu m, normalised to 3,000 cu m. Other volumes may be normalized.

Terms and conditions: CIF Philippines are assessed L/C at sight up to 30 days. For deals with usance of greater than 30 days, the value of the extra credit allowance will be normalized.

Quality and Product Purity specifications: Assessments are for undenatured anhydrous bioethanol and will conform to the Philippines National Standard (PNS/DOE QS 007:2005) specifications under the current definitions 3.1 and 3.2 of the standard for use as a blending component in unleaded gasoline.

These specifications include:

Ethanol content/purity: 99.3% min (by volume)

Density at 20 degrees Celsius: 0.7915 kg/liter max

Water content: 0.5% max (by mass)

Methanol: 0.5% max (by mass)

Total acids (as acetic acid): 0.007% max (by mass)

The CIF Philippines assessments reflect product at a temperature of 20 degree Celsius.

Ethanol Grade B CFR Ulsan

Platts Ethanol Grade B CFR Ulsan is a physical spot price assessment made daily based on latest information sourced from the market up to the close of the assessment window at 1630 Singapore time). In the absence of representative CFR Ulsan price information, Platts may also refer to FOB prices from relevant supply origins using prevailing vessel sizes and spot freight rates. The price assessment is subject to the typical guidelines of the Platts Market-On-Close assessment process.

Timing: Ethanol Grade B CFR Ulsan reflects spot cargoes arriving in Ulsan 60-90 days forward from the day of assessment.

Basis and locations: CFR Ulsan, South Korea.

Unit of measurement: $/cu m.

Cargo size: Typical cargo sizes normalized to 5,000 cu m.

Terms and conditions: LC at sight.

Quality specifications: The assessment will reflect typical grade B ethanol specifications, normalized to standard Ethanol Grade B at 20 degrees with a maximum of 40mg/100ml of higher alcohols.

Biodiesel FOB Southeast Asia

Quality: The assessment will reflect palm methyl ester product that conforms to EN 14214 specifications, with CFPP set at plus 13 degrees Celsius maximum, a maximum water content of 350 ppm, and monoglycerides value at 0.5% or lower. The PME assessed adheres to the ISCC certification scheme, in compliance with the EU's Renewable Energy Directive or RED requirements. The assessment reflects PME with Green House Gas (GHG) savings of 48% - 60%. PME with higher or lower GHG than this will be monitored for pricing consistency.

Assessment window: Daily assessments FOB Southeast Asia are based on the latest information sourced from the market up to the close of the assessment window at 1630 Singapore time. Price assessments are subject to the guidelines of the Platts Market-On-Close assessment process. Biodiesel assessments are published in $/mt.

Timing: The assessment reflects cargoes loading 15-30 days forward from date of publication.

Basis and location: Assessments include all biodiesel exported on a spot basis from Malaysia at the Malaysian loading ports of Pasir Gudang, Port Klang and Lahad Datu.

Cargo size: 2,000 mt -10,000 mt. Larger cargo sizes may be normalized.

EUROPE

Assessment	CURRENCY	CODE	Mavg	Wavg	CUR CONV	CONTRACT TYPE	CONTRACT BASIS	LOCATION	DELIVERY PERIOD	MIN SIZE	MAX SIZE	UOM	CONV
Ethanol (Fuel Grade)													
Ethanol T2 FOB Rotterdam German Spec	€/cu m	AAVLD00	AAVLD03	AAVLD04		Spot	FOB	Rotterdam	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	2,000	cubic meter	
Ethanol T2 FOB Rotterdam	€/cu m	AAYDT00	AAYDT03	AASLT00		Spot	FOB	Rotterdam	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	2,000	cubic meter	
Ethanol T2 FOB Rotterdam German Spec	$/cu m	AAVLD10	AAVLD13	AAVLD14		Spot	FOB	Rotterdam	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	2,000	cubic meter	
Ethanol T2 FOB Rotterdam	$/cu m	AAYDT10	AAYDT13	AAYDT14		Spot	FOB	Rotterdam	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	2,000	cubic meter	
Ethanol T1 FOB Rotterdam	$/cu m	AAWUQ00	AAWUQ03	AAWUQ04		Spot	FOB	Rotterdam	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	2,000	cubic meter	
Ethanol T1 CIF NWE Cargo	$/cu m	AAYDS00	AAYDS03	AASLS00		Spot	CIF	Rotterdam	10-25 days forward (Monday-Friday)	3,000		cubic meter	
Ethanol futures													
T2 Ethanol Futures Assessment M1	€/cu m	AAXCL00				Future	Ethanol T2 FOB Rotterdam (AAYDT00)			1,000		cubic meter	
T2 Ethanol Futures Assessment M2	€/cu m	AAXCM00				Future	Ethanol T2 FOB Rotterdam (AAYDT00)			1,000		cubic meter	
T2 Ethanol Futures Assessment M3	€/cu m	AAXCN00				Future	Ethanol T2 FOB Rotterdam (AAYDT00)			1,000		cubic meter	
T2 Ethanol Futures Assessment M4	€/cu m	AAXCO00				Future	Ethanol T2 FOB Rotterdam (AAYDT00)			1,000		cubic meter	
T2 Ethanol Futures Assessment M5	€/cu m	AAXCP00				Future	Ethanol T2 FOB Rotterdam (AAYDT00)			1,000		cubic meter	
T2 Ethanol Futures Assessment M6	€/cu m	AAXCQ00				Future	Ethanol T2 FOB Rotterdam (AAYDT00)			1,000		cubic meter	
Biodiesel													
FAME -10 FOB ARA RED	$/mt	AAWGH00	AAWGH03	AAWGH04		Spot	FOB	ARA	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	3,000	metric ton	
FAME 0 FOB ARA RED	$/mt	AAWGI00	AAWGI03	AAWGI04		Spot	FOB	ARA	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	3,000	metric ton	
SME FOB ARA RED	$/mt	AAWGJ00	AAWGJ03	AAWGJ04		Spot	FOB	ARA	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	3,000	metric ton	
RME FOB ARA RED	$/mt	AAWGK00	AAWGK03	AAWGK04		Spot	FOB	ARA	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	3,000	metric ton	
PME FOB ARA RED	$/mt	AAXNZ00				Spot	FOB	ARA	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	3,000	metric ton	
Biodiesel Premiums Assessments													
RED FAME 0 FOB ARA	$/mt	AAXNT00				Spot	FOB	ARA	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	3,000	metric ton	
RED RME FOB ARA	$/mt	AAXNU00				Spot	FOB	ARA	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	3,000	metric ton	
RED SME FOB ARA	$/mt	AAXNX00				Spot	FOB	ARA	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	3,000	metric ton	
RED PME FOB ARA	$/mt	AAXNY00				Spot	FOB	ARA	3-15 days forward (Monday-Tuesday) 5-15 days forward (Wednesday-Friday)	1,000	3,000	metric ton	
Methyl Tertiary Butyl Ether (MTBE)													
Assessed by the Petchems team (and covered in their methodology)													
Ethyl Tertiary Butyl Ether (ETBE)													
Assessed by the Petchems team (and covered in their methodology)													

Europe

T2 Ethanol FOB Rotterdam

Basis and Locations: Prices for T2 ethanol barges are assessed daily on a FOB ARA basis, with nomenclature of FOB Rotterdam. T2 product (duty paid for European-qualified material and free from origin restrictions) in Eur/cu m. Platts also publishes a $/cu m value for T2 product, using a 1630 London time assessed value for the Eur/USD exchange rate.

Loading Options: Platts FOB ethanol assessments reflect Amsterdam-Rotterdam-Antwerp loading. The seller will not incur additional freight costs for loading from ARA loading points, compared to loading from Rotterdam, provided that costs do not exceed standard market rates. The seller will notify the buyer of the port of loading in a time-frame as per standard market practice. The seller must also be prepared to make the volume available through early loading to allow for timing differences between ports to prevent delays and consequent financial losses.

Sustainability Criteria: Platts ethanol assessments reflect fuel ethanol that holds proof of sustainability obtained in the framework of voluntary schemes approved by the EU Commission. Furthermore and upon buyer's request, the seller shall exercise reasonable efforts to provide all necessary documentation for validation of the product batch within 30 days from barge loading, as per ISCC and Nabisy guidelines. The buyer holds a right to audit the sustainability documentation for the sole purpose of determining the validity and veracity of these documents.

Minimum greenhouse gas saving: Platts FOB Rotterdam T2 and T1 ethanol assessments reflect material with sustainability documentation showing a minimum greenhouse gas saving of 50% when compared to the fossil fuel comparator, as per the European Union's Fuel Quality Directive calculation. This operates in addition to the prevailing Renewable Energy Directive (RED) requirement, with the highest requirement for GHG savings taking precedence.

Loading laycans: Platts ethanol assessments for T2 FOB Rotterdam barges reflect transactable values for loading 3-15 days forward (Monday-Tuesday) and 5-15 days forward (Wednesday-Friday) from the date of publication.

Standard cargo size: Typical 1,000 mt or their equivalent in cu m.

Product Purity Specification: Assessments are for anhydrous, undenatured ethanol conforming to the latest edition of the European standard EN 15376 specifications for automotive fuels — ethanol as a blending component for gasoline. The ethanol must also conform to the Netherlands' customs TARIC code of CN 2207 1000, under the European Commission's latest definition of "Undenatured ethyl alcohol of an alcoholic strength by volume of 80% vol. or higher.

Temperature: The European automotive fuel ethanol assessment reflects product at a temperature of 20 degrees Celsius with a reference conversion metric tons to cu m: 0.7887.

Points to note:

1) Platts European T2 FOB Rotterdam ethanol assessments reflect standard, transactable size of 1,000-2,000 mt, normalized to 1,000 mt. While the Platts T2 ethanol assessments reflect a barge market, parties involved in transactions may also opt to load on a vessel or do pump overs. Performance by ship-to-ship transfers can take place as long as mutually agreed. A buyer may opt to nominate a vessel instead of a typical barge, provided the physical dimensions of the performing vessel comply with the requirements of the designated port. Should a buyer opt to nominate a vessel and delay in loading occurs, the seller will face demurrage exposure limited to the transacted size, while the buyer will face demurrage costs consequential to his choice of vessel.

For example, if the sale was done for 3,000 mt and the buyer nominates a 12,500 mt vessel, the seller will incur demurrage cost for 3,000 mt, while the buyer will face the demurrage cost of the remaining 9,500 mt. In this instance leading to a consequential demurrage cost, the seller must show good endeavor and not wilfully obstruct the timely loading process in order to disadvantage the buyer.

2) Effective October 1, 2012, Platts decided to formalize its editorial practice of assessing its T2 FOB Rotterdam ethanol quote fully at par with its T2 FOB Rotterdam German-spec assessment. This decision follows a noticeable shift in activity reported to Platts from the European T2 FOB Rotterdam to the T2 FOB Rotterdam German spec.

3) Platts European ethanol assessments reflect products that are lawfully sourced within the marketplace. Platts considers in its assessment process ethanol based on its chemical structure and is not currently distinguishing between feedstocks used in its manufacture.

T2 Ethanol futures

T2 ethanol futures trade in lots of 100 cu me and settle on the arithmetic average of the mid-point of the high and low quotations for physical T2 undenatured ethanol assessments published by Platts during the determined contract month.

Platts T2 ethanol futures values are assessed for the next six calendar months from the date of publication and are denoted in Eur/cu m The assessments roll forward on the first business day of each month and reflect the close of European markets time stamped at 1630 London time, subject to the typical guidelines of the Platts Market On Close assessment process.

T1 Ethanol Northwest Europe

Basis and Locations: Prices for T1 (European Union duties unpaid) ethanol barges and cargoes are assessed daily on a FOB Rotterdam and CIF NWE basis, respectively, in $/cu m.

Sustainability Criteria: Platts ethanol assessments reflect fuel ethanol that holds proof of sustainability obtained in the

framework of voluntary schemes approved by the EU Commission.

Minimum greenhouse gas saving: Platts FOB Rotterdam T2 and T1 ethanol assessments reflect material with sustainability documentation showing a minimum greenhouse gas saving of 50% when compared to the fossil fuel comparator, as per the European Union's Fuel Quality Directive calculation. This operates in addition to the prevailing Renewable Energy Directive (RED) requirement, with the highest requirement for GHG savings taking precedence.

Loading laycans: Platts ethanol assessments for T1 FOB Rotterdam barges reflect transactable values for loading 3-15 days forward (Monday-Tuesday) and 5-15 days forward (Wednesday-Friday) from the date of publication. Platts European ethanol assessments for T1 CIF Northwest European T1 cargoes reflect transactable values for delivery 10-25 days forward from date of publication.

Standard cargo size: Typical 1,000 mt or their equivalent in cu m for FOB Rotterdam barges and minimum 3,000 mt or their equivalent in cu m for T1 CIF NWE cargoes.

Product Purity Specification: Assessments are for anhydrous, undenatured ethanol conforming to the latest edition of the European standard EN 15376 specifications for automotive fuels — ethanol as a blending component for gasoline. The ethanol must also conform to the Netherlands' customs TARIC code of CN 2207 1000, under the European Commission's latest definition of "Undenatured ethyl alcohol of an alcoholic strength by volume of 80% vol. or higher.

Temperature: The European automotive fuel ethanol assessment reflects product at a temperature of 20 degrees Celsius with a reference conversion mt to cu m: 0.7887.

T1 ethanol assessments: The Platts T1 ethanol CIF NWE cargoes and T1 ethanol FOB Rotterdam barge assessments represent the lowest calculated net-forward value from a basket of daily established values, basis 1630 London time, for FOB Santos anhydrous and FOB Chicago Argo Terminal ethanol, as provided by Platts' regional teams.

For the Platts European T1 CIF NWE assessment, a premium is applied to convert ASTM to EN spec in the case of the Chicago Argo Terminal value. Premiums are applied to convert ANP to EN spec and for Bonsucro Proof of Sustainability in the case of the FOB Santos anhydrous value. All premiums are based on market feedback. The net-forward calculation uses an assessment of freight rates based on freight reports and market feedback. The assessment uses a density value of 0.7887 g/cu m for converting metric tons into cu m.

T1 FOB Rotterdam barges are assessed at a fixed premium of $12/cu m versus the T1 CIF NWE assessment, which represents logistics costs.

Platts European ethanol assessments reflect products that are lawfully sourced within the marketplace. Platts considers in its assessment process ethanol based on its chemical structure and is not currently distinguishing between feedstocks used in its manufacture.

Biodiesel FOB ARA

Basis and Locations: Prices are assessed daily on a FOB ARA basis. The assessments are for T2 product (duty paid for European-qualified material and free from origin restrictions) published in $/mt.

Sustainability Criteria: Platts biodiesel assessments reflect product that holds proof of sustainability obtained in the framework of voluntary schemes approved by the EU Commission. Proof of Sustainability documentation should be provided to the buyer within a maximum of 20 working days from the date of B/L. All biodiesel barge assessments reflect material of 100% virgin vegetable oil (VVO) origin. This applies to both physical material and sustainability certification delivered to the buyer. Platts will continue to publish bids, offers and trades for non-VVO product and the associated data points will be normalized to reflect 100% VVO as part of the assessment process. All Platts FOB ARA biodiesel assessments except for SME reflect material with sustainability documentation showing a minimum greenhouse gas saving of 50% when compared to the fossil fuel comparator, as per the European Union's Fuel Quality Directive calculation.

Platts will only consider bids, offers and transactions where, upon buyer's request, the seller shall exercise reasonable efforts to provide documentation describing:

1) the biodiesel feedstock type and percentage of each feedstock in case of blendstocks;

2) the country of origin of the feedstock;

3) a declaration of land use on which feedstock was grown on or after January 1, 2008.

4) The buyer holds a right to audit the sustainability documentation for the sole purpose of determining the validity and veracityof these documents.

Loading laycans: The assessments reflect transactable values for barges loading 3-15 days forward (Monday-Tuesday) and 5-15 days forward (Wednesday-Friday) from the date of publication.

Standard cargo size: 1,000-3,000 mt, normalised to 1,000 mt. The operational tolerance reflected for European biodiesel barge assessments is plus or minus 2%.

Product Purity Specification:

Platts assesses five grades of biodiesel - Fatty Acid Methyl Ester minus 10 (FAME -10), FAME 0, Soy Methyl Ester (SME), Rapeseed Methyl Ester (RME) and Palm oil Methyl Ester (PME).

- FAME -10 assessments reflect product that conforms to EN 14214 specifications with cold filter plugging point (CFPP) set at minus 10 degrees Celsius maximum and a maximum water content of 350 ppm.

- FAME 0 assessments reflect product that conforms to EN 14214 specifications with CFPP set at 0 degrees Celsius maximum and a maximum water content of 350 ppm.

- SME assessments reflect product that conforms to EN 14214 specifications with maximum Iodine at 135g/100g and minimum Cetane of 47 and CFPP set at minus 3 degrees Celsius maximum and a maximum water content of 400 ppm.

- RME assessments reflect product that conforms to EN 14214 specifications with CFPP set at minus 12 degrees Celsius maximum and a maximum water content of 300 ppm.

- PME assessments will reflect product that conforms to EN 14214 specifications with CFPP set at plus 13 degrees Celsius maximum and a maximum water content of 350 ppm.

Biodiesel blended with any non-bio additives will not be included in the assessment, with the exception of the BHT anti-oxidant. The assessment excludes tax refunds or other rebates.

Calculation for FAME -10 assessments: Platts assess non-RED and RED FAME -10 biodiesel using a fixed calculation based on FAME 0, RME, PME and SME assessments. Platts determines the non-RED and RED FAME -10 assessments as the most competitive method of replacement using the ratios of blendstocks in the following table, plus a $5/mt logistic cost. Should the assessment for RED or non-RED RME be lower than the corresponding FAME -10 replacement calculation, logistical costs will be ignored.

Blendstock ratios:

1) 10% FAME 0 and 90% RME

2) 15% SME and 85% RME

3) 8% PME and 92% RME

The logistical costs reflect recirculation and retesting costs. In the event that price indications for FAME -10 are received, then Platts may also reflect those in the assessments.

Biodiesel premium assessments: The majority of spot physical and paper biodiesel trades in Europe are transacted as premiums over the ICE 10ppm low Sulfur Gasoil futures contract. Platts publishes the outright price of all biodiesel qualities and grades and the corresponding premiums for a select number. The premium for each assessment is determined by subtracting from the full outright price assessment the weighted average value of the front month(s) ICE low sulfur gasoil future(s)) across the date range reflected in the price assessment.

The weighted average ICE low sulfur gasoil value for the biodiesel assessment laycan is calculated per the following:

Front-month ICE low sulfurgasoil future value x (number of days front-month contract not expired during assessment laycan / total number of days in assessment laycan)

Second-month ICE low sulfur gasoil future value x (number of days front-month contract is expired during assessment laycan / total number of days in assessment laycan)

AMERICAS

Assessment	CURRENCY	CODE	Mavg	Wavg	CONTRACT TYPE	CONTRACT BASIS	LOCATION	DELIVERY PERIOD	MIN SIZE	MAX SIZE	UOM	LIFETIME
Methyl Tertiary Butyl Ether (MTBE)												
Assessed by the Petchems team (and covered in their methodology)												
Brazil Ethanol Hydrous and Anhydrous Ethanol (Fuel Grade)												
Ethanol FOB Santos Cargo c/gal	¢/gal	AATAE00			Spot	FOB	Santos, Brazil	10-30 days from date of publication	10,000 cu m		gallon	
Ethanol FOB Santos Cargo $/cu m	$/cu m	AAWFO00			Spot	FOB	Santos, Brazil	10-30 days from date of publication	10,000 cu m		cubic meter	
Ethanol FOB Santos Cargo Real/cu m	Real/cu m	AAWFP00			Spot	FOB	Santos, Brazil	10-30 days from date of publication	10,000 cu m		cubic meter	
Hydrous ANP Domestic Ex-mill Ribeirao with taxes	Real/cu m	AAXNQ00			Spot	EXW	ex-mill Ribeirao Preto	1-7 days from date of publication	135 cu m		cubic meter	
Hydrous FOB Santos/Paranagua $/cu m	$/cu m	AAXNR00			Spot	FOB	Santos, Brazil	20-30 days from date of publication	5,000 cu m		cubic meter	
Anhydrous ANP Domestic Ex-mill Ribeirao with taxes	Real/cu m	AAXNN00			Spot	EXW	ex-mill Ribeirao Preto	1-7 days from date of publication	45 cu m		cubic meter	
Raw Sugar Equivalent	c/lb	AAXOA00			Spot	FOB	Santos, Brazil				pound	
Grade B FOB Santos/Paranagua	$/cu m	AAXNS00			Spot	FOB	Santos/Paranagua	20-30 days from date of publication	5,000 cu m		cubic meter	
NNE Brazil delivered Suape anhydrous weekly	Real/cu m	AAXFW04			Spot	DAP	Suape, Pernambuco	1-15 days from date of publication	250 cu m	1000 cu m	cubic meter	
Biodiesel												
Biodiesel B100 SME Chicago	¢/gal	AAURR00			Spot	FOB	Chicago	3-10 days forward	150	3,000	barrels	
Biodiesel B100 SME Houston	¢/gal	AAURS00			Spot	FOB	Houston	3-10 days forward	150	3,000	barrels	
Renewable Identification Number (RIN) Assessments												
Ethanol (D6) RIN Calendar-Year 2015	¢/RIN	RINCY01			Spot				500,000		RIN	RD62015
Ethanol (D6) RIN Calendar-Year 2016	¢/RIN	RINCY02			Spot				500,000		RIN	RD62016
Ethanol (D6) RIN Calendar-Year 2017	¢/RIN	RINCY03			Spot				500,000		RIN	RD62017
Biodiesel (D4) RIN Calendar-Year 2015	¢/RIN	BDRCY01			Spot				250,000		RIN	RD42015
Biodiesel (D4) RIN Calendar-Year 2016	¢/RIN	BDRCY02			Spot				250,000		RIN	RD42016
Biodiesel (D4) RIN Calendar-Year 2017	¢/RIN	BDRCY03			Spot				250,000		RIN	RD42017
Advanced biofuel (D5) RIN Calendar-Year 2015	¢/RIN	ABRCY01			Spot				100,000		RIN	RD52015
Advanced biofuel (D5) RIN Calendar-Year 2016	¢/RIN	ABRCY02			Spot				100,000		RIN	RD52016
Advanced biofuel (D5) RIN Calendar-Year 2017	¢/RIN	ABRCY03			Spot				100,000		RIN	RD52017
Cellulosic biofuel (D3) RIN Calendar-Year 2015	¢/RIN	CBRCY01			Spot				100,000		RIN	RD32015
Cellulosic biofuel (D3) RIN Calendar-Year 2016	¢/RIN	CBRCY02			Spot				100,000		RIN	RD32016
Cellulosic biofuel (D3) RIN Calendar-Year 2017	¢/RIN	CBRCY03			Spot				100,000		RIN	RD32017
Ethanol (fuel grade)												
Ethanol Chicago (terminal)	¢/gal	AALRI00			Spot	ITT	ITT Kinder Morgan Argo Terminal, Chicago	5-15 days forward	5,000		barrels	
Ethanol Chicago (Rule 11)	¢/gal	AAVWD00			Spot	FOB	Chicago	This week (Monday through Wednesday) Next Week (Thursday, Friday)	145,000		gallons	
Ethanol NYH Barge (M1)	¢/gal	AAMPF00			Spot	FOB	New York Harbor	front-monhth	25,000		barrels	
Ethanol NYH Barge (M2)	¢/gal	AAUEG00			Spot	FOB	New York Harbor	second-month	25,000		barrels	
Ethanol Houston 5-15 Tank	¢/gal	AATGJ00			Spot	FOB	Houston	5-15 days forward	10,000		barrels	

AMERICAS

Assessment	CURRENCY	CODE	Mavg	Wavg	CONTRACT TYPE	CONTRACT BASIS	LOCATION	DELIVERY PERIOD	MIN SIZE	MAX SIZE	UOM	LIFETIME
North California Rail Car Ethanol prompt	¢/gal	AAMFT00			Spot	Dlvd rail	California; Richmond, Selby terminals	This week (Monday through Wednesday) Next Week (Thursday, Friday)	800		barrels	
South California Rail Car Ethanol prompt	¢/gal	AAMNK00			Spot	Dlvd rail	California; Gardena, Wilmington and Carson terminals	This week (Monday through Wednesday) Next Week (Thursday, Friday)	800		barrels	
Ethanol NoCal Rail Premium to Ethanol Chicago IL Swap Mo01	¢/gal	AAVXD00			Spot	Dlvd rail	California; Richmond, Selby terminals	This week (Monday through Wednesday) Next Week (Thursday, Friday)	800		barrels	
Ethanol SoCal Rail Premium to Ethanol Chicago IL Swap Mo01	¢/gal	AAVYD00			Spot	Dlvd rail	California; Gardena, Wilmington and Carson terminals	This week (Monday through Wednesday) Next Week (Thursday, Friday)	800		barrels	
Low Carbon Fuel Standard credits (LCFS)												
Low Carbon Fuel Standard Carbon Credits Front Quarter	$/mt of CO2e	AAXYA00	AAXYA03		Spot			Quaterly			metric tonnes	
Low Carbon Fuel Standard Carbon Credits Second Quarter	$/mt of CO2e	AAXYZ00	AAXYZ03		Spot			Quaterly			metric tonnes	
Dried Distiller Grains (DDG)												
Dried Distiller Grains CIF New Orleans barge	$/st	AADDG00			Spot	CIF	New Orleans	Delivery on a barge that has loaded in the front-month; rolls on 25th of month	1,500		short ton	
Dried Distiller Grains FOB Chicago truck	$/st	ACDDG00			Spot	FOB	Channahon, Illinois	Delivered to railhead during calendar month; rolls on 21st day of the month	25		short ton	

Americas

Brazil ethanol hydrous and anhydrous

Ethanol FOB Brazil Cargo (Anhydrous)

Quality: Standard ANP anhydrous quality ethanol.

Timing: Loading 10-30 days forward from date of publication.

Volume: Minimum 10,000 cu m, other volumes may be considered but will be normalized to 10,000 cu m.

Location: FOB Santos.

Units: $/cu m.

Notes: If no input data is received to determine this assessment it will be calculated from the anhydrous ex-mill Ribeirao price assessment adjusted for freight and terminal costs.

Hydrous ANP FOB Santos

Quality: Standard ANP hydrous quality ethanol.

Timing: Loading 20-30 days forward from date of publication.

Volume: Minimum 5,000 cu m, other volumes may be considered but will be normalized to 5,000 cu m.

Location: FOB Santos.

Units: $/cu m.

Notes: If no input data is received to determine this assessment it will be calculated from the hydrous ex-mill Ribeirao price assessment adjusted for freight and terminal costs.

Hydrous ANP domestic ex-mill Ribeirao with taxes

Quality: Standard ANP hydrous quality ethanol.

Timing: delivery 1-7 days forward from date of publication.

Volume: 3 trucks i.e. 135,000 liters or 135 cu m, other quantities may be considered but will be normalized to 135,000 liters.

Location: ex-mill Ribeirao Preto, Sao Paulo, other locations may be considered but will be normalized back to the basis location.

Units: Real/cu m.

Taxes: 12% ICMS tax, according to Sao Paulo State law

11.593, published on Dec 4 2003 by the State Government Legislative Assembly. According to Federal law 12.859 on Sep 10 2013 PIS/Cofins tax was stated at R$120/cu m. However it was zero until Dec 31 2016.Effective July 21 2017, the PIS/Cofins tax was increased to R$ 130.90/cu m.

Anhydrous ANP domestic ex-mill Ribeirao with taxes

Quality: Standard ANP anhydrous quality ethanol

Timing: 1-7 days forward from date of publication

Volume: 1 truck, 45,000 liters or 45 cu m

Location: ex-mill Ribeirao Preto, Sao Paulo, other locations may be considered but will be normalised back to the basis location

Units: Real/cu m.

Taxes: No ICMS tax. According to Federal law 12.859 on Sep 10 2013, PIS/Cofins tax was stated at R$120/cu m. However, since then it was zero until DEC 31 2016. Effective July 21 2017, the PIS/Cofins tax was increased to R$130.90/cu m.

Ex-mill Hydrous Raw Sugar equivalent

Platts publishes a value of ex-mill Ribeirao hydrous ethanol expressed as a raw sugar equivalent basis Santos in cents/lb. The base for the calculation is the Hydrous ANP domestic ex-mill Ribeirao with taxes assessment. The calculation takes into account the ICMS and PIS tax as well as freight and elevation costs to Santos. Platts also converts the ethanol price to ATR (Total Recoverable sugar) value then to sugar equivalent. To allow an accurate comparison between the Platts raw sugar equivalent value and the ICE New York Sugar No. 11 futures contract Platts normalizes the polarization quality to 96 degrees from an assumed polarization of between 99.2 to 99.3 pol.

Grade B FOB Santos/Paranagua

Quality: Standard Grade B industrial ethanol.

Timing: Loading 20-30 days forward from date of publication.

Volume: Minimum 5,000 cu m, other volumes may be considered but will be normalized to 5,000 cu m.

Location: FOB Santos/Paranagua.

Units: $/cu m.

NNE Brazil delivered Suape anhydrous weekly

Quality: Standard ANP anhydrous quality ethanol

Timing: 1-15 days forward from date of publication

Volume: Minimum volume 250,000 liters, or 250 cu m, maximum volume 1,000,000 liters, or 1,000 cu m. Other volumes may also be considered but in relation to the assessed volume range.

Location: DAP (Delivered At Place) basis Suape, Pernambuco. Other locations and Incoterms such as FOB/CIF may be considered but will be normalized back to the basis location. Platts also takes into consideration product produced regionally, transfers from the Center-South region as well as volumes delivered from international locations.

Units: Real/cu m.

Notes: Platts considers standard payment terms, such as payment within 10 days of "delivery." The assessment is time-stamped to a 4:30 pm local time Friday as a weekly assessment and published in the Friday Biofuelscan, as well as the Platts Weekly Global Ethanol Report.

US Ethanol

US Atlantic Coast ethanol

Basis and Location: FOB New York Harbor (cts/gal).

Volume: Minimum of 25,000 barrels.

Quality: Domesticated, denatured, refinery grade ethanol; Octane of min 115 (R+M)/2, RVP of min 18 psi.

Timing: Assessments reflect material loading on an-any month basis, i.e. loading at any point over the corresponding month, from date of publication for the front two months. The front-month assessment will roll to the next month seven calendar days before the end of the month. If the seventh calendar day prior to the end of the prompt month should fall on a public holiday or weekend, the roll to second month will take place on the business day immediately preceding the seventh calendar day.

For example, April 24, 2018, will be the first day for the May any-month assessment as the front-month assessment, as it reflects the first day of a five-day notice of a three-day transfer window that features August 1 as a potential nomination day of delivery transfer. This is in line with standard industry practices and prevents the assessments from rolling forward prematurely.

Platts altered the roll timing to seven calendar days from eight calendar days effective August 10, 2015. Platts considers LEAP terms standard in the New York Harbor market.

US Gulf Coast ethanol

Basis and Location: FOB Houston (cts/gal).

Volume: Minimum of 10,000 barrels.

Quality: Domesticated, denatured, refinery grade ethanol; octane of min 115 (R+M)/2, RVP of min 18 psi.

Timing: Loading 5-15 days forward from date of publication.

It is the seller's option to transfer current or prior-year RINs with trades in the FOB Houston Market if ownership of the physical ethanol transfers on or between January 1-January 31. Transfers after January 31 to December 31 must carry current-year RINs.

Chicago Terminal ethanol

Basis and Location: ITT Kinder Morgan Argo Terminal (cts/gal). Prior to October 1, 2009 this basis and location was FOB Chicago area terminals.

Volume: Minimum of 5,000 barrels.

Quality: Refinery grade ethanol, Octane of min 115 (R+M)/2, RVP of min 18 psi.

Timing: Assessments reflect material loading 5-15 days forward from date of publication.

Notes: In the ITT market, the buyer retains the option to nominate the transfer date within a 5 to 15 day forward range; this nomination should take place by one day in advance of the transfer date.

Chicago Terminal ethanol trades must carry current-year RINs if the transfer date of the physical ethanol is after January 31 to 31 December. For ethanol transfers on or between January 1 to January 31 it is the seller's option to transfer prior-year RINs or current year RINs. The physical ethanol transfer date determines what RIN vintage may be attached, not the trade date.

Chicago (Rule 11)

Basis and Location: Platts l daily "Rule 11" Chicago assessment, reflects FOB Chicago for minimum five rail car lots (145,000 gallons), 5 to 15 days forward from publication date. Rule 11 is a railroad accounting term that refers to a customer shipping their freight "pre-paid" to an intermediate point and "collecting" beyond that intermediate point.

Volume: 145,000 gallons.

Timing: Platts has aligned its R11 assessment timing to a This-Week-Shipment (TWS) and Next-Week-Shipment (NWS) system of delivery. Platts assessment Monday through Wednesday will reflect This-Week-Shipment (TWS). On Thursday and Friday, the timing of the assessment will reflect Next-Week-Shipment (NWS). For example, on November 7, 2017, the loading timing will reflect November 8 through November 11. On November 9, the loading timing will roll to November 12 through November 18.

For Rule 11 ethanol trades the bill of lading date is used to determine what RIN vintage may be attached. Bills of lading after January 31 to December 31 must carry current-year RINs. For bills of lading on or between January 1 to January 31 it is the seller's option to transfer prior-year RINs or current year RINs.

California Rail Car Ethanol

Platts assesses ethanol basis California that has a carbon intensity (CI) equal to the annual gasoline CI standard as set by CARB. This update was made July 12, 2017 following a move by CARB to review ethanol pathway applications of both new and legacy pathways. The review gave new CI scores to the fuel pathways, where the fuel pathway CI consists of the sum of the greenhouse gases emitted throughout each stage of the ethanol's production and use. CI is expressed in grams of carbon dioxide equivalent per mega-joule (gCO2e/MJ).

From 12 July 2017 till the end of the calendar year, Platts assesses ethanol in California to a CI of 95.02 gCO2e/MJ. The 95.02 CI level is based on the annual gasoline standard CI published by CARB. That standard will change, annually based on CARB's scheduled changes to the standard. The 2018 reference CI for the "non-obligated" ethanol assessment will be 93.55 gCO2e/MJ, the 2018 gasoline standard CI. As the annual gasoline standard set by CARB, when changes are set forth by CARB, Platts will inform the market of the changes in the basis CI through subscriber notes.

In a non-obligated ethanol trade the seller will retain any obligation for credits or deficits generated by the actual CI of the ethanol sold.

For the basis California ethanol price assessment Platts takes into consideration transactable market information such as bids, offers and trades that do not have a CI at the annual reference level and normalizes them to the current assessment reference CI level. This normalization may reflect a calculated valuation of the differences in carbon intensities between the values received from market participants and the assessed reference ethanol CI, taking into account the value of the carbon credits under the LCFS as defined by CARB and as assessed by Platts.

Here is an example of normalization of a market indication received by Platts to the Platts assessed "non-obligated" ethanol value.

To find the value in cents/gallon of the difference between a heard indication CI and the basis assessment CI you need to take the annual gasoline standard CI in gCO2e/MJ as set by CARB minus the CI of the ethanol indication reported. Then take the LCFS carbon credits as published daily by Platts, under the code AAXYA00 divide by 1 million, and multiply by 81.51 MJ/gallon (energy density of ethanol). Take the result of this calculation and multiply by the CI difference previously calculated to get the $/gal value.

For example:

Platts heard a 79.9 CI ethanol trade basis North Terminal California at 162.00 cents/gal, the 2017 annual gasoline standard CI is 95.02.

- 95.02 minus 79.9 equal 15.12
- The value of LCFS carbon credits for Q1 published by Platts on the corresponding day was $80/mt.
- $80/mt divided by 1,000,000 then multiplied by 81.51 (energy density of ethanol) equals $0.006521/CI
- 15.12 (the difference in the CI values) multiplied by 0.006521 equals $ 0.098594 /gal or 9.86 cents/gal 'actual CI'

The 79.9 CI ethanol trade heard at 162.00 cents/gal can be normalized by 9.86 cents/gal to give 152.14 cents/gal; an equivalent value for a 95.02 CI ethanol trade.

North California Rail Car Ethanol

Basis and Location: Delivered rail California into the Richmond and Selby terminals.

Timing: This-Week-Shipment (TWS) and Next-Week-Shipment (NWS). Platts timing will reflect, from Monday through Wednesday This-Week-Shipment (TWS); on Thursday and Friday, the timing of the assessment will reflect Next-Week-Shipment (NWS). For example, on July 12, 2017, the loading timing reflects July 10 through July 16. On July 13, the loading timing will roll to July 17 through July 23.

Volume: 800 barrels, or 33,600 gallons, representing one single rail car.

Units: c/gal.

Notes: Platts assesses ethanol basis California that has a carbon intensity (CI) equal to the annual gasoline CI standard as set by CARB, referred to as "non-obligated" ethanol. Platts publishes North California ethanol assessments as both flat price indications in cents/gallon and as a premium to the Platts Ethanol Chicago front-month swap.

South California Rail Car Ethanol

Basis and Location: Delivered rail basis California; Gardena, Wilmington and Carson terminals.

Timing: This-Week-Shipment (TWS) and Next-Week-Shipment (NWS). Platts timing will reflect, from Monday through Wednesday This-Week-Shipment (TWS); on Thursday and Friday, the timing of the assessment will reflect Next-Week-Shipment (NWS). For example, on July 12, 2017, the loading timing will reflect July 10 through July 16. On July 13, the loading timing will roll to July 17 through July 23.

Volume: 800 barrels, or 33,600 gallons, representing one single rail car.

Units: c/gal.

Notes: Platts assesses ethanol basis California that has a carbon intensity (CI) equal to the annual gasoline CI standard as set by CARB, referred to as "non-obligated" ethanol. Platts publishes South California ethanol assessments as both flat price indications in cents/gallon and as a premium to the Platts Ethanol Chicago front-month swap.

Low Carbon Fuel Standard credits (LCFS)

Platts assesses carbon credits under the Low Carbon Fuel Standard (LCFS) as defined by the California Air Resources Board (CARB).

Transfer dates: Platts assesses current quarter and next quarter carbon credits from the date of publication that are to be transferred before the end of the current quarter and next quarter.

Timing: Platts continues to publish the current quarter and next quarter values up until the 15th of the last month of that quarter. The assessment would roll on 15th, unless that day is not a business day, in which case the assessment rolls over on the preceding business day.

For example on December 14 2016 Platts assessed carbon credits for transfer in Q4 2016 and carbon credits for transfer in Q1 2017. On December 15 2016 Platts assessed carbon credits for transfer in Q1 2017 and carbon credits for transfer in Q2 2017.

Units: US dollars per metric ton (MT) of carbon dioxide equivalent.

US Dried Distillers Grain with Solubles (DDGS)

DDGS FOB Chicago

Basis and Location: Basis FOB Chicago, assessment reflects truck delivered to the Channahon, Illinois, railhead.

Quality: Assessments will reflect export quality DDGS, protein content minimum of 25%, minimum color of 50 (according to the Hunter L test), fat minimum of 6%, and a moisture level in the range of 10% to 12%, standardized to 11.5%.

Volume: 25 short tons (22.6mt), other volumes may be considered but may be normalized to 25 short tons.

Timing: Platts assesses DDGS trucks delivered to the Channahon, Illinois, railhead on a cal

endar month basis. Platts assesses delivery in the current month until the 21st of that month, when the assessment rolls to delivery over the next calendar month. If the 21st day of the current month should fall on a public holiday or weekend, the roll to next month will take place on the business day immediately after the 21st day of the month.

Units: $/short ton.

DDGS CIF New Orleans barge

Basis and Location: CIF basis New Orleans, assessment reflects barges delivered to New Orleans.

Quality: Assessments will reflect export quality DDGS, protein content minimum of 25%, minimum color of 50 (according to the Hunter L test), fat minimum of 6%, and a moisture level in the range of 10% to 12%, standardized to 11.5%.

Volume: 1,500 short tons (1,360 mt), other volumes may be considered but will be normalized to 1,500 short tons

Timing: Platts assesses delivery in New Orleans on a barge that has loaded over any period in the current month of the date of publication. Platts rolls to assess delivery from barges that have loaded over the next calendar month on the 25th of the current month. If the 25th day of the current month should fall on a public holiday or weekend, the roll to next month will take place on the business day immediately after the 25th day of the month.

Units: $/short ton.

US Biodiesel

Biodiesel delivered Chicago

Basis and Locations: Chicago assessments reflect truck or rail volume delivered at Argo or other major storage facilities in the Chicago area.

Volume: Truck volume of 150 barrels, rail volume of 700 barrels. Volumes of 1,000 to 3,000 barrels sold FOB in-tank at terminals in Chicago may also be considered and normalized for assessment purposes.

Quality: ASTM specification for Biodiesel (B100): Cetane of min 47, Sulfur of max 15 ppm, Water and sediment of max 0.05%, Flash point of min 130 Celsius.

Timing: Loading 3-10 days forward from date of publication.

Units: cts/gal.

Biodiesel delivered Houston

Basis and Locations: Houston spot price assessments reflect truck or rail volume delivered in the Houston area.

Volume: Truck volume of 150 barrels, rail volume of 700 barrels. Volumes of 1,000 to 3,000 barrels sold FOB in-tank at terminals in the Houston Ship Channel may also be considered and normalized for assessment purposes.

Quality: ASTM specification for Biodiesel (B100): Cetane of min 47, Sulfur of max 15 ppm, Water and sediment of max 0.05%, Flash point of min 130 C.

Timing: Loading 3-10 days forward from date of publication.

Units: cts/gal.

Renewable Identification Number (RIN) assessments

A RIN is a number issued by the US Environmental Protection Agency, for the purpose of tracking renewable fuel usage throughout the supply chain. Applicable refiners and importers, called "obligated parties," use them to show the EPA they have fulfilled their mandated government use of renewable fuels. If the obligated party has not used enough physical product, such as ethanol, it can satisfy the quota by purchasing RINs.

Platts typically assesses Renewable Identification Numbers (RIN) for "corn based ethanol" (D6), biomass-based diesel (D4), cellulosic biofuel (D3) and advanced biofuel (D5) for the previous year and the current year. When appropriate, Platts will also publish assessments for the year ahead.

Platts RIN assessments reflect translatable market information including trade activity, bids and offers. For D3 cellulosic biofuels RIN assessments, Platts may look at the value of the Cellulosic Waiver Credit and D5 Advanced Biofuel RIN value in the absence of market activity.

Volumes:

The assessments for ethanol (D6) RINs reflect the price per RIN and typical volume of 500,000 RINs per trade.

The assessments for biodiesel (D4) RINs reflect the price per RIN and typical volume of 250,000 RINs per trade.

The assessments for cellulosic biofuel (D3) RINs reflect the price per RIN and typical volume of 100,000 RINs per trade.

The assessments for advanced biofuels (D5) RINs reflect the price per RIN and typical volume of 100,000 RINs per trade.

Timing: Transfer of RIN documentation from seller to buyer 5-10 days forward from the date of publication. Platts assesses year-ahead RINs on the first working day of July of the prior year. For example, 2016 RINs shall be assessed for the first time on July 1, 2015. Platts will stop publishing the calendar year RINs assessments on the last US working day of January two years after the year in question. For example, the last assessment for 2014 RINs shall be on Friday January 29, 2016.

Transfer dates: Platts reflects current year and previous year RIN where the seller has the obligation to transfer the RIN to the buyer during the first full calendar month forward from date of execution. For example, a seller of a RIN on June 8, 2015, has the obligation to transfer that RIN to the buyer no later than the last working day of July 2015. For year-ahead RIN assessments, the seller has the obligation to transfer the RIN to the buyer no later than the following January 31. For example, if an entity sells a 2016 RIN during July 2015, the seller must transfer that RIN to the buyer no later than January 31, 2016.

Lifetime RINS codes: Effective July 27, 2015, Platts introduced lifetime codes for its RINS assessments. These codes supplement the existing rolling codes, and accompany a RIN throughout its entire lifecycle, from forward year, to current year, to preceding year.

Renewable Volume Obligation

Effective November 30, 2015 Platts reflects the calculated values of the US Renewable Volume Obligation in accordance with the release of the blending mandates under the Renewable Fuel Standard. RVO is the aggregate cost of the Renewable Identification Number percentages per gallon of transportation fuel as the US Environmental Protection Agency mandated in the Renewable Fuel Standard Program (RFS2).

To align with typical market practices, Platts will calculate these renewable credit values factoring the value of D4, D6, D5 and D3biofuel RIN credits as assessed by Platts for the respective RVO years. Each year's RVO will follow the same calendar and publication timings as the corresponding RIN assessments and

as found on Platts Biofuels Alert Page PB0010.

Platts will publish the RVO cost values for three revolving years: Year 1, Year 2, and Year 3. Year 1 will reflect the previous year percentage-per-RIN breakdown, Year 2 will reflect the current year percentage-per-RIN breakdown and Year 3 will reflect the next year percentage-per-RIN breakdown.

For example the 2016 and 2017 RVO as stated by the RFS will be published as:

	Biodiesel	Ethanol	Adv. Biofuel	Cellulosic
2016 RVO	1.590%	8.090%	0.292%	0.128%
2017 RVO	1.670%	8.320%	0.537%	0.173%

As these renewable fuels are mandated by the EPA and hence subject to change without prior notice, Platts will update the Platts RVO formulas at any time. When such changes are set forth by the EPA, Platts will inform the market of the changes in the formulae through subscriber notes.

Global

Futures and Foreign Exchange assessments

Platts Biofuelscan publishes assessments reflecting the prevailing market value precisely at the MOC close for several futures on Bursa Malaysia (BMD), Intercontinental Exchange (ICE), NYSE Liffe and Chicago Board of Trade (CBOT) and foreign exchange values.

An assessment for the front-month crude palm oil futures contract listed on the BMD reflecting prevailing values at 1630 Singapore is published daily in MYR/mt. The BMD contract rolls forward on the 15th of each calendar month, or if this falls on a holiday, on the preceding business day. From the start of the calendar month until rolling, the assessment reflects the traded value for BMD contract representing the balance of the current month. After the contract rolls until the end of the calendar month, the assessment reflects the traded value for the next month.

The assessed spread between the BMD crude palm oil front-month futures assessment and the ICE gasoil futures contract (PO-GO) for corresponding contractual months is also published reflecting prevailing values at 1630 Singapore time. Platts publishes this spread in US dollars per mt and uses the published and prevailing USD/MYR exchange rate at 1630 Singapore time to convert the BMD palm oil assessment from MYR/mt to USD/mt.

Assessments for the two front months of the gasoil futures contract listed on ICE Futures reflecting prevailing values at 1630 London time are published in USD/mt. The assessments will roll over to the second and third month contracts on the 5th day of each calendar month until the official expiry of the front month futures contract.

Assessments reflecting the front month of the milling wheat, rapeseed and corn futures contracts listed on NYSE Liffe reflecting prevailing values at 1630 London time are published in Eur/mt.

Assessments reflecting the front month of the soybean oil (USc/lb), corn (USC/bu) and soybean meal (USD/st) contracts listed on CBOT reflecting prevailing values at 1630 London time are published. The front month assessment will roll to the second month on the 5th of each calendar month (until the official expiry of the existing front month contract).

Platts also reflects in USD/mt, the spread between the first- or second-month soybean oil futures contract as listed on CBOT and the corresponding calendar month's ICE gasoil futures contract (BO-GO). This assessment reflects the front month soybean oil contract until the 5th day of the calendar month of contract expiry. The assessment will roll over to reflect the second-month soybean oil futures contract listed on CBOT on the 5th day of the calendar month of futures contract expiry until the official expiry of the front-month contract. If the 5th day of the calendar month is not a business day in London the spread assessment will roll to reflect the second month futures contract on the next business day.

Platts also published the settlement values for the front month soybean oil, corn and soybean mean CBOT futures contracts, where the contract expiry is the business day prior to the 15th calendar day of the contract month.

Platts also publishes an assessment of the prevailing USD/BRL exchange rate at 1630 London time and 1430 Eastern Standard Time and the EUR/USD assessment at 1630 London time.

REVISION HISTORY

May 2018: Platts clarified RIN transfers with trades in US ethanol Market on Close assessment processes. Platts changed the basis of the T2 ethanol assessment to FOB ARA from FOB Rotterdam.

November 2017: Platts reviewed the guide as part of its annual methodology review. Updated Loading rate, dates, timing and locations, adding normalization. In addition, ICE Settlements, Open Interest and Volumes were also updated with correct contract references. Platts launched NNE Brazil delivered Suape weekly anhydrous ethanol assessment.

October 2017: Platts specified terms of POS in European T2 ethanol.

July 2017: Platts updates California ethanol Carbon Intensity basis and timing reflected in the assessment.

June 2017: Platts updates the ex-mill Ribeirao Hydrous expressed as Raw Sugar equivalent methodology

March 2017: Platts revised roll dates for CIF NOLA DDGS barge and FOB Chicago DDGS truck assessments

December 2016: Platts added a minimum 50% greenhouse gas saving requirement for T2 and T1 ethanol assessments.

November 2016: Platts made changes to the formatting and updated language for the Europe section.

October 2016: Annual review: Platts made a number of minor edits and updated language for the Asia, Europe and Americas sections. Platts discontinued its assessment of fuel-grade ethanol FOB Thailand.

July 2016: Platts changed Americas biofuels Market on Close assessment time to 14:30 Eastern Standard Time (13:30 CT) from 1515 EST (14:15 CT). Platts updated the guide to reflect a clarification regarding the delivery ports taken into consideration for the CIF Philippines ethanol assessments. Platts amended language for the Asian section of Futures and Foreign Exchange assessments to clarify the assessment month used on Bursa Malaysia (BMD) and the process in which the front month rolls over. Platts updated the guide to reflect changes made to the Biodiesel FOB Southeast Asia assessment. Beginning 1 July, 2016, Platts assesses RED compliant PME at the Malaysian loading ports of Port Klang, Pasir Gudang and Lahad Datu which adheres to EN14214 quality specifications with monoglyceride levels of 0.5% or less.

May 2016: Platts updated its methodology to reflect an alternate assessment methodology for D3 cellulosic RINs when market activity is not available.

April 2016: Platts updated the guide to reflect changes made to the FOB Rotterdam T2 ethanol assessments. As of April 1, 2016, Platts FOB Rotterdam T2 assessments reflect a FOB Rotterdam basis with loading options in Amsterdam and Antwerp. Platts updated Chicago terminal ethanol ITT methodology to include nomination time as originally stated in 2009.

January 2016: References to non-RED biodiesel FOB ARA assessments removed, following the discontinuation of those assessments effective January 1, 2016.

December 2015: The methodology guide was updated with further description and clarification of calculated values of the US Renewable Volume Obligation in accordance with the release of the blending mandates under the Renewable Fuel Standard. Platts also removed references to the FOB Singapore ethanol, following the discontinuation of its assessment effective Dec 21. References to non-RED biodiesel FOB ARA assessments removed, following the discontinuation of those assessments effective January 1, 2016.

October 2015: Platts updated the guide with the new assessment Ethanol Grade B CFR Ulsan, effective October 1. Platts updated guide with new assessments of US Dried Distillers Grain CIF basis New Orleans barge and FOB Chicago truck or rail launched October 1, 2015.

September 2015: Platts updated the guide with: new US 'lifetime' RINS codes; updated methodology around the roll dates for the Atlantic Coast ethanol assessments; a clarification on specifications for its FOB Southeast Asia biodiesel assessment; a clarification on methodology for T1 ethanol CIF NWE cargo and FOB Rotterdam barge assessments.

July 2015: Platts clarified and updated its RINS rolling dates and launch cycles, as well as improving the wording around each individual RIN name to align with industry standards on corn-based and biomass-based RINS.

June 2015: Platts removed references to non-RED SME biodiesel FOB ARA barges, following the discontinuation of its assessment effective June 1.

February 2015: This methodology guide was updated to include further description of Platts' processes and practices in survey assessment environments.

January 2015: Platts added a requirement for all FOB ARA biodiesel assessments (except for non-RED and RED-compliant SME) to reflect material with sustainability documentation showing a minimum greenhouse gas saving of 50% when compared to the fossil fuel comparator, as per the European Union's Fuel Quality Directive calculation.

October 2014: Platts clarified for European biodiesel barges, operational tolerances and the maximum number of days for delivery of Proof of Sustainability documentation.

August 2014: Platts revamped all Agriculture and Biofuel Methodology And Specifications Guides, including its Global

Biofuels guide, in August 2014. 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.