

# Methodology and Specifications Guide

## Coal

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**LATEST UPDATE: JANUARY 2012**

## PLATTS COAL PRICING METHODOLOGIES

This statement of methodology for Platts' coal assessments reflects core principles that long have provided the foundation for Platts' price reporting. It also includes detailed information on the formation of Platts coal assessments and the specifications for the various products assessed.

Platts' methodology will continue to evolve as coal markets change. This update reflects the change in methodology for the US OTC Broker Indexes.

For questions regarding European, Asian and other non-North American coal assessments, please contact James O'Connell at [james\\_oconnell@platts.com](mailto:james_oconnell@platts.com). For questions regarding North American assessments, please contact Brian Jordan at [brian\\_jordan@platts.com](mailto:brian_jordan@platts.com).

Platts also has a compliance staff independent of the editorial group. For more information, contact Director of Compliance John Burnett, 212-904-6943 ([john\\_burnett@platts.com](mailto:john_burnett@platts.com)).

Platts discloses publicly the days of publication of its price assessments and indices, and the times during each trading day in which Platts considers transactions in determining its assessments and index levels. 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.

### 1. PLATTS' COAL PUBLICATIONS ASSESS PRICES IN THE FOLLOWING FORMATS:

- *Coal Trader's* Daily OTC Assessments reflect over-the-counter trading in the four standard US OTC coal products for delivery in the prompt month, the prompt month plus one, three forward quarters, and forward calendar year for selected specifications (see page 11). The four Platts Daily OTC Assessments were renamed effective December 20, 2010. The underlying specifications and methodology were not changed. 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 8,800 OTC was PRB 8,400/0.35%.

The assessments are formulated based on systematic Market on Close practices and reflect market values at the end of the trading day, defined by Platts as 4 pm Eastern prevailing time for North American coal markets. Transactions, bid and offers,

and other market information are compared and analyzed. While all available information on trading activity that occurs throughout the day is considered, bids and offers made and transactions done are analyzed in relation to time of day to formulate values at the end of the trading day. To assess standard products and time periods for which there is little or no trading activity on a given day, editors, in addition to making use of any transactional data or other market information, use current spread relationships among standard products and time periods.

The rollover date for *Coal Trader's* Daily OTC Assessments is the 26th of the month. For example, for assessments for trade date February 25, the prompt month is March. On February 26, April becomes the prompt month. The rollover date is applied consistently to quarters. When the 25<sup>th</sup> falls on a weekend or a holiday, the last business day preceding the 25<sup>th</sup> becomes the final day for that prompt month. When the 26<sup>th</sup> falls on a weekend or a holiday, the new prompt month begins on the first business day following the 26<sup>th</sup>.

- *Coal Trader's* OTC Broker Index reflect trading in the four standard US OTC coal products, plus one spread product, for the prompt month and prompt quarter. The methodology for the OTC Broker Index is the same as for the Daily OTC Assessments. The assessed values will be the same for the corresponding time periods and products because the methodology is the same and the four standard products in the OTC Broker Index are the same standard products and have the same underlying specifications as the four standard products in the OTC Daily Assessments. (NYMEX 12,000/≤ 1% is the same product as CAPP barge OTC; CSX 12,500/1% is the same product as CAPP rail (CSX) OTC; PRB 8,800/0.35% is the same product as PRB 8,800 OTC; and PRB 8,400/0.35% is the same product as PRB 8,800 OTC.)

*Coal Trader's* OTC Broker Index assessments are formulated based on systematic Market on Close practices and reflect market values at the end of the trading day, defined by Platts as 4 pm Eastern prevailing time for North American coal markets. Transactions, bid and offers, and other market information are compared and analyzed. While all available information on trading activity that occurs throughout the day is considered, bids and offers made and transactions done are analyzed in relation to time of day to formulate values at the end of the trading day. To assess standard products and time periods for which there is little or no trading activity on a given day, editors, in addition to making use of any transactional data or other market information, use current spread relationships among standard products and time periods.

The rollover date for *Coal Trader's* OTC Broker Index assessments is the 26th of the month. For example, for assessments for trade date February 25, the prompt month is March. On February 26,

April becomes the prompt month. The rollover date is applied consistently to quarters. 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.

- *Coal Outlook's* Weekly US Price Survey covers trading in the traditional physical market in forward quarters and the forward calendar year in all major US producing regions. Two assessments in the Weekly US Price Survey were renamed effective December 20, 2010; the underlying specifications and methodology were not changed. CAPP barge physical was previously named NYMEX look-alike; CAPP rail (CSX) physical was Big Sandy/Kanawha with the same, unchanged specifications listed in the Weekly Price Survey table and on page 11 of this methodology.
- *Coal Outlook's* OTC Hedge Price Monitor gives the Friday-through-Thursday average of the Platts Daily OTC Assessments published in *Coal Trader* for delivery in forward quarters and the forward calendar year. The weekly averages in the OTC Hedge Price Monitor were renamed effective December 20, 2010 to reflect the name changes in the Platts Daily OTC Assessments.
- *International Coal Report's* and *Coal Trader International's* Daily and Weekly 90-Day Forward Benchmark Coal price assessments, which cover trading in the spot market for steam coal delivery in the next 90 days from major global shipment and delivery points.
- *Coal Trader International's* Daily OTC Prices, which give daily prices for physical trading in three benchmark specifications for prompt month delivery.
- *Coal Trader International's* OTC Benchmark Coal Prices, which cover trading in the forward three months and forward quarter for five benchmark specifications for the physical markets.
- *International Coal Report's* Coking Coal pricing tables, which cover forward trading in the 90-day-ahead coking coal spot market.
- *Coal Trader International's* Metallurgical Coal Assessments, which provide daily prices for physical hard coking coal reflective of three benchmark specifications and two Dry Bulk Freight Assessments.
- Platts Petcoke Assessments, current spot prices for the forward 90 days at three terminals.
- Platts Forward Curve-Coal, current buy/sell prices and a midpoint, for two forward months, four forward quarters, and two forward years for three benchmark specifications for the financial (paper) coal markets.

## 2. ALL PLATTS COAL ASSESSMENTS SHARE THE FOLLOWING FEATURES AND STANDARDS:

- **Term:** The rollover date for all US forward assessments is the 26th of the month. For example, January 25 is the last day February is assessed as the prompt month, and on January 26 March is assessed for the first time as the prompt month. When the 25th of the month falls on a weekend or a holiday, the last day of the prompt-month assessment is the last business day preceding the 25th. The first assessment of the new prompt month is on the 26th, or the first business day following the final assessment of the previous prompt month. This rollover date is reflected consistently in the assessments of the quarterly and calendar-year packages. International daily physical coal (see section 4, below) and daily derivatives (see section 3, below) have different rollover dates. All prices are current prices for physical delivery in the specified forward period or, in the case of financially settled transactions, for the specified forward contract.
  - **Frequency:** All steam coal and petcoke markets for physical delivery are assessed at least biweekly, and more active markets are assessed more frequently as market activity merits. Coking coal markets are assessed at least monthly. The markets in *Coal Trader* are assessed daily at the end of each business day. The markets in *International Coal Report* for 90-day forwards are assessed daily and weekly, depending on their respective liquidity, and the daily physical markets in *Coal Trader International* are assessed daily at the end of each business day. Platts Forward Curve-Coal is assessed each business day.
- The Platts Daily OTC Assessments published in *Coal Trader* are market-on-close assessments based on trading through 4 pm US Eastern time; US weekly assessments for the traditional physical market published in the Weekly US Price Survey close at 2 pm US Eastern time on the final trading day of the week. International physical and paper assessments close at 5 pm London time, at day's end for daily assessments and on the final trading day of the week for weekly assessments except for the daily regional FOB barge ARA assessment, which as noted in section 5 below closes at 4:30 pm London time. The petcoke market, assessed weekly, closes at 11 am US Eastern time on the final trading day of the week.
- **Market:** For physical delivery, assessments are based on direct supplier-consumer transactions and third-party transactions, and on bids and offers, whether via traders, brokers, the over-the-counter market, or secondary deals among consumers. For PFC-Coal, assessments are based on swaps traded in Europe and Asia, including sellers, buyers, market takers and brokers.

For all markets, actual transactions, bids and offers are included where discoverable. Platts believes every commodity has a tradable value, and endeavors to produce

an indication for a price at which a commodity could trade, even if on a given day it has not done so. Assessments are determined by considering bids and offers, from all participants, as well as indirectly from timing spreads and trading patterns in related markets.

- **Effective dates:** Prices are those prevailing at the end of the business week preceding the date of publication for *Coal Outlook* and *International Coal Report*. Prices for daily assessments are those prevailing at the end of the business day's OTC trading preceding the date of publication of *Coal Trader* and *Coal Trader International*.
- **Specifications:** Specifications for physical assessments focus on a few of the most-traded specifications, since there is a fairly constant relationship among prices for various coal qualities in each region. For the Platts Daily OTC Assessments and the OTC Broker Index assessments, specifications are the same as those of the US Coal Trading Association and of CME Group for its future and swaps contracts based on the standardized OTC products. For PFC-Coal, we focus on the specifications most commonly traded in the swaps market. *See tables below.*
- **Coal quality:** Heat and sulfur content are considered the primary determinants of steam coal price; ash as a secondary determinant is included in some international tables. All coking coal quotes are for hard coking coal except as noted in the table. Specifications in all tables should be considered a composite benchmark of physical characteristics of available coals in the region. They are not intended to represent a particular grade or brand of a given producer.
- **Source basis:** For *Coal Outlook* and *Coal Trader*: Prices are US\$/short ton based on FOB quotes at the rail or barge origin point. Source standards for the Platts Daily OTC Assessments are the same as those of the US Coal Trading Association and of CME Group for its future and swap contracts based on the standardized OTC products. CAPP barge OTC is sourced from any dock located on the Ohio River between MP 306 and MP 317 or on the Big Sandy River; CAPP rail (CSX) OTC is sourced from 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 and PRB 8,400 OTC are sourced from 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.

For *International Coal Report* and *Coal Trader International*: Prices are in US\$/metric ton FOBT (Free On Board Trimmed for vessel balance) at the port of shipment except Europe/ARA and the Japan and Korea West benchmarks which are CIF (delivery freight inclusive). Steam coal is quoted on a GAR (Gross As Received) basis, except for Europe/ARA, Richards Bay 6,000 kcal/kg, and Japan and

Korea West CIF, which are quoted on a NAR (Net As Received) basis.

Assessments reflect actual trading at the pricing point; the Japan CIF assessment only is calculated from a basket of coal prices FOB Japan's main supplier countries plus a freight and insurance component. Weightings as of October 2010 are: Australia (Newcastle), 70%; and Indonesia (Kalimantan 5,900 kcal/kg GAR), 22%, China (Qinhuangdao), 3%; Russia Pacific 3%, and South Africa, Richards Bay 2%.

### 3. PLATTS INTERNATIONAL 90-DAY DAILY FORWARD COAL ASSESSMENTS

Platts increased the frequency for five 90-day forward coal assessments on July 26, 2010: CIF Amsterdam-Rotterdam-Antwerp (ARA) basis; FOB Richards Bay coal terminal, South Africa basis; FOB Newcastle, Australia basis; FOB Kalimantan 1 (5,900 kcal/kg); and FOB Kalimantan 2 (5,000 kcal/kg). The coal assessments are published every UK business day and reflect the price of coal to be delivered (CIF) or loaded (FOB) within the next 90-day period.

#### Specifications:

- CIF ARA: 6,000 kcal/kg NAR, max sulfur 1%, 16% ash max.
- FOB Richards Bay: 6,000 kcal/kg NAR, max sulfur 1%, 16% ash max.
- FOB Newcastle: 6,080 kcal/kg NAR (6,300 kcal/kg GAR), max sulfur 0.7%, 13% ash max.
- FOB Kalimantan 1: 5,900 kcal/kg GAR, max sulfur 1%, ash max 15%.
- FOB Kalimantan 2: 5,000 kcal/kg GAR, max sulfur 0.8%, ash max 8%.

**Volume:** Assessments are normalized to 25,000 mt cargoes.

**Timing:** The assessments reflect the price of coal delivered or loaded in the next 90-day (three-month) period. The prompt month of the 90-day period moves forward as of the 8<sup>th</sup> 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.

**Assessment Time:** The daily assessments are derived from firm trades, bids and offers prevailing at market close at 5 pm London time. No trades or firm bids or offers are considered for the assessment process after that time. Platts' market reporters will only assess coal based on demonstrable and verifiable data.

**Assessment Process:** Confirmed trades are given preference when making the assessment. In the absence of trading, Platts uses firm bids and offers available in the market. In addition, only bids and offers that are raised or lowered in realistic increments are considered. In the absence of firm bids and offers, Platts may consider other relevant market indicators including related markets, such as index-linked business, other CIF Europe, freight costs, supply-demand constraints, the forward swaps market, FOB barge and related factors when making an assessment.

Platts frequently cross-checks information and may track delivery of actual cargo shipments. Integrity of the data is critical for market processes and Platts will protect the quality of its assessments by verifying data and removing any sourcing of distorting information.

Platts' editors will contact the widest range and largest possible number of relevant market participants to ensure its assessment accurately reflects current market values. These market participants may include utility companies, traders, coal producers and broking houses.

Platts gathers information including electronic trading data from many sources, but the information must be verifiable for it to be considered in the assessment process.

#### 4. PLATTS DAILY CFR INDIA THERMAL COAL ASSESSMENTS

Platts launched on September 1, 2010 daily 90-day forward price assessments for thermal coal delivered to east coast and west coast Indian ports under the benchmark names Platts CFR India East (6,300 kcal/kg GAR) and Platts CFR India West (6,300 kcal/kg GAR). Platts added four additional 90-day forward price points to the India thermal coal assessments portfolio on October 1, 2010: Platts CFR India East (5,900 kcal/kg GAR), Platts CFR India West (5,900 kcal/kg GAR), Platts CFR India East 5,000 kcal/kg GAR) and Platts CFR India West 5,000 kcal/kg GAR).

**Price Assessment:** Platts publishes the transactable value for thermal coal, indicating the price at which a cargo could be traded on CFR India basis at the close of the assessment period on the day of publishing.

The CFR India East and West (6,300 kcal/kg GAR, 5,900 kcal/kg GAR and 5,000 kcal/kg GAR) assessments are designed to reflect the spot price for imported thermal coal for arrival in India within the next 90-day period on an end-of-day market-on-close basis, derived from trades, bids and offers verified in the market.

Platts assessments take into account demand/supply fundamentals in key consumer markets. Assessments also take into consideration daily Asia-Pacific price movements in associated commodity markets, including FOB coal prices for Richards Bay, South African thermal coal, FOB coal prices for Kalimantan and spot freight rates for panamax-sized and supramax-sized vessels on these trade routes to Indian ports.

This information will be gathered from credible, active participants involved in the Indian imported coal market, including end users, traders, suppliers and other relevant parties.

**Availability:** The CFR India East and West (6,300 kcal/kg GAR; 5,900 kcal/kg GAR and 5,000 kcal/kg GAR) thermal coal price assessments are published daily in *Platts Coal Trader International* and on the Platts real-time news service *Platts European Power Alert* page EP 0910, and are available via Market Data category CI.

**Specifications:**  
6,300 kcal/kg GAR, max sulfur 1%, 16% ash max.

5,900 kcal/kg GAR, max sulfur 1%, 15% ash max., total moisture range of 15-17%.

5,000 kcal/kg GAR, max sulfur 1%, 16% ash max., total moisture range of 22-25%.

**Volume:** The minimum-sized cargo considered relevant for price assessment purposes is 40,000 mt.

**Basis and Location:** The daily assessments will cover cargoes of imported thermal coal delivered on a cost and freight (CFR) basis to the west coast Indian ports of Kandla, Mumbai, Mormugao, Mundra, New Mangalore, Navlakhi and Pipavav and normalize relevant deal, bid and offer information to Mundra Port using freight differentials and to the east coast Indian ports of Chennai, Ennore, Gangavaram, Haldia, Karaikal, Krishnapatnam, Paradip and Vizag and normalize relevant deal, bid and offer information to Paradip Port using freight differentials.

**Timing:** The assessments reflect the price for coal delivered at Indian ports within the next 90-day (three-month) period. The prompt month of the 90-day forward period moves forward as of the 8<sup>th</sup> of each month, or the closest forward business day.

For instance, the three months of the 90-day window on September 1 will be September, October and November but as of September 8 will become October, November and December.

**Assessment Time:** The daily assessments are derived from firm trades, bids and offers prevailing at market close at 5 pm London time. No trades or firm bids or offers are considered for the assessment process after that time. Platts' market reporters will only assess coal based on demonstrable and verifiable data.

**Assessment Process:** Confirmed trades are given preference when making the assessment. In the absence of trading, Platts uses firm bids and offers available in the market. In addition, only bids and offers that are raised or lowered in realistic increments are considered. In the absence of firm bids and offers, Platts may consider other relevant market indicators including related markets, such as index-linked business, freight costs, supply-demand constraints and related factors when making an assessment.

Platts frequently cross-checks information and may track delivery of actual cargo shipments. Integrity of the data is critical for market processes and Platts will protect the quality of its assessments by verifying data and removing any sourcing of distorting information.

Platts' editors will contact the widest range and largest possible number of relevant market participants to ensure its assessment accurately reflects current market values. These market participants may include utility companies, traders, coal producers and broking houses.

Platts gathers information including electronic trading data from many sources, but the information must be verifiable for it to be considered in the assessment process.

#### Normalization:

Platts CFR India East and West (6,300 kcal/kg GAR): Price assessments for imported South African thermal coal will be normalized back to a standard calorific value of 6,300 kcal/kg GAR basis. Thermal coal deliveries from other destinations meeting the specifications may also be taken into account for the assessments.

Platts CFR India East and West (5,900 kcal/kg GAR, 5,000 kcal/kg GAR): Price assessments for imported Indonesian thermal coal will be normalized back to a standard calorific value of 5,900 kcal/kg GAR and 5,000 kcal/kg GAR basis respectively. Thermal coal deliveries from other destinations meeting the specifications may also be taken into account for the assessments.

**Unit:** All prices are quoted in US dollars per metric ton (\$/mt) to two decimal places.

**Contact:** For comments, feedback or questions please email [james\\_oconnell@platts.com](mailto:james_oconnell@platts.com)

### PLATTS DAILY RICHARDS BAY-INDIA FREIGHT ASSESSMENTS

Platts publishes daily freight assessments for thermal coal shipped from Richards Bay to the East and West Coasts of India.

**Route:** South Africa-India

#### Port to Port:

Richards Bay-East Coast India (Chennai, Ennore, Gangavaram, Haldia, Karaikal, Krishnapatnam, Paradip and Vizag and normalize relevant deal, bid and offer information to Paradip Port using freight differentials).

Richards Bay-West Coast India (Kandla, Mumbai, Mormugao, Mundra, New Mangalore, Navlakhi and Pipavav and normalize relevant deal, bid and offer information to Mundra Port using freight differentials).

**Vessel Class:** Standard panamax.

**Timing:** Platts assesses spot market freight costs for vessels delivered CFR India within the next 90-day (three month) period. The prompt month of the 90-day period moves forward as of the 8<sup>th</sup> of each month, or the closest forward business day.

For instance, the three months of the 90-day window on September 1 will be September, October and November but as of September 8 will become October, November and December.

**Assessment Time:** Daily assessments are at market close at 5 pm London time.

### PLATTS DAILY KALIMANTAN-INDIA FREIGHT ASSESSMENTS

Platts publishes daily freight assessments for thermal coal shipped from Kalimantan/Indonesia to the East and West Coasts of India.

**Route:** Indonesia-India

#### Port to Port:

Kalimantan-East Coast India (Chennai, Ennore, Gangavaram, Haldia, Karaikal, Krishnapatnam, Paradip and Vizag and normalize relevant deal, bid and offer information to Paradip Port using freight differentials).

Kalimantan-West Coast India (Kandla, Mumbai, Mormugao, Mundra, New Mangalore, Navlakhi and Pipavav and normalize relevant deal, bid and offer information to Mundra Port using freight differentials).

**Vessel Class:** Standard panamax.

**Timing:** Platts assesses spot market freight costs for vessels delivered CFR India within the next 90-day (three month) period. The prompt month of the 90-day period moves forward as of the 8<sup>th</sup> of each month, or the closest forward business day.

For instance, the three months of the 90-day window on September 1 will be September, October and November but as of September 8 will become October, November and December.

**Assessment Time:** Daily assessments are at market close at 5 pm London time.

## 5. PLATTS FORWARD CURVE – COAL

### Background

Platts has reported on the petroleum industry for nearly 100 years, becoming the industry benchmark for accurate market

information, pricing and analysis. Over the last 30 years, Platts has introduced reporting, pricing and analysis on the coal, metals, natural gas and electricity industries, bringing our expertise to creation of market benchmarks for those fields. Platts Petroleum Derivatives (PPD) were set up in April 2000 to bring the same skills of independent reporting to market coverage of crude oil and oil product derivatives. In April 2001, Platts Forward Curve-Oil was set up to expand and globalize the coverage. In June 2006, Platts Forward Curve-Freight was added to bring independent assessment to the Forward Freight Agreement market, focusing on major routes for clean and dirty tankers plus two major steam coal dry bulk routes. Platts has applied the same skills and rigor to the coal derivatives market to create Platts Forward Curve-Coal.

Whereas the derivatives market used to have a reputation as an exotic adjunct to “mainstream” trading, it is now an accepted risk management tool, used by market participants across the energy industry. The number of participants and the sophistication of commodity derivatives have risen commensurately, both in over-the-counter swaps and in exchange-traded futures and options.

Platts Forward Curve-Coal has been carefully structured to provide independent assessments of key contracts and spreads traded in coal derivatives markets, as well as in-depth market commentary on why prices are moving in active markets.

### Core objectives

- To determine a transactable market price for each forward product assessed
- To bring similar approaches to assessing physical and swaps markets
- To enhance assessment accuracy
- To integrate coal spot and swaps information flows, reflecting integrated industry trading activity
- To track paper positions and prices relevant to spot coal price activity

### Specifications

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

- a CIF ARA (Rotterdam) contract based on 6,000 kcal/kg, net as received.
- an FOB Richards Bay, South Africa contract based on 6,000 kcal/kg net as received.
- an FOB Newcastle, Australia contract based on a 6,300 kcal/kg gross as received (equivalent to 6,080 NAR).

Prices are expressed as US dollars per metric ton. Prices are assessed for the forward two months, four quarters and three years. The months roll forward on the 21st day of each month or the nearest business day thereafter; the quarters roll forward on the first day of the second month of the calendar quarter or the nearest business day thereafter, and the forward years on February 1 or the nearest business day thereafter. So as of March 21, Platts will assess the two forward months of April and May. As of May 1, the four forward quarters will be Q3 and Q4 of the current year and Q1 and Q2 of the next year. As of February 1, the two forward years will be the next two calendar years.

Prices are buy/sell assessments with a midpoint, reflecting the product value at market closing at 5 pm London time daily. Transactions done after closing time are disregarded.

### Standards for derivatives reporting

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

Our assessments are not model-generated numbers. These assessments are arrived at through communication with a wide cross-section of each market. Platts tracks values and relationships among paper and physical commodities through the course of the day. Information is cross-checked to ensure data integrity.

When producing these assessments, Platts takes into account the views of all market participants: swap sellers/buyers, market makers and brokers. The assessments are designed to reflect actual business, and prominence is given to confirmed trades and indications when producing an assessment.

Platts believes that every commodity has a tradable value, and endeavors to produce an indication for a price at which a commodity could trade, even if for any given day it has not done so. These are arrived at through considering bids and offers, from all participants, as well as indirectly from timing spreads and trading patterns in related markets. Illiquid markets may be assessed relative to active benchmarks and still reflect market end-of-day values.

Platts only accepts information from sources considered credible. New market participants are carefully evaluated. Information that cannot be verified may be disregarded for assessment purposes.

Platts's assessments help bring transparency to the markets. Platts is completely independent of the markets it covers, and does not produce its assessments in alliance or partnership with any market participant.

What Platts subscribers do with the information provided is entirely at their own discretion, and Platts accepts no liability for the results of their use. Assessments are provided for information

purposes, and should not be construed as a solicitation or offer to buy or sell any commodity, security or related financial instrument.

## 6. PLATTS DAILY FOB NEWCASTLE 5,500 THERMAL COAL ASSESSMENT

Platts launched the assessment on January 3, 2012, and publishes a daily 7-45 day forward price assessment for thermal coal with a calorific value of 5,500 kcal/kg net-as-received Free on Board Newcastle, New South Wales, Australia.

**Price Assessment:** The assessment in US dollars per metric ton will reflect the commercial value of coals sold in the spot market on a FOB basis Newcastle, Australia loading 7-45 days from date of publication.

**Specifications:** The standard specification for the assessment, named Newcastle 5,500, will be as follows: a standard calorific value of 5,500 kcal/kg on an NAR basis with total sulfur content of 0.65% as received, typical ash of 20% on an air dried basis and typical total moisture of 10%.

Platts will consider as relevant to the assessment process coals of a merchantable quality in a range of 5,300 - 5,700 kcal/kg NAR, sulfur up to 1.00%, ash content 17-23% and moisture to a maximum of 15% and will normalize to the standard specifications.

**Availability:** The FOB Newcastle 5,500 kcal/kg NAR thermal coal price assessment will be published daily in Platts Coal Trader International, and on Platts real-time news service Platts European Power Alert (pages EP 0910) and the assessments will be available via Market Data in the Coal International (CI) category.

**Volume:** The assessment reflects cargoes of 75,000 mt. All shipment volumes, including standard or typical split and part-sized cargoes, will be normalized to a typical Panamax type vessel of 75,000 mt.

**Timing:** The assessment reflects the price of coal loading FOB Newcastle 7-45 days forward from the date of publication. For example, on January 2, Platts assesses cargoes for loading between January 9 and February 15.

The assessment reflects the mid-point of the loading period. Cargoes traded with more prompt or further forward laycans are normalized to the middle of the period for assessment purposes.

**Assessment Time:** The assessment reflects the transactable value prevailing at 18:30 Singapore local time. The assessment methodology reflects values on a market on close basis. 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 18:30 Singapore local time.

**Assessment Process:** Firm bids and offer, plus confirmed and verifiable transactions that meet Platts editorial guidelines are given preference during the assessment process. Bids and offers should be increased or decreased in realistic increments for inclusion in the assessment process. Platts may consider reported transactions, bids and offers as well as demand/supply fundamentals in the FOB Newcastle 5,500 kcal/kg market as well as daily Asia-Pacific price movements in associated thermal coal markets, freight costs, supply-demand constraints, the forward swaps market and related factors when making an assessment.

All market activity is viewed in light of its market relevance, repeatability and transparency. Transactions between related parties or transactions that do not meet Platts' standards for transparency, verifiability and repeatability are typically not taken into account.

Assessments reflect market value for the specified loading window after taking into consideration the differences in prices prevailing along the time curve. Platts assessments take into account any time value of a backwardated or contango market structure.

Transactions that are negotiated within the framework of longer-term contractual arrangements (term contracts and deals) are typically excluded from the assessment process.

Platts' objective is to reflect the transactable value of the commodity assessed. In cases where the apparent value of the commodity includes additional optionalities, the intrinsic value-in-use of the commodity may be masked.

Bids, offers or deals that contain excessive optionality for either the buyer or seller may also be disregarded in the assessment process. Examples include loading or delivery options held by the buyer or seller, volume tolerances exercisable by the buyer or seller, non-standard credit terms, or non-standard quality specifications.

Platts frequently cross-checks information and may track delivery of actual cargo shipments. Integrity of the data is critical for market processes and Platts will protect the quality of its assessments by verifying data.

Platts' editors will contact the widest range and largest possible number of market participants to ensure its assessment accurately reflect current market values. These market professionals may include utility companies, traders, coal producers, broking houses and other active spot market participants.

Platts gathers information including electronic trading data from many sources, but the information must be verifiable for it to be considered in the assessment process.

**Unit:** Prices are to be quoted in US dollars per metric ton (\$/mt) to two decimal places.

## 7. PLATTS INTERNATIONAL DAILY PHYSICAL PROMPT MONTH COAL ASSESSMENTS

Platts assesses coal on a CIF Antwerp-Rotterdam-Amsterdam (ARA) basis, an FOB Richards Bay coal terminal, South Africa basis and an FOB Newcastle, Australia basis. The coal assessments are published every UK business day and reflect coal for delivery in the prompt month.

Specifications are:

- CIF ARA, 6,000 kcal/kg NAR, 1% sulfur maximum max, 16% ash maximum.
- FOB Richards Bay, 6,000 kcal/kg NAR, 1% sulfur max, 16% ash max.
- FOB Newcastle 6,000 kcal/kg NAR (6,300 kcal/kg GAR), max sulfur 0.7%, max ash 13%.

Assessments are normalized to 30,000 mt cargoes.

The assessments reflect the price of coal delivered for a forward month. The prompt month moves forward as of the 21st of each month, or closest forward business day. So, for instance, the “prompt month” on February 20th will be March, but as of February 21st will become April.

Assessments are based on firm bids/offers and trades. Platts market reporters will assess coal based on demonstrable and verifiable data. In the absence of trading, Platts uses firm bids and offers available in the market. In the absence of firm bids and offers, Platts may consider other relevant market indicators including related markets, such as FOB barge, index-linked business, other CIF Europe, freight costs, supply-demand constraints, the forward swaps market, and related factors when making an assessment.

Platts regularly cross-checks information and may track delivery of actual cargo shipments. Integrity of the data is critical for market processes and Platts will protect the quality of its assessments by verifying data and removing any sourcing of distorting information.

Platts gathers information from many sources including electronic trading data, but the information must be verifiable for it to be considered in the assessment process.

The daily assessment considers information up to 5 pm London time and reflects a closing value for the day. No trades or firm bids or offers are considered for the assessment process after that time.

## 8. PLATTS REGIONAL DAILY FOB BARGE ARA ASSESSMENT

Platts assesses coal on an FOB Barge ARA basis. The assessment is published every UK business day and reflects coal for delivery in the next 90-day loading period.

Specifications are:

- typical energy content of 6,000 kcal/kg net calorific value as received coal.
- minimum calorific value of at least 5,800 kcal/kg net as received.
- sulfur content of 1% maximum.

Platts assessments reflect firm bids, offers and transactions where the seller has the obligation to provide a reasonable loading window to the buyer within the contractual period. The seller has the option to declare the loading facility or discharge vessel for onward loading to receiving barge/vessel. The buyer has the obligation to ensure its barge is ready to load in a reasonable and practical time frame with no extra charges if loading occurs from stockpile or vessel. Terminal loading locations considered in the assessment process are Amsterdam, Rotterdam or Antwerp. Such loading facilities must have adequate installations and stocking facilities congruent in the volume of the trade. Buyer must also have access to barges/vessels congruent with its level of purchasing.

FOB barge parcels are generally traded in lots of 5,000 mt on the spot market and assessments are normalized to 5,000 mt cargoes.

The assessment reflects the price of coal in the next 90-day loading period. From the 1<sup>st</sup>-15<sup>th</sup> of the current month the assessment period includes the current month, current month +1 and current month +2. From the 16<sup>th</sup> of the month forward the assessment period consists of current month +1, current month +2 and current month +3.

Trading activity, including bids/offers and transactions, is covered during the typical operating hours of the market with the assessment reflecting market values at 4:30 pm London time.

The market-on-close assessment reflects the tradable value of the commodity at the given points in time, based on repeatable trades, bids and offers transacted up to 4:30 pm London time, fully confirmed within such time without any subjects. In addition, only bids and offers that are raised or lowered in realistic increments are considered.

Confirmed trades are given preference when making the assessment. In the absence of trades, Platts reporters look at firm bids and offers. Finally, if there are no qualified trades in a product and no firm bids and offers in the market, Platts looks at spreads against other products or markets.

Performance is paramount with contracts expected to be performed to mutual satisfaction. Platts regularly cross-checks information and may track delivery of actual cargo shipments. Integrity of the data is critical for market processes and Platts will protect the quality of its assessments by verifying data and removing any sourcing of distorting information.

Platts editors will contact the widest range and largest possible

number of relevant FOB Barge ARA market participants to ensure its assessment accurately reflects current market values. These market participants may include utility companies, traders, coal producers and broking houses.

Platts gathers information from many market sources including electronic trading data, but such information must be verifiable for it to be considered in the assessment process.

## 9. PLATTS DAILY METALLURGICAL COAL ASSESSMENTS

**Daily Metallurgical Coal:** Detailed information on Platts daily spot price assessments for hard coking coal FOB Australia, CFR China and CFR India is available at:

<http://www.platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/metcoalmethod.pdf>

## 10. PLATTS MONTHLY METALLURGICAL COAL ASSESSMENTS

**Availability:** Platts' monthly global metallurgical coal (MetCoal) assessments have been published in *International Coal Report* since April 2009, superseding quarterly assessments started April 2002 published for the same range of met coal markets.

**Methodology:** Assessments are published following editorial engagement with producers, consumers, traders, shippers and other active spot market participants. Traded and tradable values based on bids and offers are used along with editorial judgment to arrive at the published price ranges.

**Frequency:** Assessments are published monthly as of April 2009 prices, based on spot market information collected from active global market sources by 5 pm London time on the last Friday of each prior calendar month. Prior to that, Platts published the assessments quarterly (January, April, July and October), with a historical data series available for the period of April 2002 to January 2009. (Note Platts has since March 15, 2010 also published daily assessments CFR China and FOB Australia and CFR India since July 5, 2010. For more information on these daily assessments, please visit the following link:

<http://www.platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/metcoalmethod.pdf>

**Basis and location:** Seaborne coking coal FOB Hampton Roads (US) and FOB East Coast US (blend); FOB West Coast Canada; FOB News South Wales (NSW) and Queensland, Australia; FOB Poland; FOB Pacific Coast and Baltic Russia; CFR China; FOB South Africa; FOB Indonesia; FOB Colombia; and FOB Venezuela. Loadings and

deliveries from/to terminals in all major coal ports in these locations are considered for assessment.

**Timing:** Cargoes traded for delivery within the next 90 days. Term (contract) prices are not included for assessment.

**Quality:** All coking coal assessments in the pricing table are for hard coking coal except as noted for semi-soft coking coal and PCI. Specifications for volatile matter (Vol., in a range of % content, air dried) and for ash (max %, air dried) and total sulfur (max %, air dried) represent the range of quality characteristics of available coals in the region. Quality specifications do not represent any particular grade or brand of coking coal.

**Volume:** Standard full shipments of hard coking coal, semi-soft coking coal and PCI loaded onto Capesize, Panamax and Handymax vessels. Shipments in smaller vessels than Panamaxes are adjusted to normalize for a Panamax vessel.

**Unit:** All prices are quoted in US dollars per metric ton (\$/mt) including moisture content. Prices are published as a low-high range of the tradable value on the day of publication.

**Contact:** For comments or queries please contact [cokingcoal@platts.com](mailto:cokingcoal@platts.com).

## 11. OTHER INDICES AND PRICING DATA

- **Monthly and Quarterly Averages for Platts' 90-Day Forward Benchmark Assessments:** As an indicator of coal market trends, Platts calculates the mathematical average of its 90-Day Forward Benchmark coal price assessments during two previous months and three previous quarters. Averages include all assessments made within the calendar period; the date of assessment is noted in the column heading of the 90-Day Forward Benchmark Coal Price Assessments. Before August 2006, the averages were calculated using the *ICR* publication date, rather than the day of assessment, as the reference date.
- **Cross-fuel comparisons, US:** *Coal Trader* editors designed these comparisons by tracking major flows of coal, as shown in Department of Energy and Federal Energy Regulatory Commission records, from the Appalachian and Western coal fields, particularly the heavily traded Central Appalachian barge and rail coals and the Western Powder River Basin 8,800 spec coals. The three *Coal Trader* Spark Spreads were renamed effective December 20, 2010; the underlying specifications and methodology were not changed. The spark spread named CAPP barge OTC spark was previously named NYMEX; the spark spread named CAPP rail (CSX) OTC spark was CSX 1%; and the spark spread named PRB 8,800 OTC spark was PRB 8800. Usage

*Coal Outlook*, *Coal Trader*, *International Coal Report*, and *Coal Trader International* welcome all subscriber comments and ideas, particularly on the accuracy and usefulness of the data in these tables. Please don't hesitate to contact us, by e-mail at [coal@platts.com](mailto:coal@platts.com); or by phone at +1-202-383-2190; by fax at +1-202-383-2187; or by post at: 1200 G Street NW, Suite 1000, Washington D.C. 20005. In Europe, you may contact our London office, phone +44-20-7176-6661; fax +44-20-7176-6657; or by post at 20 Canada Square, Canary Wharf, London E14 5LH, UK.

concentrations for coal were matched as closely as possible with hubs where spot trading in natural gas and electricity are active. The regions of Cincinnati, Atlanta and Kansas City were chosen for these comparisons

For each region, *Coal Trader* gives daily price assessments plus a transport adder and a total coal cost including current sulfur dioxide allowances for these three coals, expressed in dollars per ton and per MMBtu. Spot costs for natural gas are provided by *Gas Daily*. In each region, a typical cost per megawatt-hour is calculated for a coal plant with a 10,000 Btu/kWh heat rate and for a gas plant with an 8,000 Btu/kWh heat rate. Coal plants are assumed to have nitrogen oxide emission rates of 0.60 lb/MMBtu with no controls and 0.15 lb/MMBtu with controls. Coal costs are calculated for hypothetical plants needing no allowances, needing SO<sub>2</sub> controls only, and in the May 1-September 30 ozone season, for plants needing NO<sub>x</sub> allowances, with and without NO<sub>x</sub> controls. Plants in Georgia and Missouri are not currently subject to the US government's NO<sub>x</sub> SIP Call program, but hypothetical costs are calculated for readers' information.

The MWh costs, for gas and coal, are compared with the day's spot price in the region's electricity market, as provided by *Megawatt Daily*. Spark spreads are shown for coal needing sulfur allowances, coal not needing allowances, and natural gas in each region. During the ozone season, spark spreads are also shown for coal-burning units needing NO<sub>x</sub> allowances, both with and without NO<sub>x</sub> control equipment.

Priced for the Cincinnati region are the following: CAPP barge OTC spec coal (12,000 Btu/lb, 1% sulfur) plus barge transportation, Columbia Gas Transmission, Appalachia natural gas hub, and Cinergy electricity hub. Priced for the Atlanta region are: CAPP rail (CSX) OTC coal (12,500 Btu/lb, 1% sulfur), plus rail transportation, Transcontinental Gas Pipe Line, zone 3 gas hub, and Into Southern electricity hub. Priced for Kansas City are: PRB 8,800 OTC coal (8,800 Btu/lb, 0.35% sulfur), plus rail transportation, CenterPoint, East gas hub, and Into Entergy electricity hub.

- **Daily Snapshot**, *Coal Trader International*: This summarizes the physical and applicable paper markets, current as of the end of business day preceding the publication date. Coal prices are Platts' assessments. Electricity prices are midpoints of the UK and German prompt month prices from Platts *European Power Daily*, and natural gas prices are midpoints of the prompt month UK and Dutch TTF assessments from Platts *European Gas Daily*. Physical freight prices are weekly quotations provided by Simpson, Spence & Young.
- **German Dark Spread assessments**, *Coal Trader International*: Platts dark spreads are indicative prices giving the average difference between the cost of coal and the equivalent price

of electricity on any given day. Clean dark spreads are indicative prices giving the average difference between the cost of coal and emissions, and the equivalent price of electricity on any given day. Prices are quoted for the German market.

German dark spreads are based on CIF ARA coal assessments and equivalent German electricity assessments. German clean dark spreads are based on CIF ARA coal assessments, equivalent EU emissions Allowances assessments, and equivalent German electricity assessments. For Germany, Platts publishes dark and clean dark spreads for two months ahead, two quarters ahead and two calendar years ahead. The source of all coal prices is Coal Trader International. The sources of all power prices are *European Power Alert* and *European Power Daily*. The source of all emissions prices is *Emissions Daily*.

The formula for German dark and clean dark spreads use an energy conversion factor of 7.1 (converting 1 metric ton of coal into MWh), and a fuel efficiency factor (coal) of 35%. The clean dark spreads use a carbon intensity factor of 0.96.

The full formulas are as follows:

Dark Spread:

Baseload power price in euro– ((coal price in US dollar ÷ exchange rate) ÷ energy conversion factor) ÷ fuel efficiency factor)

Clean Dark Spread:

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)

- **globalCOAL indices**: *Coal Trader International* reports bids and offers forming daily forward curves from globalCOAL, with permission. The globalCOAL curves and weekly indices are for PhysRB1™ (Richards Bay 1) and Phys Newc™ (Newcastle), both standard physical contracts for a minimum of 6,000 kcal/kg NAR coal.
- **Freight indicators**: *Coal Trader International* and *International Coal Report* carry typical spot rates for coal loadings for key routes worldwide courtesy of Simpson, Spence & Young, and current vessel loadings courtesy Lalemant and Skaarup Chartering Corp. All non-Platts freight data is reproduced with the permission of the data provider.
- **US emissions prices**: Platts publishes daily assessments of US emission allowances for sulfur dioxide and nitrogen oxide based on its own market surveys in *Coal Trader*. Platts also publishes weekly and monthly broker-based indices in *Coal Trader* and *Coal Outlook*. For more information on emissions prices, see Platts' Methodology and Specifications Guide for Emissions.

## 12. DISCONTINUED PRICING DATA

- **Coal Industry Markers (CIMs):** Following industry consultation, Platts decided to discontinue the Platts Coal Industry Markers (CIMs) effective October 31, 2010. The CIMs data series was discontinued in the Market Data category CI, but historical data from January 2005 to October 2010 will remain available for reference purposes.

Platts had launched the weekly CIMs in January 2005 on a CIF ARA basis, and on an FOB basis for Richards Bay coal terminal, South Africa, Newcastle, Australia and Kalimantan (5,900 kcal/kg and 5,000 kcal/k), Indonesia.

The CIMs were calculated weekly by taking the mean of the end-of-trading-week (typically Friday) prices, close of business (5 pm) London time, as submitted by industry participants and representing their individual views of the state of the market. Platts editors then calculated the range of the mean plus and minus 1.8 times the data's standard deviation. After all data was checked for validity and any data determined to be non-representative had been discarded, the CIM was then calculated.

At the time of discontinuation of the CIMs, the need for daily pricing had superseded the relevance of the CIMs and consequently Platts launched daily 90-day forward assessments for all of the aforementioned markets on July 26, 2010 (see Section 3).

## International Coal Report and International Coal Trader

### OTC Benchmark Physical Steam Coal Pricing Table

Nation/Area	Basis	Kcal/kg
Europe ARA	CIF NAR	6,000
Richards Bay	FOBT NAR	6,000
Newcastle	FOBT GAR	6,300
Bolivar	FOBT GAR	6,300
Qinhuangdao	FOBT GAR	6,200
Barge ARA	FOBT NAR	5,800-6,000

### PFC-Coal Forward Paper Coal Pricing Table

	Basis	Kcal/kg	Sulfur % max
<b>Atlantic Market</b>			
CIF ARA - Europe	CIF NAR	6,000	<1%
Richards Bay	FOBT NAR	6,000	<1%
<b>Pacific Market</b>			
Newcastle	FOBT GAR	6,300	0.8%

### Coking Coal Pricing Table

Nation/Region	Vol.	Sulfur% (max)	Ash% (max)
<b>United States</b>			
Hampton Roads	17-20	0.8	6.0
	23-25	0.7	7.0
	28-32	0.8	7.0
	34-36	1.0	7.0
East Coast (Blend)	23-30	1.0	8.0
<b>Canada</b>			
West Coast	19-24	0.5	9.0
	25-29	0.5	9.0
	(semi-soft)	20-25	0.6
<b>Australia</b>			
NSW	25-28	0.5	9.0
	(semi-soft)	31-37	0.4
Queensland	17-22	0.7	9.0
	23-30	0.6	9.0
	31+	0.7	7.0
PCI	14	0.5	8.5
<b>Poland</b>			
(semi-soft)	25-31	0.7	7.0
	32-37	1.0	9.0
<b>Russia</b>			
Pacific Coast	17-19	0.6	9.0
	19-21	0.4	9.0
Baltic	28+	0.6	9.0
<b>China</b>			
	23-30	1.0	8.0
	30+	0.8	8.0
<b>South Africa</b>			
PCI	30-35	0.6	10.0
<b>Indonesia</b>			
PCI	36-40	0.5	4.0
<b>Colombia</b>			
PCI	30-35	0.7	8.0
<b>Venezuela</b>			
PCI	30-35	0.8	7.0

### 90-Day Forward Benchmark Physical Steam Coal Pricing Table

Nation/Region	Btu/lb	Kcal/kg	Sulf.% (max)	Ash% (max)
<b>Atlantic Market</b>				
ARA CIF - Europe	10,800	6,000 NAR	1.0	16
<b>Colombia</b>				
Bolivar	11,600	6,450 GAR	0.8	9
	11,300	6,300 GAR	0.8	9
<b>Venezuela</b>				
Maracaibo	12,600	7,000 GAR	0.8	7
<b>Poland</b>				
Baltic	11,300	6,300 GAR	0.8	15
<b>Russia</b>				
Baltic	11,500	6,400 GAR	1.0	16
<b>South Africa</b>				
Richards Bay	11,200	6,000 NAR	1.0	16
<b>Pacific Market</b>				
CIF Japan	10,950	6,080 NAR		
CIF Korea West	10,950	6,080 NAR	1.0	17
<b>Australia</b>				
Gladstone	11,700	6,500 GAR	0.6	12
Newcastle	11,340	6,300 GAR	0.8	13
<b>China</b>				
Qinhuangdao	11,200	6,200 GAR	0.8	10
<b>Indonesia</b>				
Kalimantan	10,600	5,900 GAR	1.0	15
	9,000	5,000 GAR	0.8	8
<b>Russia</b>				
Pacific	11,300	6,300 GAR	0.4	15

## SPECIFICATIONS

### Coal Outlook and Coal Trader

#### Weekly US Price Survey

US Basin	Origin/Product (FOB transport)	Btu/lb	S02 lb /MMBtu	Transport Mode
Northern Appalachia	Pittsburgh Seam	13,000	<3.0	Rail
		13,000	4.0	Rail
	Upper Ohio River	12,500	6+	Barge
Central Appalachia	CAPP barge physical	12,000	1.67	Barge
	CAPP rail (CSX) physical	12,500	1.6	CSX
		12,500	1.2	CSX
	Thacker/Kenova	12,500	1.5	NS
		12,500	1.2	NS
	Big Sandy/Ohio River	12,000	1.2	Barge
Illinois Basin		11,800	5.0	Rail
		11,500	2.5	Rail
		11,000	5.0	Barge
		10,500	6+	Rail
Powder River Basin		8,800	0.80	Rail
		8,400	0.80	Rail
Rocky Mountain	Colorado	11,700	0.80	Rail
		11,000	0.80	Rail
	Utah	11,500	0.80	Rail

#### Petcoke Spot Price Assessments

Origin	Sulfur	HGI
US Gulf	6% - 6.5%	40
	5% - 6%	<50
	4% - 5.5%	50
US West Coast	4%	50
Venezuela	4%	45

**Editor's Note:** All petroleum coke prices are quoted in metric tons

#### Daily OTC Assessments and OTC Hedge Price Monitor

Region	Transport	Btu/lb	S02 Lbs / MMBtu (max)	Sulfur Percent (max)	
<b>Central App.</b>					
	NYMEX look-alike	Barge	12,000	1.67	1.00
	CSX (Big Sandy/Kanawha	Rail	12,500	1.5	<1.00
<b>Powder River Basin</b>					
	Wyoming	Rail	8,800	0.8	0.35
		Rail	8,400	0.8	0.35

#### Platts OTC Broker Index

Region/Product	Transport	Btu/lb	S02 Lbs / MMBtu (max)	Sulfur Percent (max)	
<b>Central App.</b>					
	CAPP barge physical	Barge	12,000	1.67	1.00
	CAPP rail (CSX) OTC	Rail	12,500	1.6	<1.00
<b>Powder River Basin</b>					
	Wyoming	Rail	8,800	0.8	0.35
		Rail	8,400	0.8	0.35
<b>Central App. Spread</b>					
		—	12,500	1.5	1.00
		—	12,500	1.2	0.75