

Methodology and specifications guide

Coal

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Introduction	2	Part VII: Definitions of the trading locations for which Platts publishes assessments	7
How this methodology statement is organized	2	Asia-Pacific Thermal Coal Assessments	7
Part I: Data quality and data submission	2	Atlantic Thermal Coal Assessments	10
What to report	2	Asia-Pacific and Atlantic thermal coal locations	11
How to report	3	US Thermal Coal Assessments	13
Price assessment publishing principles	3	US thermal coal locations	15
Part II: Security and confidentiality	3	Daily CSAPR allowance assessments	15
Part III: Calculating indexes and making assessments	4	US Physical Thermal Coal Netbacks	15
Price assessment principles	4	Forward Curve Assessments	17
Part IV: Platts editorial standards	6	Petroleum Coke Assessments	18
Part V: Corrections	6	Petcoke location	18
Part VI: Requests for clarifications of data and complaints	6	Clean dark spreads	20
		Spot Dry Bulk Freight Assessments published in Coal Trader International	22
		Metallurgical Coal and Met Coke assessments published in Coal Trader International	23
		Revision history	28

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.
- 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 coal being assessed.

What to report

- Firm bids that are open to the marketplace as a whole, with standard terms
- Firm offers that are open to the marketplace as a whole, with standard terms
- Expressions of interest to trade with published bids and offers, with standard terms
- Confirmed trades

- Indicative values, clearly described as such
- Reported transactional activity heard across the market, clearly described as such
- Other data that may be relevant to Platts assessments

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/applications
- Telephone
- Email

Price assessment publishing principles

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

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

This information is published in real-time, as it is received, on Platts' information services, Platts Global Alert, Platts Global Coal Alert, Coal Trader and Coal Trader International. Platts publishes all information received so that it can be fully tested by the

market at large. Information collected and published may include 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. This transparent data is prioritized, because it is available to the entire market for testing.

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.

Platts collects as much data as possible, 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.

For analysis of the data, Platts assessment 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.

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 assessment process.

Platts' editorial guidelines governing its assessment process require it must consider only those transactions, bids or offers where market participants perform under typical contractual terms. Platts accepts that individual companies may have trading limits with counterparties and that national legislation may prevent companies from dealing in materials of certain origins. Such counterparty issues are dealt with on a case-by-case basis. Platts tracks all circumstances surrounding trades reported during its 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.

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 coal assessments are produced in accordance with Platts' Market on Close assessment methodology. This means that all data for use in Platts' thermal coal assessments may be published by Platts editorial staff while assessing the value of the markets.

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

PART III: CALCULATING INDEXES AND MAKING ASSESSMENTS

The following section describes how Platts uses the 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.

Price assessment principles

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

Through the assessment process, Platts seeks to establish and publish the value of markets that prevail at the close of the assessment process itself. Platts has aligned the timestamps reflected in its assessments with what typically is a period of high activity in the markets that Platts observes.

In order to provide complete clarity over the precise point in time reflected in its market assessments, Platts provides timestamps for all thermal coal assessments. Like the quality of coal, 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. By clearly reflecting value at a defined point in time Platts is able to properly reflect outright and spread values.

By ensuring that all assessments within a region reflect market values at the same moment in time, spreads that exist between those products are also able to be fully and properly reflected. Platts does not specify a minimum amount of transaction data, or a transaction data threshold, for the publication of its price assessments. Any particular market analyzed on its own will typically demonstrate rising and falling levels of transactional activity through time. Platts is committed to providing an assessment of value for every market that it covers, equally well in times of heightened or reduced liquidity.

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

Normalization price adjustment techniques

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

Because of the complex nature of the physical coal markets, coal 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 coal 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 market close.

Prioritizing data

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 assessment 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.

When no confirmed 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 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.

In the event of an observed conflict between outright values and differentials, outright values prevail in Platts final published assessments.

Platts takes into account representative transactions executed at arms-length in the open market occurring during the 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 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.

Price “gapping” occurs when bids are made too high and offers are made too low through untested levels of price support or resistance. Platts may not publish such bids and offers during the assessment process. When transactions are concluded at levels that have not been fully tested by the market, Platts may determine that actual market value is somewhere between the last bid or offer and the transaction at the gapped level.

Assessment calculations

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

Coal is typically traded in metric tons internationally and in short tons in the United States, and Platts publishes its assessments using these units of measurement as they prevail in practice. The standard 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 editors 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, quality, 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, reporters are trained and regularly reviewed.

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

Editors are trained to identify potentially anomalous data. Platts defines anomalous data as any information, including transactions, which is inconsistent with or deviates from the 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 where the actual market level is.

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.

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 Compliance function that is independent of the editorial group. Compliance is responsible for ensuring the quality and adherence to Platts' policies, standards, processes and procedures. The Compliance team conducts 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 limited to corrections to data that was available when the index or assessment was calculated.

PART VI: REQUESTS FOR CLARIFICATIONS OF DATA AND COMPLAINTS

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

Platts customers can 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 and may 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 ASSESSMENTS

The following Coal specifications guide contains the primary specifications and methodologies for Platts Coal 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-PACIFIC THERMAL COAL ASSESSMENTS

Assessment	CODE	Mavg	Qavg	CV	Delivery period	Volume	Currency	UOM	Frequency	Timestamp	Specifications (Typical)				Specifications (Range)				Minimum Loadrate	Other Information
											Sulfur	Ash	Moisture	Volatiles	CV	Sulfur	Ash	Moisture		
NEAT Coal Index	JKTCA00	JKTCA03	JKTCA05	5,750 NAR	15-60 days	75,000	USD	Metric Ton	Daily	17.30 Singapore	0.6	15	10	29	5,500-6,100 NAR	Max 1	Max 20	Max 16	Max 38	Standard Panamax
FOB Newcastle	CSNCB00			6,300	GAR 7-45 days	50,000	USD	Metric Ton	Daily	17.00 London	0.7	13	10	31	6,100-6,500 GAR	Max 0.75	Max 14	Max 15	27-35	
FOB Newcastle	CSNCC00			6,300	GAR 7-45 days	50,000	EUR	Metric Ton	Daily	17.00 London	0.7	13	10	31	6,100-6,500 GAR	Max 0.75	Max 15	Max 15	27-35	
FOB Newcastle	CSAGB00	CSAGB03	CSAGB04	6,300	GAR 90 days	50,000	USD	Metric Ton	Daily	17.00 London	0.7	13	10	31	6,100-6,500 GAR	Max 0.75	Max 16	Max 15	27-35	
FOB Newcastle	CSEUE00			6,300	GAR 90 days	50,000	EUR	Metric Ton	Daily	17.00 London	0.7	13	10	31	6,100-6,500 GAR	Max 0.75	Max 17	Max 15	27-35	
FOB Newcastle	AAVUW00	AAVUW03	AAVUW02	5,500	NAR 7-45 days	50,000	USD	Metric Ton	Daily	17.30 Singapore	0.65	20	10		5,300-5,700 NAR	Max 0.75	17-23	Max 15		
FOB Newcastle	AAVUX00			5,500	NAR 7-45 days	50,000	EUR	Metric Ton	Daily	17.30 Singapore	0.65	20	10		5,300-5,700 NAR	Max 0.75	17-23	Max 15		
FOB Newcastle Ash Differential	AAVVA00			5,500	NAR 7-45 days		USD	Metric Ton	Daily	17.30 Singapore	0.65	20	10		5,300-5,700 NAR	Max 0.75	17-23	Max 15		
FOB Kalimantan	CSCKJ00	CSCKJ03	CSCKJ04	3,800	GAR 7-45 days	50,000	USD	Metric Ton	Daily	17.30 Singapore	0.3	6	38		3,600-4,000 GAR	Max 0.6	Max 9	Max 41	8,000 mt/day	Geared Supramax
FOB Kalimantan	CSCKK00	CSCKK03	CSCKK04	3,800	GAR 7-45 days	50,000	EUR	Metric Ton	Daily	17.30 Singapore	0.3	6	38		3,600-4,000 GAR	Max 0.6	Max 9	Max 41	8,000 mt/day	
FOB Kalimantan	CSBKI00	CSBKI03	CSBKI04	4,200	GAR 7-45 days	50,000	USD	Metric Ton	Daily	17.30 Singapore	0.6	7	35		4,000-4,400 GAR	Max 1	Max 10	Max 40	8,000 mt/day	Geared Supramax
FOB Kalimantan	CSCKI00	CSCKI03	CSCKI04	4,200	GAR 7-45 days	50,000	EUR	Metric Ton	Daily	17.30 Singapore	0.6	7	35		4,000-4,400 GAR	Max 1	Max 10	Max 40	8,000 mt/day	
FOB Kalimantan	CSAKH00	CSAKH03	CSAKH04	5,900	GAR 90 days	50,000	USD	Metric Ton	Daily	17.30 Singapore	0.8	8	15		5,700-6,100 GAR	Max 1	Max 15	Max 20		Geared Supramax
FOB Kalimantan	CSEUP00			5,900	GAR 90 days	50,000	EUR	Metric Ton	Daily	17.30 Singapore	0.8	8	15		5,700-6,100 GAR	Max 1	Max 15	Max 20		
FOB Kalimantan	CSAKI00	CSAKI03	CSAKI04	5,000	GAR 90 days	50,000	USD	Metric Ton	Daily	17.30 Singapore	0.8	8	26		4,800-5,200 GAR	Max 1	Max 12	Max 30		Geared Supramax

ASIA-PACIFIC THERMAL COAL ASSESSMENTS

Assessment	CODE	Mavg	Qavg	CV	Delivery period	Volume	Currency	UOM	Frequency	Timestamp	Specifications (Typical)				Specifications (Range)				Minimum Loadrate	Other Information	
											Sulfur	Ash	Moisture	Volatiles	CV	Sulfur	Ash	Moisture			Volatiles
FOB Kalimantan	CSEUQ00				5,000 GAR	90 days	50,000	EUR	Metric Ton	Daily	17.30 Singapore	0.8	8	26	4,800-5,200 GAR	Max 1	Max 12	Max 30			
PCC 1	PCCQH00	PCCQH03	PCCQH05		5,500 NAR	7-45 days	Min 25,000	USD	Metric Ton	Daily	17.30 Beijing	0.8	15	10	25	5,300-5,700 NAR	Max 1	Max 20	Max 18	Max 40	
PCC 1	PCCQG00	PCCQG03	PCCQG05		5,500 NAR	7-45 days	Min 25,000	Yuan	Metric Ton	Daily	17.30 Beijing	0.8	20	10	25	5,300-5,700 NAR	Max 1	Max 20	Max 18	Max 40	
PCC 2	PCCPN00	PCCPN03	PCCPN05		5,000 NAR	7-45 days	Min 40,000	USD	Metric Ton	Daily	17.30 Beijing	0.8	20	10	25	4,800-5,200 NAR	Max 1	Max 25	Max 18	Max 40	
PCC 2	PCCPM00	PCCPM03	PCCPM05		5,000 NAR	7-45 days	Min 40,000	Yuan	Metric Ton	Daily	17.30 Beijing	0.8	20	10	25	4,800-5,200 NAR	Max 1	Max 25	Max 18	Max 40	
PCC 6	PCCPQ00	PCCPQ03	PCCPQ05		3,800 NAR	30-60 days	Min 40,000	USD	Metric Ton	Daily	17.30 Beijing	0.6	7	35	25	3,600-4,000 NAR	Max 1	Max 10	Max 40		
PCC 6	PCCPR00	PCCPR03	PCCPR05		3,800 NAR	30-60 days	Min 40,000	Yuan	Metric Ton	Daily	17.30 Beijing	0.6	7	35	25	3,600-4,000 NAR	Max 1	Max 10	Max 40		
PCC 6 (VAT Included)	PCCPS00	PCCPS03	PCCPS05		3,800 NAR	30-60 days	Min 40,000	Yuan	Metric Ton	Daily	17.30 Beijing	0.6	7	35	25	3,600-4,000 NAR	Max 1	Max 10	Max 40		
PCC 7	PCCP000	PCCP003	PCCP005		4,700 NAR	30-60 days	Min 40,000	Yuan	Metric Ton	Daily	17.30 Beijing	0.8	8	26		4,500-5,900 NAR	Max 1	Max 12	Max 30		
PCC 7	PCCPP00	PCCPP03	PCCPP05		4,700 NAR	30-60 days	Min 40,000	USD	Metric Ton	Daily	17.30 Beijing	0.8	8	26		4,500-5,900 NAR	Max 1	Max 12	Max 30		
PCC 7 (VAT Included)	PCCFB00	PCCFB03	PCCFB05		4,700 NAR	30-60 days	Min 40,000	Yuan	Metric Ton	Daily	17.30 Beijing	0.8	8	26		4,500-5,900 NAR	Max 1	Max 12	Max 30		
PCC 8	PCCSC00	PCCSC03	PCCSC05		5,500 NAR	15-60 days	Min 25,000	USD	Metric Ton	Daily	17.30 Beijing	0.7	20	12	25	5,300-5,700 NAR	Max 1	Max 23	Max 18	Max 40	
PCC 8	PCCSD00	PCCSD03	PCCSD05		5,500 NAR	15-60 days	Min 25,000	Yuan	Metric Ton	Daily	17.30 Beijing	0.7	20	12	25	5,300-5,700 NAR	Max 1	Max 23	Max 18	Max 40	
PCC 8 (Duty & VAT Included)	PCCFA00	PCCFA03	PCCFA05		5,500 NAR	15-60 days	Min 25,000	Yuan	Metric Ton	Daily	17.30 Beijing	0.7	20	12	25	5,300-5,700 NAR	Max 1	Max 23	Max 18	Max 40	
CFR India East	TCAKS00	TCAKS03	TCAKS02		3,800 GAR	30-60 days	50,000	USD	Metric Ton	Daily	17.30 Singapore	0.3	6	39		3,600-4,000 GAR	Max 0.6	Max 8	Max 41	8,000 mt/day	Gearless Supramax
CFR India West	TCAKR00	TCAKR03	TCAKR02		3,800 GAR	30-60 days	50,000	USD	Metric Ton	Daily	17.30 Singapore	0.3	6	39		3,600-4,000 GAR	Max 0.6	Max 8	Max 41	8,000 mt/day	Gearless Supramax
CFR India East	TCAKU00	TCAKU03	TCAKU02		4,200 GAR	30-60 days	60,000	USD	Metric Ton	Daily	17.30 Singapore	0.6	7	35		4,000-4,400 GAR	Max 1	Max 10	Max 40	8,000 mt/day	Gearless Panamax
CFR India West	TCAKT00	TCAKT03	TCAKT02		4,200 GAR	30-60 days	60,000	USD	Metric Ton	Daily	17.30 Singapore	0.6	7	35		4,000-4,400 GAR	Max 1	Max 10	Max 40	8,000 mt/day	Gearless Panamax
CFR India East	TCAKJ00	TCAKJ03	TCAKJ05		5,000 GAR	30-60 days	Min 70,000	USD	Metric Ton	Daily	17.30 Singapore	0.8	8	26		4,800-5,200 GAR	Max 1	Max 12	Max 30	8,000 mt/day	Gearless Panamax
CFR India West	TCAKP00	TCAKP03	TCAKP05		5,000 GAR	30-60 days	Min 70,000	USD	Metric Ton	Daily	17.30 Singapore	0.8	8	26		4,800-5,200 GAR	Max 1	Max 12	Max 30	8,000 mt/day	Gearless Panamax

ASIA-PACIFIC THERMAL COAL ASSESSMENTS

Assessment	CODE	Mavg	Qavg	CV	Delivery period	Volume	Currency	UOM	Frequency	Timestamp	Specifications (Typical)				Specifications (Range)				Minimum Loadrate	Other Information
											Sulfur	Ash	Moisture	Volatiles	CV	Sulfur	Ash	Moisture		
CFR India East	CIECI00	CIECI03	CIECI05	5,500	NAR 30-60 days	75,000	USD	Metric Ton	Daily	17.30 Singapore	0.8	20	8.5	5,300-5,700 NAR	Max 1	Max 23	Max 20		8,000 mt/day	
CFR India West	CIWCI00	CIWCI03	CIWCI05	5,500	NAR 30-60 days	75,000	USD	Metric Ton	Daily	17.30 Singapore	0.8	20	8.5	5,300-5,700 NAR	Max 1	Max 23	Max 20		8,000 mt/day	
FOB Russia Pacific	CSAKG00	CSAKG03	CSAKG04	6,300	GAR 90 days	75,000	USD	Metric Ton	Weekly	17.00 London	0.3	8	10	25	6,200-6,400 GAR	Max 0.4	Max 15	Max 14	Max 30	
FOB Russia Pacific	CSEU000			6,300	GAR 90 days	75,000	EUR	Metric Ton	Weekly	17.00 London	0.3	8	10	25	6,200-6,400 GAR	Max 0.4	Max 15	Max 14	Max 30	

ATLANTIC THERMAL COAL ASSESSMENTS

Assessment	CODE	Mavg	Qavg	CV	Delivery period	Volume (mt)	Currency	UOM	Frequency	Timestamp	Specifications (Typical)			Specifications (Range)			
											Sulfur %	Ash %	Moisture %	CV	Sulfur %	Ash %	Moisture %
CIF ARA	CSARM01		6,000 NAR	15-60 days	50,000	USD	Metric Ton	Daily	17.00 London	0.7	11	11	5,800-6,100 NAR	Max 1	Max 16	Max 14	
CIF ARA	CSEUR00		6,000 NAR	15-60 days	50,000	EUR	Metric Ton	Daily	17.00 London	0.7	11	11	5,800-6,100 NAR	Max 1	Max 16	Max 14	
CIF ARA	CSABG00	CSABG03	CSABG04	6,000 NAR	90 days	50,000	USD	Metric Ton	Daily	17.00 London	0.7	11	11	5,800-6,100 NAR	Max 1	Max 16	Max 14
CIF ARA	CSEUA00		6,000 NAR	90 days	50,000	EUR	Metric Ton	Daily	17.00 London	0.7	11	11	5,800-6,100 NAR	Max 1	Max 16	Max 14	
FOB Richards Bay	AAXEX00	AAXEX03	AAXEX02	5,500 NAR	7-45 days	75,000	USD	Metric Ton	Daily	17.00 London	0.8	20	8.5	5,300-5,700 NAR	Max 1	17-23	Max 13
FOB Richards Bay	AAXEY00			5,500 NAR	7-45 days	75,000	EUR	Metric Ton	Daily	17.00 London	0.8	20	8.5	5,300-5,700 NAR	Max 1	17-23	Max 13
CIF Turkey	CTCMT04	CTCMT03	CTCMT05	6,000 NAR	90 days	75,000	USD	Metric Ton	Weekly	17.00 London	0.8	11	13	5,850-6,300 NAR	0.5-1	6-15	10-15
CIF Turkey	CTCME04			6,000 NAR	90 days	75,000	EUR	Metric Ton	Weekly	17.00 London	0.8	11	13	5,850-6,300 NAR	0.5-1	6-15	10-15
FOB Colombia	CSABZ00	CSABZ03	CSABZ04	6,000 NAR	90 days	75,000	USD	Metric Ton	Weekly	17.00 London	0.75	10	12	5,750-6,100 NAR	Max 0.9	Max 12	Max 15
FOB Colombia	CSEUC00			6,000 NAR	90 days	75,000	EUR	Metric Ton	Weekly	17.00 London	0.75	10	12	5,750-6,100 NAR	Max 0.9	Max 12	Max 15
FOB Russia Baltic	CSAKC00	CSAKC03	CSAKC04	6,000 NAR	90 days	75,000	USD	Metric Ton	Weekly	17.00 London	0.5	8	10	5,800-6,100 NAR	Max 1	Max 16	Max 14
FOB Russia Baltic	CSEUL00			6,000 NAR	90 days	75,000	EUR	Metric Ton	Weekly	17.00 London	0.5	8	10	5,800-6,100 NAR	Max 1	Max 16	Max 14

ASIA-PACIFIC AND ATLANTIC THERMAL COAL LOCATIONS

Assessment	Basis Port	All Ports	Normalized Volume (mt)
Atlantic			
CIF ARA	Rotterdam	Amsterdam, Rotterdam, Antwerp	50,000
FOB Richards Bay 5,500 NAR	RBCT (South Africa)	RBCT, Durban, Matola Coal Terminal (Maputo)	75,000
CIF Turkey	ICDAS (Marmara)	ICDAS, Colakoglu OVA, Eren Enerji, Isken Enerji, Akcansa	75,000
FOB Colombia	Puerto Bolivar	Puerto Bolivar, Puerto Drummond, Puerto Nuevo, Rio Cordoba, Carbosan	75,000
FOB Russia Baltic	Ventspils	St. Petersburg, Vyborg, Vysotsk, Ust-Luga, Kaliningrad (Russia), Tallinn (Estonia), Ventspils, Riga, Liepaja (Latvia), Klaipeda (Lithuania)	75,000
Asia Pacific			
NEAT Coal Index	Kinuura [Japan]	Yokkaichi, Nagoya, Yokohama, Onahama, Fukuyama, Haramach, Boryeong, Dangjin, Hadong, Taeon, Youngheung, Samcheonpo, Mailiao, Taichung, Hsinta, Kaohsiung	75,000
FOB Newcastle	Newcastle	Newcastle (New South Wales, Australia)	50,000
FOB Kalimantan	Banjarmasin	Samarinda, Balikpapan, Banjarmasin, Taboneo, Tanjung Pemancingan, Muara Satui, Indonesia Bulk Terminal	50,000
FOB Qinhuangdao (PCC 1)	Qinhuangdao	Including but not exclusive to Caofedian, Jingtang, Tianjin, Qinhuangdao	25,000
FOB Qinhuangdao (PCC 2)	Qinhuangdao	Including but not exclusive to Caofedian, Jingtang, Tianjin, Qinhuangdao	40,000
CFR Guangzhou (PCC 6 & 7)	Guangzhou	Including but not exclusive to Fangcheng, Shenzhen, Xiamen, Zhanjiang, Zhuhai, Guangzhou	40,000
CFR Guangzhou (PCC 8)	Guangzhou	Including but not exclusive to Fangcheng, Shenzhen, Xiamen, Zhanjiang, Zhuhai, Guangzhou	25,000
CFR India East 3,800 GAR	Krishnapatnam	Tuticorin, Kakinada, Paradip, Gangavaram, Visakhapatnam, Krishnapatnam, Haldia	50,000
CFR India East 4,200 GAR	Krishnapatnam	Tuticorin, Kakinada, Paradip, Gangavaram, Visakhapatnam, Krishnapatnam, Haldia	60,000
CFR India West 3,800 GAR	Mundra	Mundra, New Mangalore, Kandla, Muldwarka, Bhavnagar, Pipavav, Goa, Magdalla, Hazira, Dahej, Bedi, Navlakhi	50,000
CFR India West 4,200 GAR	Mundra	Mundra, New Mangalore, Kandla, Muldwarka, Bhavnagar, Pipavav, Goa, Magdalla, Hazira, Dahej, Bedi, Navlakhi	60,000
CFR India East 5,000 GAR	Krishnapatnam	Tuticorin, Kakinada, Paradip, Gangavaram, Visakhapatnam, Krishnapatnam, Haldia	70,000
CFR India West 5,000 GAR	Mundra	Mundra, New Mangalore, Kandla, Muldwarka, Bhavnagar, Pipavav, Goa, Magdalla, Hazira, Dahej, Bedi, Navlakhi	70,000
CFR India East 5,500 NAR	Krishnapatnam	Tuticorin, Kakinada, Paradip, Gangavaram, Visakhapatnam, Krishnapatnam, Haldia	75,000
CFR India West 5,500 NAR	Mundra	Mundra, New Mangalore, Kandla, Muldwarka, Bhavnagar, Pipavav, Goa, Magdalla, Hazira, Dahej, Bedi, Navlakhi	75,000
FOB Russia Pacific	Vostochny	Nakhodka, Posyet, Vanino, Vladivostok, Vostochny	75,000

Platts Asia Pacific and Atlantic thermal coal assessments

Platts publishes Asia Pacific and Atlantic thermal coal price assessments on a forward delivery/loading basis and on either a daily or weekly frequency.

Assessments reflect the transactable value in US dollars per metric ton prevailing at a specific timestamp on a market on close basis (unless otherwise stated (e.g. RMB): see Asia-Pacific specs table for details). Trading activity, including bids/offers and transactions, is covered during the typical operating day with data cut off for inclusion in the assessment precisely at the market-on-close timestamp.

Platts considers as relevant to the assessment process coals of a merchantable quality in a defined range of specifications including but not limited to calorific value, sulfur content, ash content and moisture content and normalizes to the standard specifications.

Volume: The assessments reflect cargoes of a typical volume in metric tons (mt). All shipment volumes, including standard or typical split and part-sized cargoes, are normalized to a typical vessel for seaborne or train/barge for inland delivery.

Basis and Location: Platts normalizes deliveries to or from the basis location in the standard as stated for each location. Platts

defines base locations in its price assessments which act as a pricing basis point, and differentials may be assessed off these when deals or bids/offers are reported on a different location basis.

Timing: The assessments reflect the value of coal loading/discharging at the basis location at the mid-point of a defined time period forward from the date of publication. Cargoes traded with more prompt or further forward laycans or NOR are normalized to the middle of the period for assessment purposes.

Daily 15-60 day CIF delivery window: The assessments reflect the price of coal for delivery 15-60 days forward from the date of publication (expected notice of readiness -NOR - will be taken as the date of arrival). For example, on January 2, Platts assesses cargoes for delivery between January 17 and March 2.

Daily 7-45 day FOB loading window: Assessments reflect the price of coal for delivery 7-45 days forward from the date of publication. For example, on January 2, Platts assesses cargoes for delivery between January 9 and February 15.

Daily 90-day delivery window: Assessments reflect the value of coal loading at the basis location in the next 90-day (three-month) period forward from the date of publication. The prompt month of the 90-day period moves forward as of the 8th of each month, or closest forward business day. For instance, the three months of the 90-day window on February 7 will be February, March and April but as of February 8 will become March, April and May.

Weekly 90-day delivery window: Assessments reflect the value of coal loading at the basis location in the next 90-day (three-month) period forward from the date of publication. The 90-day assessment window rolls forward every week. For example, for the price being assessed on January 1, Platts assesses cargoes for loading from January 1 to March 31 but as of January 8 it will be from January 8 to April 7.

Monthly and Quarterly Averages: As an indicator of coal market trends, Platts calculates the mathematical average of its Asia-Pacific and Atlantic forward coal price assessments during two previous months and three previous quarters. Averages include all assessments made within the calendar period; the period of assessment is noted in the column heading of the Monthly and Quarterly Averages for Platts Forward Benchmark Coal Price Assessments table published every Friday or in the case of a public holiday, the nearest preceding business day.

Other information

Ash Differential: As part of the normalization process, Platts where stated publishes a differential, expressed in both a percentage and a \$/mt value, for each 1 percentage point of ash within a standard range. This differential is assessed regularly and adjusted as needed as part of the standard daily assessment process to maintain its reflection of market values.

US THERMAL COAL ASSESSMENTS

Type	Assessment	CODE	CV (Btu/lb GAR)	Delivery period	Volume (st)	Currency	UOM	Frequency	Timestamp	SO2 lbs	Mode	Specifications (Typical)			Specifications (Range)				
												Sulfur %	Ash %	Moisture %	CV (Btu/lb GAR)	Sulfur %	Ash %	Moisture %	Chlorine %
Daily OTC	CAPP rail (CSX) OTC	CAKM001	12,500	Prompt Month	11,000	USD	Short Ton	Daily	2:30 pm Eastern	1.6	Rail	1	12	7	Min 12,200	Max 1	Max 13.5	-	-
Daily OTC	CAPP rail (CSX) OTC	CAKQ001	12,500	Prompt Quarter	11,000	USD	Short Ton	Daily	2:30 pm Eastern	1.6	Rail	1	12	7	Min 12,200	Max 1	Max 13.5	-	-
Daily OTC	PRB 8,800 OTC	CTAM001	8,800	Prompt Month	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.35	5.5	27	Min 8,600	Max 0.53	-	-	-
Daily OTC	PRB 8,800 OTC	CTAQ001	8,800	Prompt Quarter	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.35	5.5	27	Min 8,600	Max 0.53	-	-	-
Daily OTC	PRB 8,400 OTC	CTBM001	8,400	Prompt Month	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.34	5.5	30	Min 8,200	Max 0.50	-	-	-
Daily OTC	PRB 8,400 OTC	CTBQ001	8,400	Prompt Quarter	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.34	5.5	30	Min 8,200	Max 0.50	-	-	-
Daily OTC	IB 11,800 OTC	CTPM001	11,800	Prompt Month	8,750	USD	Short Ton	Daily	2:30 pm Eastern	5	Barge	2.95	-	-	11,500-12,000	Max 3.54	-	-	Max 0.35
Daily OTC	IB 11,800 OTC	CTPQ001	11,800	Prompt Quarter	8,750	USD	Short Ton	Daily	2:30 pm Eastern	5	Barge	2.95	-	-	11,500-12,000	Max 3.54	-	-	Max 0.35
Platts Daily Physical Coal Assessments	CAPP rail (CSX) OTC	CTJBM01	12,500	Final Monthly Average	11,000	USD	Short Ton	Daily	2:30 pm Eastern	1.6	Rail	1	12	7	Min 12,200	Max 1	Max 13.5	-	-
Platts Daily Physical Coal Assessments	CAPP rail (CSX) OTC	CTJM001	12,500	Prompt Month Daily Assessment	11,000	USD	Short Ton	Daily	2:30 pm Eastern	1.6	Rail	1	12	7	Min 12,200	Max 1	Max 13.5	-	-
Platts Daily Physical Coal Assessments	CAPP rail (CSX) OTC	CTNA003	12,500	Prompt Month Daily Average	11,000	USD	Short Ton	Daily	2:30 pm Eastern	1.6	Rail	1	12	7	Min 12,200	Max 1	Max 13.5	-	-
Platts Daily Physical Coal Assessments	CAPP rail (CSX) OTC	CTJBQ01	12,500	Final Quarterly Average	11,000	USD	Short Ton	Daily	2:30 pm Eastern	1.6	Rail	1	12	7	Min 12,200	Max 1	Max 13.5	-	-
Platts Daily Physical Coal Assessments	CAPP rail (CSX) OTC	CTJQ001	12,500	Prompt Quarter Daily Assessment	11,000	USD	Short Ton	Daily	2:30 pm Eastern	1.6	Rail	1	12	7	Min 12,200	Max 1	Max 13.5	-	-
Platts Daily Physical Coal Assessments	CAPP rail (CSX) OTC	CTNA005	12,500	Prompt Quarter Daily Average	11,000	USD	Short Ton	Daily	2:30 pm Eastern	1.6	Rail	1	12	7	Min 12,200	Max 1	Max 13.5	-	-
Platts Daily Physical Coal Assessments	PRB 8,800 OTC	CTKBM01	8,800	Final Monthly Average	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.35	5.5	27	Min 8,600	Max 0.53	-	-	-
Platts Daily Physical Coal Assessments	PRB 8,800 OTC	CTKM001	8,800	Prompt Month Daily Assessment	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.35	5.5	27	Min 8,600	Max 0.53	-	-	-
Platts Daily Physical Coal Assessments	PRB 8,800 OTC	CTNAP03	8,800	Prompt Month Daily Average	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.35	5.5	27	Min 8,600	Max 0.53	-	-	-
Platts Daily Physical Coal Assessments	PRB 8,800 OTC	CTKBQ01	8,800	Final Quarterly Average	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.35	5.5	27	Min 8,600	Max 0.53	-	-	-
Platts Daily Physical Coal Assessments	PRB 8,800 OTC	CTKQ001	8,800	Prompt Quarter Daily Assessment	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.35	5.5	27	Min 8,600	Max 0.53	-	-	-
Platts Daily Physical Coal Assessments	PRB 8,800 OTC	CTNAP05	8,800	Prompt Quarter Daily Average	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.35	5.5	27	Min 8,600	Max 0.53	-	-	-
Platts Daily Physical Coal Assessments	PRB 8,400 OTC	CTLBM01	8,400	Final Monthly Average	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.34	5.5	30	Min 8,200	Max 0.50	-	-	-
Platts Daily Physical Coal Assessments	PRB 8,400 OTC	CTLM001	8,400	Prompt Month Daily Assessment	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.34	5.5	30	Min 8,200	Max 0.50	-	-	-

US THERMAL COAL ASSESSMENTS

Type	Assessment	CODE	CV (Btu/lb GAR)	Delivery period	Volume (st)	Currency	UOM	Frequency	Timestamp	SO2 lbs	Mode	Specifications (Typical)			Specifications (Range)				
												Sulfur %	Ash %	Moisture %	CV (Btu/lb GAR)	Sulfur %	Ash %	Moisture %	Chlorine %
Platts Daily Physical Coal Assessments	PRB 8,400 OTC	CTNAR03	8,400	Prompt Month Daily Average	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.34	5.5	30	Min 8,200	Max 0.50	-	-	-
Platts Daily Physical Coal Assessments	PRB 8,400 OTC	CTLBQ01	8,400	Final Quarterly Average	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.34	5.5	30	Min 8,200	Max 0.50	-	-	-
Platts Daily Physical Coal Assessments	PRB 8,400 OTC	CTLQ001	8,400	Prompt Quarter Daily Assessment	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.34	5.5	30	Min 8,200	Max 0.50	-	-	-
Platts Daily Physical Coal Assessments	PRB 8,400 OTC	CTNAR05	8,400	Prompt Quarter Daily Average	15,000	USD	Short Ton	Daily	2:30 pm Eastern	0.8	Rail	0.34	5.5	30	Min 8,200	Max 0.50	-	-	-
Platts Daily Physical Coal Assessments	IB 11,800 OTC	CTOTC00	11,800	Final Monthly Average	8,750	USD	Short Ton	Daily	2:30 pm Eastern	5	Barge	2.95	-	-	11,500-12,000	Max 3.54	-	-	Max 0.35
Platts Daily Physical Coal Assessments	IB 11,800 OTC	CTPM001	11,800	Prompt Month Daily Assessment	8,750	USD	Short Ton	Daily	2:30 pm Eastern	5	Barge	2.95	-	-	11,500-12,000	Max 3.54	-	-	Max 0.35
Platts Daily Physical Coal Assessments	IB 11,800 OTC	CTPHP03	11,800	Prompt Month Daily Average	8,750	USD	Short Ton	Daily	2:30 pm Eastern	5	Barge	2.95	-	-	11,500-12,000	Max 3.54	-	-	Max 0.35
Platts Daily Physical Coal Assessments	IB 11,800 OTC	CUOTC00	11,800	Final Quarterly Average	8,750	USD	Short Ton	Daily	2:30 pm Eastern	5	Barge	2.95	-	-	11,500-12,000	Max 3.54	-	-	Max 0.35
Platts Daily Physical Coal Assessments	IB 11,800 OTC	CTPQ001	11,800	Prompt Quarter Daily Assessment	8,750	USD	Short Ton	Daily	2:30 pm Eastern	5	Barge	2.95	-	-	11,500-12,000	Max 3.54	-	-	Max 0.35
Platts Daily Physical Coal Assessments	IB 11,800 OTC	CTPHP05	11,800	Prompt Quarter Daily Average	8,750	USD	Short Ton	Daily	2:30 pm Eastern	5	Barge	2.95	-	-	11,500-12,000	Max 3.54	-	-	Max 0.35
Weekly Price Survey	Pittsburgh Seam	CPAQ001	13,000	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	<3	Rail	<1.95	-	-	-	-	-	-	-
Weekly Price Survey	Pittsburgh Seam	CNDQ001	13,000	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	4	Rail	2.6	-	-	-	-	-	-	-
Weekly Price Survey	Upper Ohio River	CNEQ001	12,500	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	6+	Barge	>3.75	-	-	-	-	-	-	-
Weekly Price Survey	CAPP barge physical	CNNQ001	12,000	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	1.67	Barge	1	-	-	-	-	-	-	-
Weekly Price Survey	CAPP rail (CSX) physical	CAEQ001	12,500	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	1.6	CSX	1	-	-	-	-	-	-	-
Weekly Price Survey	Thacker/Kenova	CAGQ001	12,500	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	1.6	NS	0.94	-	-	-	-	-	-	-
Weekly Price Survey	Illinois Basin	CIAQ001	11,800	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	5	Rail	2.95	-	-	-	-	-	-	Max 0.2
Weekly Price Survey	Illinois Basin	CIJQ001	11,800	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	5	Barge	2.95	-	-	-	-	-	-	Max 0.2
Weekly Price Survey	Illinois Basin	CIEQ001	11,500	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	5	Barge	2.88	-	-	-	-	-	-	Max 0.2
Weekly Price Survey	Illinois Basin	CISQ001	11,500	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	5	Barge	2.88	-	-	-	-	-	-	Max 0.35
Weekly Price Survey	Illinois Basin	CICQ001	11,000	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	5	Barge	2.75	-	-	-	-	-	-	Max 0.2
Weekly Price Survey	Powder River Basin	CRAQ001	8,800	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	0.8	Rail	0.35	-	-	-	-	-	-	-
Weekly Price Survey	Powder River Basin	CRBQ001	8,400	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	0.8	Rail	0.34	-	-	-	-	-	-	-
Weekly Price Survey	Colorado	CUAQ001	11,700	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	0.8	Rail	0.47	-	-	-	-	-	-	-
Weekly Price Survey	Colorado	CURQ001	11,300	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	0.8	Rail	0.45	-	-	-	-	-	-	-
Weekly Price Survey	Utah	CUDQ001	11,500	Prompt Quarter	-	USD	Short Ton	Weekly	2 pm Eastern	0.8	Rail	0.46	-	-	-	-	-	-	-
US FOB Assessments	FOB Baltimore	CUAAA04	13,000	15-60 days	-	USD	Metric Ton	Weekly	11:30 am Eastern	4	FOB Vessel	2.6	-	-	-	-	-	-	-
US FOB Assessments	FOB Baltimore	CUADA04	6000 kcal/kg	15-60 days	-	USD	Metric Ton	Weekly	11:30 am Eastern	4	FOB Vessel	2.6	-	-	-	-	-	-	-
US FOB Assessments	FOB Hampton Roads	CUABA04	12,500	15-60 days	-	USD	Metric Ton	Weekly	11:30 am Eastern	1.6	FOB Vessel	1	-	-	-	-	-	-	-
US FOB Assessments	FOB Hampton Roads	CUAEA04	6000 kcal/kg	15-60 days	-	USD	Metric Ton	Weekly	11:30 am Eastern	1.6	FOB Vessel	1	-	-	-	-	-	-	-
US FOB Assessments	FOB New Orleans	CUACA04	11,500	15-60 days	-	USD	Metric Ton	Weekly	11:30 am Eastern	5	FOB Vessel	2.9	-	-	-	-	-	-	-
US FOB Assessments	FOB New Orleans	CUAFA04	6000 kcal/kg	15-60 days	-	USD	Metric Ton	Weekly	11:30 am Eastern	5	FOB Vessel	2.9	-	-	-	-	-	-	-

US THERMAL COAL LOCATIONS

Assessment	Origin	Loading Specifications	Normalized Volume (mt)
CAPP rail (CSX) OTC	Central Appalachia	Any rail loadout located on the CSX railroad within the Kanawha Rate District or the Big Sandy Rate District capable of loading 100 car/10,000 ton unit trains in four hours or less	-
PRB 8,800 OTC	Powder River Basin	Any rail loadout located on the joint rail line in the southern Powder River Basin within Converse or Campbell counties, Wyoming, capable of loading 12,000 to 15,000 ton unit trains	-
PRB 8,400 OTC	Powder River Basin	Any rail loadout located on the joint rail line in the southern Powder River Basin within Converse or Campbell counties, Wyoming, capable of loading 12,000 to 15,000 ton unit trains	-
IB 11,800 OTC	Illinois Basin	Any dock located on the Ohio River between MM 776.1 to MM 918.5	-
Pittsburgh Seam 13,000 Btu/lb, <3 lbs SO ₂ Rail	Northern Appalachia	-	-
Pittsburgh Seam 13,000 Btu/lb, 4 lbs SO ₂ Rail	Northern Appalachia	-	-
Upper Ohio River 12,500 Btu/lb Barge	Northern Appalachia	-	-
CAPP barge physical, 12,000 Btu/lb	Central Appalachia	-	-
CAPP rail (CSX) physical, 12,500 Btu/lb	Central Appalachia	-	-
Thacker/Kenova 12,500 Btu/lb Rail	Central Appalachia	-	-
Illinois Basin 11,800 Btu/lb Rail	Illinois Basin	-	-
Illinois Basin 11,800 Btu/lb Barge	Illinois Basin	-	-
Illinois Basin 11,500 Btu/lb Barge	Illinois Basin	-	-
Illinois Basin 11,500 Btu/lb, Max 0.35% Chlorine, Barge	Illinois Basin	-	-
Illinois Basin 11,000 Btu/lb Barge	Illinois Basin	-	-
Powder River Basin 8,800 Btu/lb	Powder River Basin	-	-
Powder River Basin 8,400 Btu/lb	Powder River Basin	-	-
Colorado 11,700 Btu/lb	Colorado	-	-
Colorado 11,300 Btu/lb	Colorado	-	-
Utah 11,500 Btu/lb	Utah	-	-
FOB Baltimore	Baltimore	15-60 days	-
FOB Hampton Roads	Hampton Roads	15-60 days	-
FOB New Orleans	New Orleans	15-60 days	-

DAILY CSAPR ALLOWANCE ASSESSMENTS

Type	Year 1 (\$/st)	Year 2 (\$/st)
SO ₂ GROUP 1	ES021Y1	ES021Y2
SO ₂ GROUP 2	ES022Y1	ES022Y2
NO _x ANNUAL	ENOXY01	ENOXY02
NO _x SEASONAL	ENOX01	ENOX02

US PHYSICAL THERMAL COAL NETBACKS

Netbacks (\$/st)	Symbol	CV (Btu/lb)	Basis	Sulfur
FOB US East Coast	COUSC00	12,500	GAR	1.0%
FOB US Gulf Coast	COUGU00	11,500	GAR	2.9%
FOB Vancouver	COVCU00	8,800	GAR	0.8%
Penalties & Premia (\$/mt)				
Per 0.1% Sulfur (USGC)	COPAP00			
Total S discount (USGC)	COPBP00			

Platts US thermal coal assessments

Platts assesses a variety of US coal on a daily, weekly and netback basis. Heat and sulfur content are considered the primary determinants of physical thermal coal price. Assessments should be considered a composite of physical characteristics of available coals in the region and are not intended to represent a particular grade or brand of a given producer. See the US Thermal Coal Specifications Table for further details.

Physical assessments are priced in US \$/short ton based on FOB quotes at the rail or barge origin point.

Daily assessments

Platts assesses prices on a daily basis for four standardized US coal specifications that reflect the physical, over-the-counter price for front-month and front-quarter delivery. The four specifications are CAPP rail (CSX) OTC, PRB 8,800 OTC, PRB 8,400 OTC and Illinois Basin 11,800 OTC. Details for each specification are listed in the US Thermal Coal Specifications Table.

Platts also publishes a running average of the daily prompt month and prompt quarter physical assessments as well as the final average for the previous prompt month and prompt quarter.

The assessments are based on bids, offers and trades, indications of market value, expressions of interest and movements in related markets that are confirmed to have occurred no later than 2:30 pm Eastern.

Platts will consider all trades for inclusion in its OTC assessments, including bilateral, non-brokered deals that are confirmed by at least one counterparty, are verified to conform to the relevant quality specifications, are free of adjustments based on credit or other special requirements and are confirmed to have taken place no later than 2:30 pm Eastern.

Platts gathers and publishes hears, including bids, offers and

trades, from a variety of market participants throughout the day.

At 2 pm Eastern, Platts will publish an initial market value for the front-month for the following three assessments: CAPP Rail (CSX) OTC, PRB 8,800 OTC and Illinois Basin 11,800 OTC. The initial market value will be based on published data heard through 2 pm, and will be based on bids, offers, trades, indications of market value, expressions of interest and movements in related markets.

From 2 to 2:30 pm Eastern, Platts will continue to gather and publish market data, but may not consider any data gathered after 2:30 pm as relevant for the four indicated assessments. Platts will base its assessments on published market data that has been sufficiently tested in the market and determined to be the best indicator of price as of 2:30 pm.

Firm bids and offers that are available to the entire market as of 2:30 pm Eastern take precedence over trades that have been concluded earlier in the assessment process, particularly if bids are available at the close above previously traded levels, or offers are available to the market below previously traded levels.

When no confirmed bid, offer or transaction data is heard after 2 pm, Platts will base its assessments on the initial market values which have been made available and tested in the market from 2 pm.

For the front-month assessment for PRB 8,400 OTC, as well as the front-quarter assessments for PRB 8,400 OTC, PRB 8,800 OTC, CAPP rail (CSX) OTC and Illinois Basin 11,800 OTC, Platts will use market data, including broker marks, to determine price as of 2:30 pm.

The daily assessments roll on the 26th of each month. For example, for assessments for trade date February 25, the prompt month is March. On February 26, April becomes the prompt month. When the 25th falls on a weekend or a holiday, the last business day preceding the 25th becomes the final day for that prompt month. When the 26th falls on a weekend or a

holiday, the new prompt month begins on the first business day following the 26th.

Monthly averages for the four daily physical OTC coal assessments comprise all assessments made between the 26th of the preceding month and the 25th of the following month.

Weekly Methodology

Platts assesses prices on a weekly basis for 18 US coal specifications from all major US producing regions that reflect physical spot and term coal for front-quarter delivery. The prices reflect bids, offers, deals, and other market data collected throughout the week.

The weekly assessments reflect value as of 2 pm Eastern time on the final business day of the week.

The weekly physical assessments roll at the end of each calendar quarter.

US Thermal Coal Netbacks

Platts US thermal coal netbacks reflect the daily value for US thermal coal on an FOB basis at three locations.

FOB US East Coast (basis 12,500 Btu/lb GAR, 1% sulfur) shows the price of US thermal coal compared to CIF ARA coal (basis 6,000 kcal/kg NAR, 1% sulfur), minus the Panamax freight rate from the USEC to Rotterdam. The netback is adjusted for heat at the originating port (CIF ARA minus freight divided by 6,000 kcal/kg NAR then multiplied by 6,667 kcal/kg NAR, the calorific heat content of 12,500 Btu/lb GAR coal). The resulting value is then converted from \$/mt into \$/st.

FOB US Gulf Coast (basis 11,500 Btu/lb GAR, 2.9% sulfur) shows the price of US thermal coal compared to CIF ARA coal (basis 6,000 kcal/kg NAR, 1% sulfur) minus the Panamax freight rate from Mobile, Alabama to Rotterdam. The netback

FORWARD CURVE ASSESSMENTS

Assessment	CODE	CV	Delivery period	Currency	UOM	Frequency	Timestamp
CIF ARA	CSAM001	6,000 NAR	Prompt Month	USD	Metric Ton	Daily	17.00 London
CIF ARA	CSAM002	6,000 NAR	Prompt Month + 1	USD	Metric Ton	Daily	17.00 London
CIF ARA	CSAQ001	6,000 NAR	Prompt Quarter	USD	Metric Ton	Daily	17.00 London
CIF ARA	CSAQ002	6,000 NAR	Prompt Quarter +1	USD	Metric Ton	Daily	17.00 London
CIF ARA	CSAQ003	6,000 NAR	Prompt Quarter + 2	USD	Metric Ton	Daily	17.00 London
CIF ARA	CSAQ004	6,000 NAR	Prompt Quarter +3	USD	Metric Ton	Daily	17.00 London
CIF ARA	CSAY001	6,000 NAR	Prompt Calendar	USD	Metric Ton	Daily	17.00 London
CIF ARA	CSAY002	6,000 NAR	Prompt Calendar +1	USD	Metric Ton	Daily	17.00 London
CIF ARA	CSAY003	6,000 NAR	Prompt Calendar +2	USD	Metric Ton	Daily	17.00 London
FOB Newcastle	CSCM001	6,000 NAR	Prompt Month	USD	Metric Ton	Daily	17.00 London
FOB Newcastle	CSCM002	6,000 NAR	Prompt Month + 1	USD	Metric Ton	Daily	17.00 London
FOB Newcastle	CSCQ001	6,000 NAR	Prompt Quarter	USD	Metric Ton	Daily	17.00 London
FOB Newcastle	CSCQ002	6,000 NAR	Prompt Quarter +1	USD	Metric Ton	Daily	17.00 London
FOB Newcastle	CSCQ003	6,000 NAR	Prompt Quarter + 2	USD	Metric Ton	Daily	17.00 London
FOB Newcastle	CSCQ004	6,000 NAR	Prompt Quarter +3	USD	Metric Ton	Daily	17.00 London
FOB Newcastle	CSCY001	6,000 NAR	Prompt Calendar	USD	Metric Ton	Daily	17.00 London
FOB Newcastle	CSCY002	6,000 NAR	Prompt Calendar +1	USD	Metric Ton	Daily	17.00 London
FOB Newcastle	CSCY003	6,000 NAR	Prompt Calendar +2	USD	Metric Ton	Daily	17.00 London

is adjusted for heat at originating port (CIF ARA minus freight divided by 6,000 kcal/kg NAR then multiplied by 6,111 kcal/kg NAR, the calorific heat content of 11,500 Btu/lb GAR coal). The netback is then adjusted based on sulfur content, and the resulting value is then converted from \$/mt to \$/st.

US FOB Assessments

Platts US FOB assessments reflect the weekly value for US thermal coal on an FOB basis at three locations: FOB Baltimore (basis 13,000 Btu/lb GAR, or 6,944 kcal/kg NAR, 2.6% sulfur), FOB Hampton Roads (basis 12,500 Btu/lb GAR, or 6,667 kcal/kg NAR, 1% sulfur) and FOB New Orleans (basis 11,500 Btu/lb GAR, or 6,111 kcal/kg NAR, 2.9% sulfur). The three assessments are also normalized to 6,000 kcal/kg. The FOB assessments are listed in \$/mt, and are based on a 15-60 day loading period. The assessments reflect the market as of 11:30 pm Eastern on the

final business day of the week.

Financial thermal coal assessments

Platts Forward Curve-Coal assesses the prevailing forward prices for two standardized coal derivative contracts in Europe and Asia. The contracts are:

- CIF ARA (Rotterdam) contract based on 6,000 kcal/kg, net as received.
- FOB Newcastle, Australia contract based on 6,000 kcal/kg net as received.

Prices (expressed as US dollars per metric ton) are assessed for the forward two months, four quarters and three years

and represent a market-on-close value, and include actual transactions, where discoverable, and bids/offers each day.

Timing: The months roll forward on the 1st day of each month or the nearest business day thereafter; the quarters roll forward on the first day of the calendar quarter or the nearest business day thereafter, and the forward years on January 1 or the nearest business day thereafter.

For example, on January 1, Platts assesses the two forward months February and March, the four forward quarters Q2, Q3 and Q4 of the current year and Q1 of the next year and the three forward years will be the next three calendar years.

Prices are buy/sell assessments with a midpoint, reflecting the product value at market closing at 17:00 London time daily. Transactions done after closing time are disregarded.

PETROLEUM COKE ASSESSMENTS

Assessment	CODE	Mavg	Qavg	Delivery period	Volume (mt)	Currency	UOM	Frequency	Timestamp	Specifications (Typical)			Specifications (Range)		
										CV	Sulfur %	HGI	CV	Sulfur %	HGI
FOB US Gulf Coast High Sulfur	CPAAA00	CPAAA03	CPAAA05	15-45 days	10,000	USD	Metric Ton	Weekly	11.00 US Eastern	-	6.5	-	-	5.5-7	-
FOB US Gulf Coast Mid Sulfur	CPAAF00	CPAAF03	CPAAF05	15-45 days	10,000	USD	Metric Ton	Weekly	11.00 US Eastern	-	4.5	-	-	4.0-5	-
FOB US West Coast Mid Sulfur	CPAAC00	CPAAC03	CPAAC05	15-45 days	10,000	USD	Metric Ton	Weekly	11.00 US Eastern	-	3	-	-	2.5-4.5	-
FOB US West Coast Low Sulfur	CPAGG00	CPAGG03	CPAGG05	15-45 days	10,000	USD	Metric Ton	Weekly	11.00 US Eastern	-	2	-	-	1-2.5	-
CIF Turkey 5% Sulfur	CPAGH00	CPAGH03	CPAGH05	30-60 days	50,000	USD	Metric Ton	Weekly	16.30 London	7,500 NAR	5	50	7,000-8,000 NAR	4-5.5	30-80
CFR India West 6.5% Sulfur	CPAGJ00	CPAGJ03	CPAGJ05	30-60 days	50,000	USD	Metric Ton	Weekly	17.30 Singapore	7,500 NAR	6.5	40	7,000-8,000 NAR	6-8	38-55
CFR India East 6.5% Sulfur	CPAGK00	CPAGK03	CPAGK05	30-60 days	50,000	USD	Metric Ton	Weekly	17.30 Singapore	7,500 NAR	6.5	40	7,000-8,000 NAR	6-8	38-55

PETCOKE LOCATION

Assessment	Basis Port	All Ports
US		
US Gulf Coast	Gulf Coast	Lower Mississippi River, Port Arthur, Houston, Upper Mississippi/Chicago
US West Coast	West Coast	Southern California, US West Coast ports
Turkey		
CIF Turkey	Iskenderun	Iskenderun, Izmir, Marmara, Samsun
India		
CFR India East	Krishnapatnam	All east coast India ports
CFR India West	Kandla	All west coast India ports

Platts petcoke assessments

Platts publishes petroleum coke price assessments on a forward delivery/loading basis on a weekly frequency every Wednesday (or in the case of a public holiday, the nearest preceding business day).

Assessments reflect the transactable value prevailing at a specific timestamp. Trading activity, including bids/offers and transactions, is covered during the typical operating day with data cut off for inclusion in the assessment precisely at the market-on-close timestamp.

Negotiations on current contracts may be taken into account for trend purposes. Deals and bids/offers must be deemed to be repeatable between typical counterparties. Platts assessments may also take into account market surveys as well as other relevant market data such as supply/demand constraints and prices in related markets (i.e. thermal coal, natural gas and residual fuel prices).

Platts considers as relevant to the assessment process petcoke of a merchantable quality in a defined range of specifications including but not limited to sulfur content and Hardgrove Grindability Index (HGI) and normalizes to the standard specifications. Sulfur content is considered the primary determinant of petcoke prices. The HGI, a measure for the grindability of coal and petcoke, is a secondary determinant and may be included in the price commentary each week if deals are heard that specify HGI.

Volume: The assessments reflect cargoes of a typical volume in metric tons (mt). All shipment volumes of 10,000 mt or over, including standard or typical split and part-sized cargoes, are normalized to a typical vessel size (e.g. 50,000 mt Supramax).

Basis and Location: Platts normalizes deliveries to or from the basis location in the standard for each location. Platts defines base locations in its price assessments which act as a pricing basis point, and differentials may be assessed off these when deals or bids/offers are reported on a different location basis.

Timing: The assessments reflect the value of petcoke loading/discharging at the basis location at the mid-point of a defined time period forward from the date of publication. Cargoes traded with more prompt or further forward laycans or notice of readiness are normalized to the middle of the period for assessment purposes.

Weekly 15-45 day FOB loading window: The assessments reflect the price of petcoke for loading 15-45 days forward from the date of publication. For example, on January 2, Platts assesses cargoes for delivery between January 16 and February 15.

Weekly 30-60 day CIF/CFR delivery window: The assessments reflect the price of petcoke for delivery 15-60 days forward from the date of publication (expected –NOR will be taken as the date of arrival). For example, on June 1, Platts assesses cargoes for delivery between June 30 and July 30.

CLEAN DARK SPREADS

		CODE	EFFICIENCY %	UOM
UK Clean Dark Spread MA	CCUTM00	35	EUR/MWh	
UK Clean Dark Spread MA+1	CCUTM27	35	EUR/MWh	
UK Clean Dark Spread QA	CCUTQ00	35	EUR/MWh	
UK Clean Dark Spread QA+1	CCUTQ27	35	EUR/MWh	
UK Clean Dark Spread SN	CCUTS00	35	EUR/MWh	
UK Clean Dark Spread MA	CCUZM00	35	GBP/MWh	
UK Clean Dark Spread MA+1	CCUZM27	35	GBP/MWh	
UK Clean Dark Spread QA	CCUZQ00	35	GBP/MWh	
UK Clean Dark Spread QA+1	CCUZQ27	35	GBP/MWh	
UK Clean Dark Spread SN	CCUZS00	35	GBP/MWh	
UK Clean Dark Spread CPS MA	CCHTM00	35	EUR/MWh	
UK Clean Dark Spread CPS MA	CCHTM27	35	EUR/MWh	
UK Clean Dark Spread CPS QA	CCHTQ00	35	EUR/MWh	
UK Clean Dark Spread CPS QA+1	CCHTQ27	35	EUR/MWh	
UK Clean Dark Spread CPS SN	CCHTS00	35	EUR/MWh	
UK Clean Dark Spread CPS MA	CCHZM00	35	GBP/MWh	
UK Clean Dark Spread CPS MA	CCHZM27	35	GBP/MWh	
UK Clean Dark Spread CPS QA	CCHZQ00	35	GBP/MWh	
UK Clean Dark Spread CPS QA+2	CCHZQ27	35	GBP/MWh	
UK Clean Dark Spread CPS SN	CCHZS00	35	GBP/MWh	
Germany Clean Dark Spread MA	CTGTM00	35	EUR/MWh	
Germany Clean Dark Spread MA+1	CCGTM27	35	EUR/MWh	
Germany Clean Dark Spread QA	CCGTQ00	35	EUR/MWh	
Germany Clean Dark Spread QA+1	CCGTQ27	35	EUR/MWh	
Germany Clean Dark Spread YA	CCGTY00	35	EUR/MWh	
Germany Clean Dark Spread YA+1	CCGTY27	35	EUR/MWh	
Germany Clean Dark Spread YA+2	CCGTY28	35	EUR/MWh	
Germany Clean Dark Spread MA	CCGUM00	45	EUR/MWh	
Germany Clean Dark Spread MA+1	CCGUM27	45	EUR/MWh	
Germany Clean Dark Spread QA	CCGUQ00	45	EUR/MWh	
Germany Clean Dark Spread QA+1	CCGUQ27	45	EUR/MWh	
Germany Clean Dark Spread YA	CCGUY00	45	EUR/MWh	
Germany Clean Dark Spread YA+1	CCGUY27	45	EUR/MWh	
Germany Clean Dark Spread YA+2	CCGUY28	45	EUR/MWh	

Other pricing data

Clean Dark Spreads

Platts clean dark spreads are indicative prices giving the average difference between the combined cost of coal and emissions allowances and the equivalent price of electricity on any given day.

Prices are quoted for the UK and German markets. Both UK and German clean dark spreads are based on CIF ARA coal assessments and equivalent UK and German electricity assessments and third party EUA emissions prices.

For the UK, Platts publishes clean dark spreads for two months ahead, two quarters ahead and one season ahead in Eur/MWh and GBP/MWh. For Germany, Platts publishes clean dark spreads for two months ahead, two quarters ahead and three calendar years ahead in Eur/MWh.

The formula for the UK and German clean dark spreads uses an energy conversion factor of 6.978 (converting 1 metric ton of 6,000 kcal/kg NAR coal into MWh), a fuel efficiency factor (coal) of 35% (and also 45% for Germany) and a carbon intensity factor of 0.973 mt of CO₂/MWh.

The full formula is as follows: Baseload power price in euro – (((coal price in US dollar ÷ exchange rate) ÷ energy conversion factor) ÷ fuel efficiency factor) – (EUA price in euro x carbon intensity factor)

Platts also publishes UK CPS clean dark spreads that incorporate the cost of the UK government's Carbon Price Support (CPS) levy at the following confirmed rates:

Year	Levy in GBP/mt
April 1, 2014 - March 31, 2015	9.55
April 1, 2015 - March 31, 2016	18.08
April 1, 2016 - March 31, 2017	18
April 1, 2017 - March 31, 2018	18
April 1, 2018 - March 31, 2019	18
April 1, 2019 - March 31, 2020	18

The full formula for CPS clean dark spreads is:

Platts UK dark spread in GBP/MWh at 35% fuel efficiency - (EUA emissions price in euro/mt converted to GBP + CPS levy in GBP/mt x emissions intensity factor 0.973).

Both Eur/MWh and \$/MWh conversions are available.

The source of all coal prices is Coal Trader International. The source of all power prices is European Power Alert and European Power Daily.

The EUA component of Platts dark spreads reflects a December annual expiry date.

Platts clean fuel spread calculations will typically reference the emissions contract most relevant to the delivery period for the fuel legs of the spread. In the UK, seasonal clean fuel spreads that include delivery during winter periods which touch on two

calendar years will use an average of two emissions contracts for the 'clean' component of the spread.

Platts clean fuel spread calculations incorporate three emissions contracts ahead with specifications and roll dates as listed on the European Energy Exchange (EEX).

Thermal Coal Netbacks

Platts Richards Bay FOB netback reflects the daily value for thermal coal CFR India West (basis 5,500 NAR, 0.8% sulfur) minus the Panamax freight rate from Richards Bay to India West. The netback is adjusted for calorific value at the destination (from 5,500 kcal/kg to 6,000 NAR basis) before an ash differential is applied to adjust from typical 20% ash for 5,500 NAR coal to typical 14% ash for 6,000 NAR coal and dry bulk freight is subtracted. The resulting value gives the calculated value of FOB Richards Bay (basis 6,000 NAR, 0.8% sulfur, 14% ash).

Netbacks (\$/mt)	Symbol	CV	Basis	Sulfur
FOB Richards Bay	CSEUW00	6000	NAR	0.008

The full formula is:

(Platts CFR India West in \$/mt – Panamax freight Richards Bay-India West)/5,500*6,000) + (Ash Differential \$/mt* 6)

SPOT DRY BULK FREIGHT ASSESSMENTS PUBLISHED IN COAL TRADER INTERNATIONAL

	CODE	Currency	UOM
Capesize			
Australia-China	CDANC00	USD	Metric Ton
Queensland-Japan	CIGAJ00	USD	Metric Ton
New South Wales-Korea	CINAK00	USD	Metric Ton
Bolivar-Rotterdam	CIBCR00	USD	Metric Ton
Roberts Bank-Japan	CDRKJ00	USD	Metric Ton
Richards Bay-Rotterdam	CIRBN00	USD	Metric Ton
Panamax			
Richards Bay-India West	CSAKL00	USD	Metric Ton
Kalimantan-India West	CSAKP00	USD	Metric Ton
Richards Bay-India East	CSAKN00	USD	Metric Ton
Kalimantan-India East	CSAKR00	USD	Metric Ton
Richards Bay-Rotterdam	CIRRN00	USD	Metric Ton
Richards Bay-Spanish Med	CIRBT00	USD	Metric Ton
Richards Bay-Jorf Lasfar	CIRBJ00	USD	Metric Ton
Bolivar-Rotterdam	CIBRN00	USD	Metric Ton
USEC-India	CDBUI00	USD	Metric Ton
USEC-Rotterdam	CDBUR00	USD	Metric Ton
USEC-Brazil	CDBUB00	USD	Metric Ton
Mobile-Rotterdam	CDMAR00	USD	Metric Ton
Mobile-Taranto	CDMAI00	USD	Metric Ton
Roberts Bank-Japan	CDRBK00	USD	Metric Ton
Australia-China	CDBFA00	USD	Metric Ton
Australia-India	CDBFAI0	USD	Metric Ton

Spot dry bulk freight assessments

Please see our Freight/Shipping Methodology and Specifications Guide at <http://www.platts.com/methodology-specifications/shipping>.

METALLURGICAL COAL AND MET COKE ASSESSMENTS PUBLISHED IN COAL TRADER INTERNATIONAL

Asia-Pacific coking coal

		Currency	UOM	FOB Australia	CFR China	CFR India
HCC Peak Downs Region	USD	Metric ton	HCCGA00	HCCGC00	HCCGI00	
Premium Low Vol	USD	Metric ton	PLVHA00	PLVHC00	PLVHI00	
HCC 64 Mid Vol	USD	Metric ton	HCCAU00	HCCCH00	HCCIN00	
Low Vol PCI	USD	Metric ton	MCLVA00	MCLVC00	MCLVI00	
Mid Tier PCI	USD	Metric ton	MCLAA00	MCLAC00	MCVAI00	
Semi Soft	USD	Metric ton	MCSSA00	MCSSC00	MCSSI00	

Atlantic coking coal

		Currency	UOM	FOB US East Coast	
Low Vol HCC	USD	Metric ton	AAWR00	-	-
High Vol A	USD	Metric ton	AAWS00	-	-
High Vol B	USD	Metric ton	AAWT00	-	-
				CFR NW Europe	
PLV NetForward	USD	Metric ton	PLVHE00	-	-

Atlantic coking coal

		Currency	UOM	Ex-washplant	Free-on-Rail	DDP Tangshan
PCC Met Shanxi Premium Low Vol	Yuan	Metric ton	PCCMA04	PCCMB04	PCCMC04	
PCC Met Shanxi High Sulfur Premium Low Vol	Yuan	Metric ton	PCCMD04	PCCME04	PCCMF04	
PCC Met North China Fat Coal	Yuan	Metric ton	-	-	PCCMG04	
PCC Met Shanxi PCI	Yuan	Metric ton	PCCMH04	PCCMI04	PCCMJ04	
PCC Met Shandong Semi Soft	Yuan	Metric ton	PCCMK04	PCCML04	-	
PCC Met Rail Freight Shanxi – Tangshan	Yuan	Metric ton	PCCMM04	-	-	
PCC Met Truck Freight Shanxi – Tangshan	Yuan	Metric ton	PCCM004	-	-	
PCC Met Shanxi Premium Low Vol (CFR China equivalent)	USD	Metric ton	PLVHJ04			

North China prompt port stock prices

		Currency	UOM	EX-stock Jingtang incl VAT	
Premium Low Vol	Yuan	Metric ton	AAWZN00	-	-
HCC 64 Mid Vol	Yuan	Metric ton	AAWZP00	-	-
				CFR Jingtang equivalent	
Premium Low Vol	USD	Metric ton	AAWZ000	-	-
HCC 64 Mid Vol	USD	Metric ton	AAWZQ00	-	-

METALLURGICAL COAL AND MET COKE ASSESSMENTS PUBLISHED IN COAL TRADER INTERNATIONAL

China PLV, Met Coke Price Differentials

	Currency		UOM			
Import-Shanxi Premium Low Vol CFR China	USD	Metric ton	PLVHK04	-	-	-
Import-port stock Premium Low Vol CFR China	USD	Metric ton	PLVHL04	-	-	-
62% CSR coke export-domestic FOB North China	USD	Metric ton	PLVHN04	-	-	-

Penalties & Premia: Differentials

	Currency		UOM	Within Min-Max		% of Premium Low Vol FOB Australia assessment price	
Per 1% CSR 60-71% 0.50% 0.88	USD	Metric ton	60-71%	CPCSA00	0.50%	CPCSP00	
Per 1% VM (air dried) 18-27% 0.50% 0.88	USD	Metric ton	18-27%	CPVPA00	0.50%	CPVMP00	
Per 1% TM (as received) 8-11% 1.00% 1.77	USD	Metric ton	8-11%	CPTPA00	1.00%	CPTMP00	
Per 1% Ash (air dried) 7-10.5% 1.50% 2.65	USD	Metric ton	7-10.5%	CPAPA00	1.50%	CPPAP00	
Per 0.1%S (air dried) 0.3-1% 1.00% 1.77	USD	Metric ton	0.3-1%	CPSPA00	1.00%	CSPVP00	

Penalties & Premia: Differentials

	Currency		UOM	Within Min-Max		% of US low-vol HCC FOB USEC assessment price	
Per 1% CSR	USD	Metric ton	50-64%	CPPBA00	0.25%	CPPBB00	
	USD	Metric ton	40-49%	CPPBC00	0.05%	CPPBD00	
Per 0.1% S	USD	Metric ton	0.70-1.05%	CPPBE00	0.75%	CPPBF00	
	USD	Metric ton	1.06-1.25%	CPPBG00	0.75%	CPPBH00	
Per 1% TM (as received)	USD	Metric ton	6-11%	CPPBK00	1.00%	CPPBL00	
Per 1% Ash	USD	Metric ton	5-10%	CPPBI00	1.75%	CPPBJ00	

Coking Coal Swaps: Platts Premium Low Vol FOB Australia

	Currency		UOM			
Prompt Month	USD	Metric ton	MCPLM01	-	-	-
Prompt Month + 1	USD	Metric ton	MCPLM02	-	-	-
Prompt Month + 2	USD	Metric ton	MCPLM03	-	-	-
Prompt Quarter +1	USD	Metric ton	MCPLQ01	-	-	-
Prompt Quarter + 2	USD	Metric ton	MCPLQ02	-	-	-
Prompt Quarter +3	USD	Metric ton	MCPLQ03	-	-	-
Prompt Calendar	USD	Metric ton	MCPLY01	-	-	-

METALLURGICAL COAL AND MET COKE ASSESSMENTS PUBLISHED IN COAL TRADER INTERNATIONAL

Metallurgical Coke

		Currency	UOM			
FOB North China 66/65% CSR	USD	Metric ton	MCCNC00	-	-	-
FOB North China 62% CSR	USD	Metric ton	AAWVL00	-	-	-
CFR India 62% CSR	USD	Metric ton	MCCEI00	-	-	-
DDP North China (weekly)	Yuan	Metric ton	AAWVJ00	-	-	-

Daily metallurgical coal, coking coal swaps and met coke assessments

Detailed information is available in the Metallurgical Coal Methodology at: <http://www.platts.com/methodology-specifications/coal>.

Coal Trader Analytics, Coal Trader

Supply and Demand

Coal production numbers are modeled using historical EIA weekly coal production and coal carload data published by the Association of American Railroads. Coal consumption numbers are derived by using a combination of Platts modeled daily ISO coal generation numbers and the historical Fuel Heat Contents obtained from EIA 923.

Both consumption and production numbers are summed by EIA gas storage week.

Coal stockpiles are derived from a combination of historical EIA coal stockpiles at electric utilities and Platts modeled coal production and consumption numbers. When new EIA data becomes available, Platts modeled estimates are replaced.

This can have the effect of shifting estimates from the period of replacement to present for consumption, production, and stockpile figures.

Dark Spreads

Dark spreads are indicative prices giving the average difference between the cost of coal and the equivalent price of electricity on any given day. Dark spreads are based on Platts daily OTC physical assessments for FOB coal for Central Appalachia rail (CSX) 12,500 Btu/lb, Illinois Basin 11,800 Btu/lb and Powder River Basin 8,800 Btu/lb.

Platts produces prompt-month forward dark spreads for the following power hubs and mine basins:

Cal-ISO SP15, PRB 8,800 Btu/lb;

ERCOT North, PRB 8,800 Btu/lb;

Into Southern, PRB 8,800 Btu/lb;

Into Southern, Illinois Basin 11,800 Btu/lb;

MISO Indiana, PRB 8,800 Btu/lb;

MISO Indiana, ILB 11,800 Btu/lb;

PJM West, CAPP rail (CSX) 12,500 Btu/lb;

SPP South, PRB 8,800 Btu/lb

The formula uses delivered \$/MWh cost estimates for coal at each power hub and subtracts the delivered cost from the corresponding prompt-month Platts M2MS forward power price. To calculate the delivered costs, Platts first estimates transport and insurance costs by subtracting the average Platts OTC prompt-month coal price from the weighted-average delivered costs of coal in EIA-923 data for the mine basin that makes up the majority of the deliveries for the given power hub. Platts then applies those figures forward to the daily physical OTC coal prices along with a corresponding coal MMBtu/MWh heat rate to arrive at a \$/MWh delivered cost figure.

The formula is as follows:

$\$/\text{MWh prompt-month power price} - \$/\text{MWh delivered coal cost estimate}$

Platts produces on-peak, off-peak, and around-the-clock (ATC) dark spreads for each power hub, where the around the clock dark spread is based on the combination of the hourly weighted off-peak and on-peak prompt-month power price.

The dark spreads do not factor in any emissions related operating costs.

For more questions related to data, methodology, and analytical content please contact coal_analytics@spglobal.com.

US coal vs gas fuel cost ratios, Coal Trader

The Platts US coal-vs-gas fuel cost ratios are used to assess the regional competitiveness between coal and gas generation at the major power trading hubs. The ratio is defined as the \$/MWh fuel cost for coal divided by the \$/MWh fuel cost for gas. Gas generation is more competitive than coal when the ratio is greater than one and vice versa.

All price data is for prompt month coal and gas contracts. Coal transportation and insurance costs are estimated on a monthly basis from EIA-923 data and calculated by subtracting the average Platts OTC prompt-month coal price from the weighted-average delivered costs for the same period for coal coming from the mine basin that makes up the majority of deliveries for a given power hub.

Heat rates are also derived monthly from EIA-923 data and represent the weighted average heat rates for power plants in states that are associated with the respective grid operators. The figures do not take into account any additional costs associated with emissions.

The fuel input prices behind the ratios are estimates of delivered fuel costs for power flowing to the following power trading hubs:

- ERCOT North
- Into Southern
- MISO Indiana
- PJM West
- SPP South

The power hub to state groupings for the weighted average delivered prices and heat rates is as follows:

- MISO Indiana: IL, KY, MI, OH, TN
- PJM West: MD, PA, WV
- ERCOT North: TX
- SPP South: KS, NE, OK
- Into Southern: AL, FL, GA, SC

The delivered coal prices reflect coal deliveries from the following basins for each power hub:

- ERCOT North: PRB
- Into Southern: PRB
- Into Southern: IL
- MISO Indiana: PRB
- MISO Indiana: IL
- PJM West: CAPP

- SPP South: PRB

The power to gas hub groupings are as follows, for power hubs with more than one gas hub Platts uses the average gas price between the two hubs:

- ERCOT North: TX Eastern E TX
- Into Southern: FL Gas Zn3, Transco Zn4
- MISO Indiana: Chicago CG
- PJM West: Dominion S Pt, TX Eastern M-3
- SPP South: Panhandle TX-OK, Oneok OK

For more questions related to data, methodology, and analytical content please contact coal_analytics@spglobal.com.

Currency conversions

Platts Atlantic and Asia-Pacific thermal coal assessments are originally assessed in USD/Metric Ton. The original

assessments are then converted into Eur/Mt using the exchange rates published in that day's edition of European Power Daily.

The source of the foreign exchange data is Platts assessment Eur-USD (AACOP00) and the timestamp is 16.30 London time.

PCC 6 (VAT included), PCC 7 (VAT included) and PCC 8 (Duty & VAT included) are automated values derived from PCC 6, PCC 7 and PCC 8 US\$ denominated assessments by converting to Yuan and adding VAT and/or duty at the prevailing rate.

Changes to the prevailing rate of VAT and/or duty will be applied immediately on public notification from the relevant Chinese authorities.

The foreign exchange conversion rate is the prevailing Bank of China mid-point of the Cash Buying and Cash Selling rates at the timestamp for the PCC thermal coal assessment series.

REVISION HISTORY

April 2017: Added US FOB assessments.

December 2017: Platts discontinued the daily CAPP Barge OTC assessment and related assessments on December 26.

October 2017: The Platts US Thermal Coal assessments section was revised to reflect changes in the daily OTC coal assessment methodology, including the publishing of a 2 pm prevailing Eastern time initial market value, which will be tested in the market through 2:30 pm.

August 2017: Platts completed an annual update to the Thermal Coal methodology.

June 2017: Renamed OTC Broker Index to Platts Daily Physical Coal Assessments. Discontinued US thermal coal futures assessments.

May 2017: Amended UK and German dark spreads to reflect the change of source for European emissions (EUA) prices.

February 2017: Discontinued the FOB Venezuela 4% Sulfur and FOB USGC 5%-6% sulfur petcoke assessments; changed the names of the remaining US petcoke assessments; added typical specifications for the remaining US petcoke assessments and the ranges that will be normalized to those specifications..

February 2017: Discontinued the South African Richards Bay FOB 6,000 NAR quotes for both 7-45 days and 90 days forward, along with associated forward curve. Addition of South African Richards Bay FOB 6,000 NAR netback quote.

January 2017: Added daily NEAT Coal Index methodology; added methodology for US coal vs gas fuel cost ratios; removed reference to discontinued spark spreads in Coal Trader; removed reference to the discontinued daily Illinois Basin 11,500 OTC assessment; removed reference to discontinued forward

assessments for Platts US daily OTC coal assessments and Weekly Price Survey assessments. Discontinued the weekly CIF Japan 6,080 kcal/kg NAR, CIF Korea West 6,080 kcal/kg NAR, FOB Gladstone 6,500 kcal/kg GAR, FOB Qinhuangdao 6,200 kcal/kg GAR and FOB Poland Baltic 6,000 NAR kcal/kg 90-day assessments. Updated the formula for the FOB Vancouver daily netback price.

December 2016: Discontinued CFR South China and FOB Qinhuangdao 5,500 kcal/kg NAR prices, FOB ARA Barge 6,000 NAR 90-day assessments, the CIF ARA Carbon-Adjusted price and Biomass Wood Pellet assessments.

October 2016: Added clarification regarding the collection of data for inclusion in US OTC thermal coal assessments and the treatment of bilateral, non-brokered trades. Changed US thermal coal netback sulfur value to \$/mt from \$/st. Changed the sulfur content for Thacker/Kenova to 1.6 lbs SO₂/MMBtu from 1.5 lbs SO₂/MMBtu.

October 2016: Review of Parts I-VI

October 2016: Added language related to new US thermal coal netbacks.

September 2016: Changed the source of the Eur-USD exchange rate from Tullet Prebon to Platts assessment.

September 2016: Added China PLV, met coke price differentials and PCC Met Shanxi Premium Low Vol CFR China equivalent price.

September 2016: Platts completed an annual update to the Thermal Coal methodology. In this update, Platts reviewed all content and introduced regional sections, code lists and specification guides.

September 2016: Added language related to new US thermal coal futures assessments; new weekly Illinois Basin and

Colorado physical prices; and US thermal coal netback methodology.

June 2016: Coal Trader Analytics (Coal Trader) methodology was added.

May 2016: References to the discontinued OTC Hedge Price Monitor were removed.

April 2016: Deleted reference to the discontinued US FOB assessments; clarified content of the US OTC Broker Index.

February 2016: Added clarification regarding chlorine as well as typical heat and sulfur content to specifications for Illinois Basin 11,800 daily assessment.

January 2016: Added specifications for Illinois Basin 11,800 daily assessment.

July 2015: Updated the specifications for PCC assessment suite.

July 2015: Updated specifications for FOB Kalimantan 5,900 GAR and FOB Kalimantan 5,000 GAR.

June 2015: Methodology for CCI 7 VAT included and CCI 8 Duty & VAT included price assessments added. Revised US OTC specifications to add chlorine quantity to Illinois Basin 11,500 OTC product. The assessments in the OTC Broker Index were renamed: NYMEX look-alike – 12,000 Btu/lb. -1% was renamed CAPP barge (12,000 Btu/lb) OTC; CSX BS/K – 12,500 Btu/lb. -1% was renamed CAPP rail (CSX) (12,500 Btu/lb) OTC; PRB – 8,800 Btu/lb. was renamed PRB 8,800 Btu/lb OTC; PRB – 8,400 Btu/lb. was renamed PRB 8,400 Btu/lb OTC; and Illinois Basin 11,500 OTC was renamed Illinois Basin 11,500 Btu/lb OTC. In addition, the CAPP 1% vs Compliance Spread listed in the OTC Broker Index was discontinued.

March 2015: Added CIF Turkey and CFR India East and West petcoke methodology.

March 2015: Amended and expanded US petcoke methodology.

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

January 2015: Platts revamped all Power Methodology And Specifications Guides, including its Coal guide, in December 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.

August 2014: CFR India East 6,000 NAR and CFR India West 6,000 NAR assessments were renamed from CFR India East 6,300 GAR and CFR India West 6,300 GAR.

August 2014: Platts discontinued its monthly Coking Coal 90-day forward price assessments.

April 2014: The carbon efficiency factor used in German and UK clean dark spreads was revised from 0.96 and UK CPS clean dark spreads were published.

March 2014: Added weekly CFR Turkey thermal coal assessment methodology.

November 2013: 6,450 GAR FOB Bolivar assessment was discontinued.

September 2013: Platts amended the FOB Bolivar, 6,300 GAR specifications to reflect thermal coal of 6,000 NAR FOB Colombia.

June 2013: Added daily FOB Richards Bay 5,500 NAR

methodology.

December 2010: The Platts Daily OTC coal assessments were renamed but the underlying specifications and methodology were not changed, and remain the same as the Coal Trading Association specifications. CAPP barge OTC was previously named NYMEX 12,000/<1%; CAPP rail (CSX) OTC was CSX 12,500/1%; PRB 8,800 OTC was PRB 8,800/0.35%; and PRB 8,400 OTC was PRB 8,400/0.35%.

May 2007: Added CIF ARA, FOB Richards Bay and FOB Newcastle forward curve assessments methodology.

August 2006: Monthly and quarterly averages were calculated using the day of assessment, rather than the date of publication, as the reference date.