

Platts Assessments Methodology Guide

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This guide details the methodology employed by S&P Global Platts in all its commodity assessments. Details on particular commodity assessments can be found in relevant Specification Guides available on the Platts website. Details on the methodologies employed in Platts commodity indices are available separately in the relevant index methodology guides.

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INTRODUCTION

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

Platts discloses publicly the days of publication for its price assessments, and the times during each trading day in which Platts considers market information in determining its price assessments. This schedule of publication is available on the Platts website, at the following link: <https://www.spglobal.com/commodity-insights/en/our-methodology/holiday>

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, pandemics and other situations that result in an interruption in Platts global operations. 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. Should supply of, or demand for, material conforming to the assessment parameters cease or reach levels that prevent regular trade at standard terms, or the availability of data concerning market trade of this material clearly and unambiguously cease, the measurement of the market may become unreliable. Under such circumstances, Platts may review whether to end publication of this assessment, or to amend the parameters to reflect a similar, but tradeable, material.

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 previous updates, is included at the end of the methodology and specification documents. Methodology is reviewed regularly to ensure it reflects current market reality. Such reviews are carried out by Platts reporters and their managers, supplemented and supported by price methodology specialists who operate separately from the reporting teams. Platts follows a clearly defined process for public consultation on material changes to its methodologies. This process is based on full transparency and communication with industry stakeholders aimed at gaining market acceptance for any proposed introduction or changes to methodology. For more information on the review and approval procedures, please visit: <https://www.spglobal.com/commodity-insights/en/our-methodology/methodology-review-change>. All Platts methodologies reflect Platts commitment to maintaining best practices in price reporting.

S&P Global's commitment to diversity and inclusion helps us deliver the essential intelligence that markets count on around the world. S&P Global embraces and supports the qualities that make our employees unique, including race, color, religion, sex, gender identity or expression, age, sexual orientation, national or ethnic origin, citizenship status, veteran status and disability. Our commitment to Diversity & Inclusion is available in full online at: <https://www.spglobal.com/en/who-we-are/diversity-equity-inclusion/>.

How this methodology statement is organized

This description of methodology for assessments is divided into six major parts (I–VI) that parallel the process of producing price assessments.

- Part I describes what goes into Platts assessments, including details on what data market participants are expected to submit, the process for submitting data and criteria for timeliness of market data submissions, as well as the editorial collection of input data from market sources.

- Part II describes any security and confidentiality practices that Platts uses in handling and treating data and enquiries about methodology.
- 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 assessments. It includes descriptions of the methods that Platts uses for reviewing data, and the methods used to reflect data in assessments. This also includes 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. This is 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 correction principles for revising published prices and the criteria Platts uses to determine when it publishes a correction.
- Part VI explains how users of Platts assessments can contact Platts for clarification of data that has been published, or to share a complaint. It also describes how to find out more about Platts complaint policies.

Platts separately publishes a list of detailed specifications for the trading locations and products for which Platts publishes assessments for a particular commodity, which can be found at <https://www.spglobal.com/commodity-insights/en/our->

[methodology/methodology-specifications](#). These specification guides describe why specific units of measurement are used, and what conversion factors are used to move between units of measurement, where relevant. Platts also publishes a Conversion Base Rates guide that identifies the base rate values for energy, mass and volume conversions used throughout Platts assessment processes and published content, which can be found here: <https://www.spglobal.com/commodity-insights/en/our-methodology/conversion-tables>.

PART I: INPUT DATA

Platts objective is to ensure that input data that market reporters 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 input 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 value for the commodity being assessed.

Reporting data to Platts

Platts assesses a variety of different markets and commodities. In some of these Platts receives information from back office functions. However, in many markets back office functions are not best placed to communicate relevant market data to Platts market reporters, and in these instances Platts has processes in place to ensure that data is corroborated either through reviews of entities participating in its process, or through source validation and publication of information.

As part of its standard market reporting practice, Platts routinely reviews the companies participating in its price assessment processes. These reviews ensure the suitability of data and information that are used to formulate Platts 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. Further details concerning Platts Market on Close (MOC) Participation Guidelines can be found online at <https://www.spglobal.com/commodity-insights/en/userform/moc>.

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.

Platts may consider verifiable data reported and published through the day as provided for publication by individual sources, through established market reporting methods.

Platts has developed guidelines for Management of Sources that address identification, evaluation, and development. Individual sources are verified per Platts Source Management Guidelines.

Platts considers several criteria as to whether to use source information. These criteria include:

- Company reputation
- Source position within a company
- Source understanding and knowledge of the market in question
- Ability of source to provide relevant, valuable information
- Ability of Platts to verify information with other sources

- Source credibility
- All sources are expected to employ appropriate conduct towards Platts' staff. Unacceptable behavior may be an extreme one-off incident or an accumulation of minor incidents.

Everyone has the right to do their work without fear of abuse because of disability, gender identity, race, sexual orientation, religion or any other characteristic. S&P Global takes a zero-tolerance approach to all forms of harassment against staff and encourages all staff to report any incident knowing that it will be taken seriously and investigated.

What to report

- Platts encourages all market participants to submit all data that may be relevant to Platts assessments, including but not limited to:
 - Firm bids that are transparent and open to the marketplace as a whole, with standard terms
 - Firm offers that are transparent and open to the marketplace as a whole, with standard terms
 - Expressions of interest to trade with published bids and offers, with standard terms
- Confirmed trades
- Indicative values, clearly described as such
- Reported transactional activity heard across the market, clearly described as such
- Other data that may be relevant to Platts assessments
- Market information received by Platts that meets its guidelines may be published as headlines, or 'heard's, on its

real-time services, and additionally distributed through other information services for further visibility.

- Please note that information submitted after the timestamp of an assessment will not be considered for that day's assessment process.

How to report

Platts accepts any reasonable method of delivery/communication of information provided for publication in real-time, including for bids, offers and transactions. Platts market reporters typically communicate with market participants through phone, public instant messaging systems, and communication tools developed with third party platforms such as Platts eWindow (. which is a communication tool licensed from Intercontinental Exchange.

Platts tries to accommodate the communication needs of market participants and will endeavor to open any additional communication channels required. Other means of communication, such as emails, are acceptable but are considered to be atypical. If a market participant chooses to communicate with Platts market reporters using such atypical means, this needs to be highlighted well ahead of the assessment process.

The following reporting methods are accepted by Platts:

- Public instant messaging systems
- Other relevant communication tools including Platts eWindow
- Telephone
- Email

Reporters covering the markets in Asia and the Middle East are generally contactable from 09:30 to 18:30 Singapore time, those

covering Europe and Africa from 09:30 to 18:30 London time, and those covering the Americas from 08:30 to 17:30 Houston time.

Data publishing principles

The Platts MOC assessment process establishes core standards for how data is collected and published, how data is prioritized by value, and ultimately how data is analyzed in the course of completing Platts assessments.

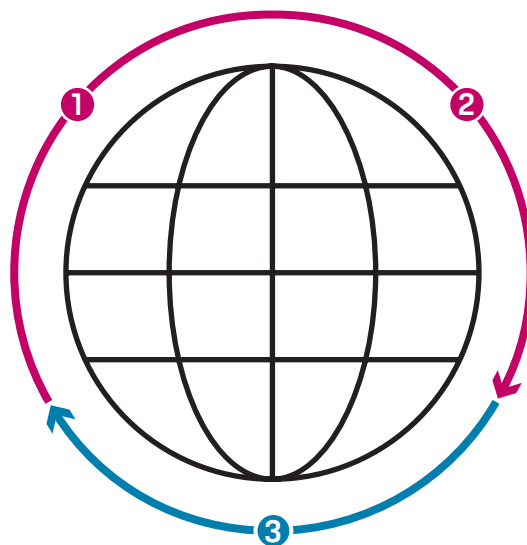
Transparency underpins Platts data publishing processes. Under Platts MOC guidelines for collecting and publishing data, Platts publishes market information including but not limited to firm bids and offers, expressions of interest to trade and confirmed trades that are received from market participants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

This information is published in real-time, as it is received,

on Platts information services. Platts endeavors to publish all information received that meets Platts market reporting standards, 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. Platts focuses its assessment process on publishing named firm bids and offers, expressions of interest to trade and confirmed trades, with all relevant details. Transparent data is prioritized in the assessment process because it is available to the entire market for testing.

ASSESSMENT PROCESS



Collect & Verify Market Data

1 Early day activities

- Review previous day's pricing and fundamental data
- Identify what's driving market prices today

2 Market on Close (MOC and Sourced data)*

- Sourced data & MOC activity provide key data for price assessment
- Monitors activity during MOC to ensure all bids, offers and expressions to trade are published according to methodology

Assess prices

3 End of day activities

- Assess market based on all available data and publish assessments
- Write and publish commentary

All day activities



Continuous Communication with Market Sources



Gather and Publish Market Data



Report Market Events

*Assessment timestamp aligns with regional market activity. Please check relevant product specification guides for specific timings.

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 provide a bid or offer for publication 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, whichever comes first. Platts expects all participants in the MOC process to be contactable at all times.

Platts will consider all firm bids and offers as open to the market at large and executable unless informed otherwise by the entity submitting the market information. Platts seeks verification of any transaction originating from a bid or offer submitted for inclusion in the Platts MOC process.

Input data may also include fully and partially confirmed bids, offers and trades, indicative trading values and other market information as provided for publication by individual sources, through established market reporting methods.

Market reporters endeavor to verify all market information they receive, including by testing it within the market through the publishing process. Trades reported as executed are verified as confirmed and Platts seeks to ensure that any firm bids/offers reported are available to the market as a whole.

Platts uses various techniques to confirm the quality of data it receives, including cross checks with counterparties as well as requests for supporting documentation. Platts excludes data in the price assessment process that cannot be verified in the market to the extent deemed appropriate.

All Platts market reporters are trained to analyze 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.

Platts publishes relevant information collected that meets its methodological standards, typically through real-time information services as 'heards' and with as much transparency as possible in order to test information within the market.

MOC data submission process

Platts aims to publish any credible bid or offer reported to it. Platts makes no commitment to publish every bid or offer submitted to it. Frivolous bids, offers and other market data will not be published.

Platts has specific guidelines around data submissions to ensure high quality of information in the assessment process. This includes detailed guidelines on timings for submissions, which can be found in the specific guide for each commodity process. 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. Specific timings are included as published [here](#).

The purpose of the time cut-offs is primarily to ensure logistical executability and standards of incrementability and repeatability to ensure an orderly assessment process. As such, they may be changed at short notice if evolving market conditions require.

Repeatability means the value can be transacted at a given time by a broad representation of independent parties. It is one of the tools Platts uses to understand if indications are representative of market value. For a trade to be repeatable, it must result from

a bid or offer acceptable and available to a broad representation of independent parties. Transactions that result from bids and/or offers that have atypical terms or conditions or cannot be demonstrated to be available to the broad market, may not be representative of the market clearing price and may be considered "one-off" transactions. Where an open bid or offer remains unfilled at a previously traded price, the traded value would be considered unrepeatable at that time as there is no further trading interest at that level.

In order to ensure that all published data is fully tested in the market, Platts has established guidelines around the publication of improvements to bids and offers. This incrementability measures the amount and speed with which a bid or offer can be improved in the Market on Close (MOC) in particular, and the broader market in general. It is typically applied in markets in which Platts observes transparent bids/offers. Incrementability is not applied when a participant retreats from value, however Platts analyzes bids and offers that move away from value to ensure reasonability.

Incrementability guidelines in each specific market reflect considerations like the publishing method employed, the speed of communication, the speed of decision-making, and the degree of standardization in bids and offers.

Platts may notify the market of any adjustment to incrementability in the event of market volatility or a disruptive event.

A market participant can withdraw a bid or offer from the 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 will perform with the first company of record to clearly express interest to Platts during the MOC process. In the event of a dispute on the timing, Platts will review its records

and determine which company communicated its intentions clearly to Platts first. Platts prioritizes data on the basis of timeliness. This sequence is critical for an orderly assessment process. Platts market reporters only consider those transactions, bids or offers where market participants perform under typical contractual terms. Platts accepts that individual companies may have trading limits with counterparties and that national legislation may prevent companies from dealing in materials of certain origins. Such counterparty issues are dealt with on a case-by-case basis.

All bids and offers are firm from the moment of submission.

Submissions of bids, offers or transactional data should not be considered as received by Platts unless acknowledged as received by Platts. For communication initiated by phone Platts will consider the time when the trader actually communicated the bid/offer or intention to trade. Acknowledgment may take the form of “yes,” “OK,” “y,” “k,” or any other reasonable forms, including by sending back the published information. Platts considers the timestamp of record of a company’s intent to buy/sell as the time that Platts receives the information, as opposed to the time a message was sent by the trading party or to a potential counterparty.

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

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

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

Platts only considers for publication transactional interest for bids or offers that have already been published by Platts. Interest in bids or offers at prices that have not been published will be disregarded. Should a buyer lower its bid or a seller increase its offer, an expression to trade at a previously published level will not be considered.

Platts editorial processes require full clarity when communicating bids/offers and intentions to trade. When expressing an intention to hit a bid or lift an offer in the MOC processes, any message should typically include the specific price of the trade and the name of the counterparty. Information may not be published if it is not sufficiently clear when communicated to Platts.

Following any trade, an intention to rebid or reoffer must be received by Platts as soon as possible and within a reasonable time frame, per incrementability guidelines.

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

A rebid or reoffer must match the initial position’s parameters, with the exception of price and in some instances volume. A rebid or reoffer can be made at the same level or inferior to the traded price. For example Company B hits Company A’s bid for \$100/mt during the MOC. Company A can rebid at \$100/mt or below this level. If the MOC process for the market includes a “freeze” period at the close of the process, bids and offers may only be repeated at the last published price.

When there are multiple bids or offers at the same level, the first participant to reach that level should be the first to be traded. Subsequent deals will go to the second, third and fourth participant at the same level. When a participant has traded, any repeat of their bid/offer will move to the back of the bid/offer queue that exists at the time it is received.

Platts will consider the first participant to express their interest in a bid or offer to be the counterparty for the subsequent trade. Platts will monitor timestamps in the event of a dispute to determine who the first buyer or seller was. In the event of a bid or offer being repeated, the queue of participants expressing interest in that position will be reset. Platts will not consider any interest expressed in a rebid or reoffer before the position is published to be executable during the MOC assessment process.

After a bid or offer is published, only price can be changed, while in certain markets volume may be adjusted to be multiples of a minimum volume. The quality or loading/delivery timing cannot be changed. Buyers or sellers can withdraw bids/offers at any time, provided no prior interest to transact has been expressed by any potential counterparty. If a participant trades another position during the MOC assessment process, they must communicate to Platts if they wish to withdraw their existing position following the trade. Otherwise, it is assumed the participant’s own position remains active until the close.

All participants that have reported bids and offers for publishing in the Platts process are expected to promptly report any transactions stemming from available bids or offers reported to Platts as part of the MOC assessment process.

Platts synchronizes its computer clocks precisely every day, and will compare the time of any submitted bid, offer or transactional interest against this synchronized time. Please note that Platts applies the timing deadlines strictly.

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

In markets where Platts eWindow or similar communication systems are in operation, the system clock will be used to determine the correct sequence of events when a bid or offer is amended, withdrawn, or traded by an interested counterparty.

Bids or offers submitted by phone, or any other medium, such as instant messaging software, shall be measured at the time the bid, offer or trade indication is actually transmitted through the communication system. As per Platts methodology, buyers or sellers can withdraw bids/offers at any time when communicating through the system, provided no prior interest to transact has been expressed by any potential counterparty. All bids and offers are firm from the moment submitted into the system to the moment they are traded, the window period closes or the bid/offer is withdrawn from the system by the MOC participant or Platts market reporter.

In processes which are not facilitated by such a communication system, Platts will compare the time of any submitted bid, offer or transactional interest via instant messenger or phone against Platts synchronized clocks. Bids or offers submitted by phone, or any other medium, such as instant messaging software, shall be clocked at the time the bid, offer or trade indication is received.

Terms of trade such as quality, delivery port, timing of delivery/loading and price are fully up to the company submitting the bid or offer.

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.

Atypical bids, offers, trades

Platts may publish bids, offers and trades with atypical pricing terms, including benchmark bases and timing. Market information with atypical pricing inherently differs in value from the typical and commonly observable information in the market.

Bids and offers which are deemed as atypical relative to the market may not be fully taken into consideration for the assessment process. In the absence of an associated, liquid derivative instrument atypical pricing bases may be difficult or impossible to evaluate on an outright price equivalent.

Such bids/offers or transactions would be at best indicators of an overall market condition, but they would not be seen as exact indicators of market price.

Any unusual condition or request regarding a commodity should be specified at the moment the initial bid or offer is communicated. Any unusual request that surfaces at the time a counterparty is ready to trade and which is unacceptable to the counterparty could be seen as an impediment to trade.

Information reported by market participants that may have legal implications, including but not limited to potential libel, will not be published.

Market participants are encouraged to inform Platts when they cannot trade with another typical market participant due to performance, credit or legal issues before the cut off deadlines for initial bids and offers as well as when there is a change in such status. Platts may ask market participants to provide supporting documentation to ensure the integrity of its assessment process.

Law

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

General Terms and Conditions

Companies' general terms and conditions are normally recognized provided they are consistently applied and accepted as part of normal trading practice. Counterparties are expected to perform on trades reported in the MOC based on typical GT&Cs that have been applied and accepted by both counterparties in the open market.

If an offer is lifted by a buyer during the MOC process, Platts would expect typical GT&Cs between both parties to be applicable, even where the GT&Cs stated in the originally published offer may differ, if the companies have not conventionally performed on the published GT&Cs.

At no time can a company impose its own GT&Cs after hitting a bid or lifting an offer made under a different standard.

Customs duties

Platts assessments reflect commodities traded under standard contract terms, typically including references to international commercial terms such as FOB, CIF, CFR, DES and DAP.

Among other items, these terms state the responsibilities for payments of costs among buyers and sellers, including import customs duties and taxes. As such, where Platts assessments state duty-unpaid terms including CIF, CFR, DES and DAP, these reflect bids, offers and trades wherein the seller is not responsible for payment of import duties.

Should buyers wish to submit for publication bids for Delivered Duty Paid – DDP - terms, Platts may consider these for publication and normalize them to a duty unpaid standard for reflection in CIF, CFR, DES and DAP assessments.

Some reported delivered market data, including bids, offers and trades for specific origins, may reflect an adjusted price to account for higher duties applicable to material from those origins. Platts considers that such prices offset some applicable duties and in effect may mean these transactions do not represent the standard duty unpaid value of a delivered transaction. Platts may therefore normalize bids, offers and trades that include such offsets to a duty unpaid delivered value for reflection in its assessments.

Commodity origins

Platts reflects products from all appropriate origins in its delivered assessment processes, and bids and offers published in the Market on Close process are considered open origin unless otherwise stated.

Bids and offers for delivered material that contain statements surrounding origin may be considered by Platts for publication. Platts may not publish such statements if an origin exclusion

is deemed unperformable or overly restrictive. Conversely, such indications may also not be published if the exclusion is implicit in the prevailing market standard. If published, origin exclusions may be subject to normalization in value.

Embargoed products

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

Trade performance

Platts is aware that physical conditions regarding logistics which are beyond the control of the seller or buyer may result in lateness, quality issues or conditions seen as a deviation from the original wording in the reported trade, for example late delivery/loading.

These deviations will be seen in the larger context of physical trading and should not be seen as an indication of Platts condoning lateness.

Platts will review patterns of logistical performance, since adjustments due to late performance and/or quality issues should be extraordinary and not recurring events.

Participants who are intending to sell should not offer when there is a known and distinct possibility that loading/delivery may be delayed. If congestion or delays prevent performance under the terms of the reported trade, the seller should make

reasonable and timely efforts to supply from an alternative source, or the seller should engage in other measures to alleviate the buyer's exposure.

Equally, a buyer should not over-commit and then aggregate nominations in a way that makes it logistically impossible for the seller to perform.

Platts will take appropriate steps to ensure the integrity of its assessments if issues of non-performance should arise.

In summary, performance is paramount and all bids and offers must be firm and transactions should be performable within the contractual parameters.

Platts only recognizes bids, offers and transactions where no party claims a right to unilaterally cancel a transaction. If a transaction becomes difficult the party causing the issue must seek resolution including alternative loadings, qualities, dates or book outs.

Compensation

Platts publishes bids, offers and transactions on the basis that participants will fulfil the full value of the reported trade.

A party deemed to have underperformed or not performed under the reported terms is expected to compensate the affected party.

In almost all circumstances, the compensation is not, and should not be due to a flat price change, but should include parameters such as backwardation, logistics, and the inconvenience for the buyer in the case of a seller not performing, or contango, logistics and the inconvenience for the seller in the case of a buyer not performing. Compensation should not include consequential costs.

Such adjustments should be fair and in line with market practice, and should be reciprocal in the event that the inverse situation occurs in the future.

Compensation is subject to Platts editorial review to ensure market practices and overall fairness in the transaction have been followed. Platts review may include an analysis of reasonable compensation. Platts views compensation as a part of full performance due under the parameters of a trade reported in the assessment process.

Force majeure

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

Booking out trades

Booking out trades done during the MOC assessment process is acceptable under exceptional circumstances. A stressed party may request to book out a trade, but its counterparty is under no obligation to accept such a request. A book out should not be due to a flat price change. In those exceptional cases where both counterparties agree to book out a trade, Platts expects the original spirit of the contract to be fulfilled where the non-performing party offers to buy/sell back the position and compensates the affected party. Any adjustment for a book out should include parameters such as market structure, logistics and the inconvenience for the buyer or seller. Such adjustments should be fair and in line with market practice and should be reciprocal in the event that the inverse situation occurs in the future.

Furthermore, circle outs may occur when the original seller sells a parcel that is later sold into a third party that has a sale into the primary seller. Such circle outs are considered a normal part of trading as sometimes chains originate and finish at the same point.

Book outs and circle outs are subject to Platts editorial review to ensure market practices and overall fairness in the transaction have been followed. Platts review may include proposals/arrangements to protect the integrity of its assessment process.

Review of trades

Platts may track all aspects of performance on trades reported during its MOC assessment process. 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. Trades executed through the MOC assessment process may be reviewed from time to time for performance completion. Platts therefore may request documentary material to determine performance and validity. Such material may include details of quality, location, vessel and laycan nominations as well as other relevant documentation. MOC trades may be subject to Platts editorial review to ensure market practices and performance in the transaction have been followed.

A failure to meet Platts guidelines for participation and performance in the MOC may lead to an event driven review. Event driven reviews are designed to help ensure that transactional information and other data inputs used as the basis for Platts price assessments are representative of market value on an ongoing basis.

Post-deal tracking enables Platts to determine the actual performance of the participants in the trade and the validity of their inputs. Platts may publish confirmation of trade performance information.

Specification

Platts assessments reflect typically traded qualities of commodities. Specifications are available in individual specifications guides published on the Platts website <https://www.spglobal.com/commodity-insights/en/our-methodology/methodology-specifications>.

Testing of products

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

Implied guarantees in specifications

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

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

Merchantability

Platts only considers in its assessments commodities that are merchantable. Hence, buyers may assume that offers or transactions are for a commodity that is merchantable. Sellers must ensure their offers or transactions are for merchantable commodities. Merchantability may pertain to specifications, contractual terms, shipping and logistical issues as well as other aspects of performance that limits fungibility of the product. For trades reported in the Platts Market on Close assessment process, material may not be unreasonably rejected and Platts will review any such instance.

PART II: SECURITY AND CONFIDENTIALITY

Data is stored in a secure network, in accordance with Platts policies and procedures. Platts assessments are produced in accordance with Platts MOC assessment methodology. This means that all data for use in Platts assessments may be published by Platts market reporting staff while assessing the value of the markets.

Platts does not have confidentiality agreements in place for information that is submitted for use in its assessments.

PART III: DETERMINING ASSESSMENTS

The following section describes how Platts uses concluded and reported transactions, bids, offers and any other market information it has collected in the manner described in Part I, 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.

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. Information submitted after the close will not be considered for that day's assessment process.

Platts seeks to establish and publish the value of markets that prevail at the close of the assessment process. Platts has aligned the timestamps reflected in its assessments with what typically is a period of high activity in the markets that Platts observes. Platts believes that aligning its price assessments to typical periods of greater market activity and liquidity provides a robust basis upon which to derive an assessment of market value. Timestamps for assessments are included in the respective specifications guide.

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 a commodity, 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 commodity, 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 value.

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

By providing clear timestamps for assessments, the Platts MOC process is designed to provide assessments that properly reflect outright and spread value 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 merchantable, fully verifiable and by disregarding one-offs or unrepeatable transactions, or those that may distort the true market level. Transactions between related parties are, also not considered in the assessment process.

Deals done below the level of prevailing bids or above the level of prevailing offers (i.e., selling through the bid or buying through the offer) will not be reflected in Platts assessments. Platts will only publish expressions of interest to trade with the most competitive, tradeable bid or offer available.

Platts does not specify a minimum amount of transaction data, or a transaction data threshold, for the publication of its price

assessments. Physical commodity markets vary in liquidity. Any particular market analyzed on its own will typically demonstrate rising and falling levels of transactional activity through time. Platts is committed to providing an assessment of value for every market that it covers, equally well in times of heightened or reduced liquidity.

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

Normalization price adjustment techniques

Platts seeks to align the standard specifications for the markets it assesses and the timestamps reflected in its assessments with standard industry practice. However, physical commodity markets are generally heterogeneous in nature. Key attributes often vary from the base standard reflected in Platts assessments as material is supplied to market.

The quality, delivery location and other specific terms of trade may vary in the physical commodity markets assessed by Platts. This means that simple averages of trades may not produce a representative assessment value of a physically heterogeneous market.

Because of the complex nature of the physical 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 markets with its standard assessment specifications through a process called normalization.

Normalization is an essential price adjustment technique used to align reported market information to the base standard reflected in Platts price assessments.

Platts establishes the level of normalization by surveying markets and observing the economic impact of variance from the base standard. This is done by analyzing locational differences, quality differences, the movements of all markets through time and other differentials 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. The alignment for time is essential to ensure that Platts price assessments reflect the prevailing value of a market at the close of the process.

Prioritizing data

Transparency underpins Platts assessment process, just as it does Platts data publishing processes. When determining a final market assessment, Platts gives the greatest priority to fully verifiable and transparent market information. Platts considers that a confirmed, verified trade may represent value for the entities involved in the transaction, whereas an unfilled, but confirmed and verified, bid or offer represents value for the whole market. As such, Platts prioritizes competitive bids and offers that stand at the close of its assessment process above previously reported transactions.

Platts assessment process considers firm bids, firm offers and arms-length transactions that are transparent and open

to sufficient, credible counterparties. Transparent bids, offers and trades are given greater priority than non-transparent market information. Anonymous bids above transparent offers or anonymous offers below transparent bids may not be considered in the assessment process.

A firm bid or offer that has been published by Platts in accord with its data publishing standards, as outlined in Part I, 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 between the best firm bid and best firm offer open to the market at the close. This ensures that Platts assessments reflect the transactable value at the close.

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

The level of each bid or offer must stand firm in the marketplace long enough for any counterparty to transact; 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. Gapping occurs when a bid and an offer are more than one increment apart and a trade occurs. Platts will analyze and

evaluate such trades for their representative value. They may not be fully reflected in the final assessment.

Platts assessment guidelines are designed to avoid any distortion of the final price assessment and so inputs that are not verifiable and “one-off” or unrepeatable transactions 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 trade an offer but is unwilling to buy more material offered at the same level if the seller reoffers it would be determined that the value failed the repeatability test. Equally if the seller does not reoffer, the value may fail the repeatability test. As such the transaction value may not be fully reflected in the price assessment.

Similarly, Platts may not publish bids or offers that are provided through untested price levels. 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 between the last incremental bid and the transaction at the gapped level.

When no bid, offer or transaction data exists, Platts may consider other verifiable data reported and published through the day, including fully and partially confirmed trades, notional trading values and other market information as provided for publication. Platts may observe direct market activity as well as the effect of movements in related markets through spread differentials or blending and shipping economics, for example.

Platts takes into account representative transactions executed at arms-length in the open market occurring during the trading day, up to the close, and additionally taking into account bid and offer information submitted during this period. Platts market reporters may require direct verification from the principals to a

reported bid, offer or deal when communicated through a third party, including a broker.

Assessment Determination

Units of measurement

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

Commodities are generally internationally 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.

Commodities typically trade in volumetric or energy units and Platts assessments for these markets reflect common practice in each market. The units and unit range considered for each individual Platts assessment of a physical market is described in the specification guide for each commodity.

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 exchange rates published regionally. Conversion factors are described in the specifications guide for each commodity alongside individual assessment codes.

<https://www.spglobal.com/commodity-insights/en/our-methodology/conversion-tables>

<https://www.spglobal.com/commodity-insights/en/our-methodology/methodology-specifications/foreign-exchange/fx-guide>

Use of judgment

Judgment guidelines promote consistency and transparency and are systematically applied by Platts. Where judgment is

exercised, all information available is critically analyzed and synthesized. The various possibilities are critically analyzed and fully evaluated to reach a judgment.

Platts market reporters follow specific methodology when exercising judgment or discretion during their assessment process. Platts market reporters apply judgment when determining (1) whether information is suitable for publication, (2) when and how to normalize data and (3) where to assess final value. All such judgment is subject to review by Platts editorial management for adherence to the standards published in Platts methodologies.

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.

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

An evaluation process is conducted before publication on every benchmark assessment by a competent peer or manager. The price assessments are reviewed and the exercise of judgment is further discussed and verified during this process. Finally, assessments that are used as benchmarks are supported by assessment rationales. These rationales explain the application of judgment and are published together with the relevant price assessment, offering full transparency to the market.

To ensure the consistent exercise of discretion, Platts ensures that market reporters are trained and regularly assessed in their own and each other's markets. Platts manages and maintains internal training guides for each of the different products assessed which aim to ensure Platts price assessments are produced consistently.

Every assessment of a benchmark, including the use of discretion, is reviewed and approved by a competent peer or manager prior to publication.

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

As a publisher of market information, 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 where the actual market level is.

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

Platts overall objective is to reflect the transactable value of the commodity assessed. In cases where the apparent value of the commodity includes extra optionalities and co-benefits, the intrinsic value of the commodity may be masked. In such cases, Platts reporters may use judgment to normalize bids, offers or transactions with such extraneous elements to the base market standard, or may exclude them altogether. 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, size option tolerances exercisable by the buyer or seller, or quality specifications.

Outright, differential and spread prices

Platts assesses the outright value of a commodity, as well as differentials when it trades with reference to a benchmark. Platts analyzes all data collected and published by Platts

throughout the day. Final assessments are above firm bids, and below firm offers, that stand at the close. This is true for outright values and differentials.

Platts physical price assessments use a variety of inputs, including outright price bids/offers, floating price bids/offers, spread price bids/offers (including EFPs, EFSs etc.) and combinations of fixed and floating prices. Platts' objective is to assess the prevailing tradable outright price of the commodity at the close of the market assessment period. In the event of an observed conflict between outright values and differentials or spreads, outright values prevail in Platts final published assessments.

Platts establishes the hedgable, outright value of floating and spread price indications by applying them to the observable, prevailing value of underlying relevant derivatives instruments. In the event of conflicts observed between the outright values derived from floating and spread prices with different underlying references, Platts takes into account considerations that include the relative liquidity of each relevant derivatives market, and the typicality of a given spread or floating price, when exercising judgement around whether to prioritize one particular floating price or spread over another.

Platts may publish bids, offers and trades with atypical pricing terms, including benchmark bases and timing. Market information with atypical pricing inherently differs in value from the typical and commonly observable information in the market.

Bids and offers which are deemed as atypical relative to the market may not be fully taken into consideration for the assessment process. In the absence of an associated, liquid derivative instrument atypical pricing bases may be difficult or impossible to evaluate on an outright price equivalent.

Such bids/offers or transactions would be at best indicators of an overall market condition but they would not be seen as exact indicators of market price.

Timing

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

As an example, gasoline has a value, naphtha has a value and the gasoline versus naphtha spread has a value, and all three match when measured at the same time. By contrast, a system of averages can lead to distortions in the gasoline versus naphtha spread if the distribution of deals done for gasoline and naphtha differs over the averaging period. Thus if gasoline trades actively at the beginning of the assessment period and naphtha trades actively at the end of the assessment period in a rising market, the assessed spread value resulting from an averaging process will not be reflective of actual market value. This distortion can arise even if the value of spread trades in their own right has remained constant. The MOC approach drastically reduces the possibility of such distortions.

Assessments reflect typical loading and delivery schedules for each market assessed. The standard loading and delivery periods are included in the individual specifications guide for each commodity.

Market structure

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

Market structure, such as backwardation and contango, is factored into the Platts assessment process. If a company offers a parcel loading 15 days forward, the offer may provide market information for the Platts assessment for parcels loading 15 days forward. Platts would still need to assess days 16 through

30 (in a 15-30 day methodology) and publish an assessment that reflects market value 15-30 days forward ahead of the day of assessment.

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

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

The date ranges reflected by Platts reflect the prevailing trading practices in the region. By not taking very prompt days into consideration, transactions reflecting distressed prices are excluded. The definition of this period varies according to specific markets. Determination of backwardation or contango

In calculating market structure, the prices of tradable instruments, including derivatives such as futures and swaps, may be used.

Typical calculations include a determination made for the difference in price over a month; a granular value is then calculated from this for each day.

Outright and floating price information

The three main factors used in the commodities markets for price determination are:

- Outright price
- Differentials
- Derivatives

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

Outright price: The ultimate question in the mind of an end-user, producer, trader or broker is price. Outright prices are the simple statement of a price at which something can be bought or sold, with the entire value stated – for example, an offer of a cargo of iron ore at \$100/dmt. Price in turn determines expense, processing margin, profit, loss, etc. The spot market trades actively on an outright price basis and a floating price basis. Platts takes both into account in its assessments. Platts will publish activity on both a fixed and floating basis.

Differentials: Many transactions are carried out in relation to a benchmark. In this case a differential, also known as a premium/discount is generated. Differentials can arise if the quality, volumes or loading times for a given transaction differ from the benchmark. In addition, floating price transactions are done in relation to assessments that will be published in the future – for example, a bid for a cargo at \$10/dmt above the Platts assessment of that same commodity, as published immediately before, during and after delivery of the cargo. Premiums usually rise when the market's backwardation steepens, and the steeper the curve, the greater the premium. In a contango situation, premiums have a tendency to turn into discounts.

Derivatives: Derivatives are a major determinant in price; they trade frequently and throughout the day. These markets are very reactive and may provide market participants with timely information on market conditions. They can react to arbitrage conditions or movements in overseas markets as well as local conditions. Derivatives may allow companies to adapt their price exposure because they enable market participants to transform floating prices to fixed or fixed to floating.

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 reporting staff 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 Compliance function that is independent of the market reporting group. The Compliance team is responsible for ensuring the quality and adherence to Platts policies, standards, processes and procedures.

S&P Global Platts appoints an independent, external auditor with appropriate experience and capability to review and report on its adherence to this stated methodology. The annual report is published online at <https://www.spglobal.com/commodity-insights/en/about-commodity-insights/regulatory-engagement>.

PART V: CORRECTIONS

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

PART VI: REQUESTS FOR CLARIFICATIONS OF DATA AND COMPLAINTS

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

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

However, Platts recognizes that occasionally a market participant may not be satisfied with responses received or the services provided by Platts and wish to escalate matters. Full information about how to contact Platts to request clarification around an assessment, or make a complaint, is available on our website, at: <https://www.spglobal.com/commodity-insights/en/contact/complaints>.

REVISION HISTORY

March 2022: Platts completed an annual update to this Methodology Guide in March 2022. In the review, Platts added detail to descriptions of merchantability and publication at times of severe disruption. Platts further added information on S&P Global's commitment to diversity and inclusion. Platts also edited text for style and clarity.

April 2021: Platts completed an annual update to this Methodology Guide in March 2021. In the review, Platts added detail to descriptions of data prioritization, duty normalization, 'heards' and exclusion of data submitted after the close. Platts also edited text for style and clarity.

April 2020: Platts completed an annual update to this Methodology Guide in April 2020. In the review, Platts added detail to descriptions of repeatability and incrementability, and added a reference to its unit conversion and foreign exchange guide. Platts also edited text for style and clarity.

April 2019: Platts completed an annual update to sections 1 to 6 of Platts Methodology and Specifications Guides in April 2019, and moved these sections into this standalone Methodology Guide. The individual commodity Specifications Guides are separated from this overall Methodology Guide. In the review, Platts added in previously published statements on GTCs, commodity origins and customs duties. Platts also updated weblinks, and edited text for style and clarity.