



## ***ARGUS COAL DAILY INTERNATIONAL***

### Contents:

|                                    |   |
|------------------------------------|---|
| Introduction                       | 2 |
| Methodology                        | 2 |
| ARA (Rotterdam area) prices        | 3 |
| Richards Bay prices                | 3 |
| API specifications                 | 3 |
| API Indices                        | 4 |
| Russian prices                     | 4 |
| Cif Marmara                        | 4 |
| Asian assessments                  | 4 |
| Cfr south China prices             | 4 |
| Newcastle prices                   | 5 |
| Americas assessments               | 5 |
| Forward Prices                     | 5 |
| Forward coal assessment roll dates | 5 |
| Shipping Costs                     | 5 |
| Generating Costs                   | 5 |
| UK Spark Spread                    | 5 |
| Germany Spark Spread               | 5 |
| Other information                  | 5 |
| Coking coal                        | 5 |

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The most up-to-date Argus Coal Daily International methodology is available on [www.argusmedia.com](http://www.argusmedia.com)

## Introduction

Argus Media publishes Argus Coal Daily International, Argus Coal Daily, Energy Argus Petroleum Coke, Argus Coal Transportation, Argus/Coalindo Indonesia Coal Index Report and Argus Russian Coal as well as market reports and newsletters on a wide range of energy markets.

### Argus Coal Daily International contains

- daily prices from the over-the-counter physical international coal markets
- daily prices from the forward markets (swaps, etrade and futures exchanges)
- market commentary
- freight rate tables
- spark spread tables
- news on issues that lie behind the market

### International Coal Assessments

Argus Coal Daily International quotes prices for internationally traded bulk coal on the spot market according to the specifications listed in the International Coal Prices table listed below.

These specifications standardise the assessment around key criteria relating to contract basis and location, energy value, timing, sulphur content, basis, size and unit. The cif ARA and fob Richards Bay assessments conform to API specifications (see below).

Argus Coal Daily International price assessments are made in US dollars a metric tonne (tonne).

Argus publishes prices that report and reflect prevailing levels for open-market arm's length transactions (please see the Argus Global Compliance Policy for a detailed definition of arm's length).

### International Coal Prices

| Basis and Location             | Energy value | Timing     | Sulphur    | Basis | Size           | Unit  |
|--------------------------------|--------------|------------|------------|-------|----------------|-------|
| cif ARA                        | 6,000 kcal   | in 90 days | up to 1%   | NAR   | 50,000-150,000 | tonne |
| fob Richards Bay               | 6,000 kcal   | in 90 days | up to 1%   | NAR   | 50,000-150,000 | tonne |
| cif Marmara                    | 6,000 kcal   | in 20 days | up to 1%   | NAR   | 10,000-15,000  | tonne |
| fob Baltic                     | 6,000 kcal   | in 90 days | up to 1%   | NAR   | 45,000-75,000  | tonne |
| fob Vostochny                  | 6,000 kcal   | in 90 days | up to 1%   | NAR   | Panamax        | tonne |
| cif Japan                      | 6,700 kcal   | in 90 days | up to 1%   | ADB   | Panamax        | tonne |
| cif South Korea                | 6,700 kcal   | in 90 days | up to 1%   | ADB   | Panamax        | tonne |
| fob Qinhuangdao                | 5,800 kcal   | in 90 days | up to 1%   | NAR   | Panamax        | tonne |
| fob Qinhuangdao China domestic | 5,500 kcal   | in 90 days | up to 1%   | NAR   | 20,000-50,000  | tonne |
| cfr south China                | 5,500 kcal   | in 90 days | up to 1%   | NAR   | 50,000-150,000 | tonne |
| cfr south China                | 6,000 kcal   | in 60 days | up to 1%   | NAR   | 50,000-150,000 | tonne |
| fob Newcastle                  | 5,500 kcal   | in 90 days | up to 1%   | NAR   | 50,000-150,000 | tonne |
| fob Newcastle                  | 6,000 kcal   | in 90 days | up to 1%   | NAR   | Panamax        | tonne |
| fob Indonesia                  | 6,500 kcal   | in 90 days | up to 1%   | GAR   | Panamax        | tonne |
| fob Indonesia                  | 5,800 kcal   | in 90 days | up to 0.8% | GAR   | Panamax        | tonne |
| fob Indonesia                  | 5,000 kcal   | in 90 days | up to 0.6% | GAR   | Panamax        | tonne |
| fob Indonesia                  | 4,200 kcal   | in 90 days | up to 0.4% | GAR   | Mother Vessel  | tonne |
| fob Indonesia                  | 3,400 kcal   | in 90 days | up to 0.2% | GAR   | Mother Vessel  | tonne |
| fob Puerto Bolivar             | 11,300 Btu   | in 90 days | up to 1%   | GAR   | Panamax        | tonne |

## Abbreviations

- NAR - net as received
- GAR - gross as received
- GAD - gross air dried
- Btu - British thermal units
- ADB - air dried basis
- kcal - kilocalories (1,000 calories)

## Methodology

Argus Coal Daily International publishes price assessments for the international coal markets every working day. A schedule of publication is available at [www.argusmedia.com](http://www.argusmedia.com)

The Argus coal team consists of specialist market reporters/analysts in Singapore, Sydney, Moscow, Johannesburg, London and Washington DC. The team contacts a wide cross section of coal market participants through a telephone survey, instant messenger, and through email communication. A balance is maintained in the survey between sellers of physical coal, utility buyers and trading companies.

The market reporters/analysts record the transactions that are reported and construct a volume weighted average of the transaction prices that meet the assessment criteria listed in the above International Coal Prices table. The transactions are verified and those within the specifications of the International Coal Prices table will influence the final assessment.

The market reporters/analysts ask market participants in the survey whether they have done any trade in international coal, whether they have heard of any trade in international coal, and whether they have received any bids or offers for international coal. The participants are asked where they see the level of prices for coal traded on the bulk international spot market.

The market analysts at Argus then assess the price of the standard specified coal under standard trading contracts that conform to the specifications listed in the international coal table above on the basis of transactions and buy sell estimates. This combination of input eliminates the opportunity for gaming the mechanics of the index.

Argus does not exclusively rely upon transactions to establish market prices. This is to avoid "leverage" - where real transactions for limited volumes of coal are concluded with the intention of creating a price level in an index which then underlies index-linked physical or forward contracts. This is a proven problem with indices in other markets and one which Argus avoids through its tested methodology.

All information received by the Argus market reporters/analysts will be used in making the final assessment. Information on transactions and offers that lie outside the specifications of timing and size and quality will be taken into account but information that lies within the listed specifications of the assessment will be given most weight.

Prices and transactions on the swaps market are not included in the assessments. There is a clear distinction drawn between physical and paper prices for contracts of the same time period.

Deals concluded on electronic trading platforms, such as Global Coal, and via broking houses such as LCB, are included in the assessments of prevailing market prices, provided they meet all relevant criteria for physical coal.

Deals with Flexy Price Structure (FPS) are included in the daily assessment of the cif ARA and fob Richards Bay market. FPS allows the seller to price shipping tolerance on a floating price basis instead of allowing the seller a 10pc (plus or minus) tolerance. Deals with exchange of futures for physical (EFP) are included in the daily assessment provided a fixed physical price is agreed before the trade is broken into two parts.

At times of credit restrictions in the market, buyers and sellers may transact through a third party in the form of a sleeve. In a sleeve, the third party assumes no price risk, and the sleeving costs may be borne by either buyer or seller, or be shared. If buyers and sellers transact via a sleeve and the trade is index relevant, the trade is verified with all counterparties including the sleeving party. If the sleeving costs are not split evenly, or if one counterparty pays all of the sleeving costs – the trade is still verified with all counterparties.

### ARA (Rotterdam area) prices

Argus Coal Daily International averages the buy sell ranges it has identified for cif ARA (Amsterdam-Rotterdam-Antwerp).

Argus compares the weighted transaction price daily for cargoes delivered to ARA with the consensus of the price estimates and publishes an average of these calculations. There has been a recent sustained increase in the number of deals traded on a discharge ex-ship (des) ARA basis. For the purposes of the Argus assessment, des ARA deals are assumed to be equivalent to cif ARA.

Argus constructs a volume weighted average of transactions it records for delivery into the ARA region. This volume weighted average is an element used in the Argus assessment of the coal price. Argus will eliminate information which appears to be “off the consensus” in its final assessment of the price.

### Richards Bay prices

For price assessments of the fob Richards Bay, South Africa physical market Argus Coal Daily International regularly contacts South African producers, lifters of South African coal and international traders. Argus makes separate averages for each type of these market participants to assist in making its final assessment.

Argus also calculates a weighted average of reported transactions traded daily for coal specified in the International Coal Prices table. These averages serve as guides to the prevailing market levels.

Argus will construct a separate weighted transaction average and a consensus of estimates from South African sellers and buyers of South African coal. The final assessment will take a comparison of these levels into account, and does not rely exclusively upon transactions to determine the index.

### API 2 and API 4 specifications

Argus cif ARA and fob Richards Bay assessments standardise to the following specifications.

| Characteristics        | Typical       | Rejection limits                 |
|------------------------|---------------|----------------------------------|
| NCV                    | 6,000 kcal/kg | less than 5850/kcal/kg           |
| Total moisture         | 12-15pc       | more than 15pc                   |
| Ash                    | 11-15pc       | more than 15pc                   |
| Sulphur                | less than 1pc | more than 1pc                    |
| Volatile matter        | 22-37pc       | less than 22pc or more than 37pc |
| Hardgrove grindability | 45-70         | less than 44                     |
| Size range             | 50mm          | -                                |

### API 6 specifications

Argus fob 6,000 kcal/kg Newcastle assessments standardise to the following specifications.

| Characteristics        | Typical       | Rejection limits                 |
|------------------------|---------------|----------------------------------|
| NCV                    | 6,000 kcal/kg | less than 5,700 kcal/kg          |
| Total moisture         | 12-15pc       | more than 18pc                   |
| Ash                    | 11-17pc       | more than 18pc                   |
| Sulphur                | less than 1pc | more than 1pc                    |
| Volatile matter        | 22-37pc       | less than 22pc or more than 37pc |
| Hardgrove grindability | 45-70         | less than 44                     |
| Size range             | 50mm          | -                                |

### API 5 specifications

Argus fob 5,500 kcal/kg Newcastle assessments standardise to the following specifications.

| Characteristics        | Typical       | Rejection limits                 |
|------------------------|---------------|----------------------------------|
| NCV                    | 5,500 kcal/kg | less than 5,300 kcal/kg          |
| Total moisture         | 12-15pc       | more than 15pc                   |
| Ash                    | up to 24pc    | more than 24pc                   |
| Sulphur                | less than 1pc | more than 1pc                    |
| Volatile matter        | 22-37pc       | less than 22pc or more than 37pc |
| Hardgrove grindability | 45-70         | less than 44                     |
| Size range             | 50mm          | -                                |

### API 8 specifications

Argus cfr south China 5,500 kcal/kg assessments standardise to the following specifications.

| Characteristics        | Typical       | Rejection limits            |
|------------------------|---------------|-----------------------------|
| NCV                    | 5,500 kcal/kg | tolerance $\pm$ 200 kcal/kg |
| Total moisture         | max 18pc      | more than 18pc              |
| Ash                    | 11-25pc       | more than 25pc              |
| Sulphur                | less than 1pc | more than 1pc               |
| Volatile matter        | max 40pc      | more than 40pc              |
| Hardgrove grindability | 45-70         | less than 44                |
| Size range             | 50mm          | -                           |
| Disport                | Guangzhou     | -                           |

Argus cfr south China 6,000 kcal/kg assessments standardise to API 2 and API 4 specifications but with a shorter trading window of 60 days.

## API indices

Since 4 January 2010, Argus conducts daily physical market assessments. The Argus cif ARA and fob Richards Bay prices are based 50pc on deals done each day and 50pc on a survey of active market participants.

If no deals are conducted on a day, the price will be based on the market survey and the best bid and best offer. If no best bid and best offer is available, the price will be based on the market survey only.

Deals must match current API specifications. A minimum cargo size of 50,000t, minimum CV of 5,850 kcal/kg (API 6 minimum CV is 5,700 kcal/kg), sulphur less than 1pc etc. Deals must be conducted between 8:30am and 5:30pm London time. If deals are conducted after the 5:30pm deadline they will not be included in the daily assessment.

Trades booked for delivery within the next 90 days are included in the daily assessment. The third month is included in the assessment from the 15th of each month. For example; from 15 March, cargoes for delivery in April, May and June are included in the daily assessment.

Argus will publish the Argus component of the price each day in Coal Daily International. The Argus/McCloskey Price Index Report is published each Friday with an average of the week's prices.

Since 4 May 2010 two new daily (API 2 and API 4) indices have been introduced, alongside the existing weekly indices and month average of the weekly indices. The weekly and monthly averages will continue to be published on the last Friday of the month.

API 2, API 4 and API 6 indices are published exclusively in the Argus/McCloskey Coal Price Index Report and associated data-feeds.

API 2 (cif ARA) is an average of Argus cif ARA and McCloskey's NW European steam coal marker prices.

API 4 (fob Richards Bay) is an average of Argus fob Richards Bay assessment and McCloskey's fob Richards Bay marker prices.

API 5 (fob Newcastle) is an average of the Argus fob Newcastle 5,500 assessment and McCloskey's fob Newcastle 5,500 marker prices.

API 6 (fob Newcastle) is an average of the Argus fob Newcastle assessment as published on Friday and McCloskey's fob Newcastle marker as published on Friday.

API 8 (cfr South China) is an average of the Argus cfr south China 5,500 assessment as published on Friday and McCloskey's cfr south China 5,500 marker as published on Friday.

## Russian prices

The fob Baltic ports assessment is a generic assessment that takes into account handysize and handymax vessels from St Petersburg and other Russian ports as well as panamax vessels from Ventspils, Latvia. This approach is designed to avoid dependency upon a specific port that might not be capable of shipping coal, especially in winter.

For the fob Vostochny assessment, Argus contacts Russian producers, buyers of Russian coal and international traders. Deals must match current specifications including panamax cargo size, typical cv of 6,000 kcal/kg, sulphur less than 1pc etc.

## Cif Marmara

For the price assessment of the cif Marmara physical market Argus contacts Russian and international producers, Turkish buyers and international traders.

Argus also calculates a volume-weighted average of reported transactions traded during the week for coal specified in the International Coal Prices table. Deals must match current specifications including cargo size of less than 5,000t, typical cv of 6,000 kcal/kg and delivery within 20 days.

Argus constructs a weighted transaction average and an average of estimates for its Friday report. This assessment takes both elements into account and does not rely exclusively on transactions to determine the index. This is to eliminate possible manipulation of the index.

## Asian assessments

Separate surveys are made for the Asian and Australian markets. The price assessments are based on information received during the week. The report will be finalised at 6pm London time.

The cif Japan price assessment is constructed by adding the Argus fob Newcastle assessment to the Australia to Japan panamax freight assessment.

The cif South Korea assessment is the lowest landed cost from Australia, China and 6,500 kcal Indonesia calculated by taking the Argus fob Australia, China and Indonesia assessments and adding the respective panamax freights to South Korea.

Argus Coal Daily International shows a matrix of Japan-Korea landed cost comparisons constructed from Argus fob Australia, China and 6,500 kcal Indonesia assessments to which are added the respective panamax freight costs to Japan and South Korea.

## Cfr south China prices

For price assessments of the cfr south China physical market Argus contacts Chinese and international producers, Chinese buyers and international traders. Argus makes separate averages for each type of these participants to assist in making its final assessment.

Argus also calculates a weighted average of reported transactions traded during the week for coal specified in the International Coal Prices table. Deals must match current specifications including a minimum cargo size of 50,000t, typical cv of 5,500 kcal/kg or 6,000 kcal/kg, sulphur less than 1pc etc.

Argus constructs a weighted transaction average and an average of estimates from each type of participant in the cfr south China market for its Friday report. These assessments take both elements into account and do not rely exclusively on transactions to determine the index. This is to eliminate the possibility of manipulation of the index.

## Newcastle prices

For price assessments of the fob Newcastle, Australia physical market Argus Coal Daily International regularly contacts Australian producers, buyers of Australian coal and international traders. Argus makes separate averages for each type of these market participants to assist in making its final assessment.

Argus also calculates a weighted average of reported transactions traded during the week for coal specified in the International Coal Prices table. These averages serve as guides to the prevailing market levels.

Argus constructs a weighted transaction average and an average of estimates from participants in the Newcastle market for its Friday report. This weekly assessment takes both elements into account and does not rely exclusively upon transactions to determine the index. This is to eliminate the possibility of manipulation of the index.

## Americas assessments

A separate survey is made for the markets in the Americas. The price assessments for the Americas are the same as in Argus Coal Daily. A more detailed methodology can be found by consulting the Argus Coal Daily methodology. Prices represent spot prices within the next 90 days of delivery or loading.

## Forward prices

Prices are shown in Argus Coal Daily International for one month, four individual quarters and three annual periods forward for the following contracts:

- cif ARA (Rotterdam) API 2; swap
- fob Richards Bay, South Africa API 4; swap
- implied freight (API 2 minus API 4); swap

The prices are buy sell estimates with a mid-point average. Time stamp for swaps close is 5pm London time.

## Forward coal assessment roll dates

The prompt month rolls on the first working day of the previous month. For example, Argus will start assessing August as the prompt month from the first working day in July.

The prompt quarter rolls on the first working day of the second month of the quarter. For example, Q3 becomes the prompt quarter on the first working day in May and Q4 becomes the prompt quarter on the first working day in August.

The prompt year will roll on the first working day of the first month of the year. So 2013 will become the prompt year on 3 January 2012.

## Shipping costs

Argus Coal Daily International shows freight rates for the main trading routes for cape and panamax vessels to Rotterdam and to certain locations in east Asia.

These freight rates are assessed as a result of communications with leading shipping brokers and international traders of coal.

## Generating costs

Argus Coal Daily International shows spark spreads or the difference between power prices and raw energy prices for the UK and Germany.

## UK spark spread

The UK power price is taken from the Argus European Electricity report. The price is for the first month base load forward contract in the UK over-the-counter market. The coal price is the daily spot price of coal cif Rotterdam from Argus Coal Daily International. The natural gas price is for the first month forward NBP contract from the Argus European Natural Gas report. The fuel oil price is the low sulphur fuel oil spot price cif Rotterdam from the Argus European Products report.

## Germany spark spread

The German power price is taken from the Argus European Electricity report. The price is for the first month base load forward contract in the German over-the-counter market. The coal price is the daily spot price of coal cif Rotterdam from Argus Coal Daily International. The natural gas price is the spot price for front month BEB natural gas taken from the Argus European Natural Gas report. The fuel oil price is the low sulphur fuel oil spot price fob ARA barges from the Argus European Products report.

## Other information

Prices are converted in US dollars a megawatt hour for comparative purposes. The thermal efficiencies in the spark spread model assume 38% for coal, 50% for natural gas and 40% for fuel oil. The heat values conversion factors are standards listed in the IEA publications.

## Coking coal methodology

The Argus coking (metallurgical) coal team consists of specialist market reporters/analysts in Sydney, Beijing, Singapore, Moscow, London and Washington DC, drawing on Argus' global network of energy correspondents.

The team carries out a survey of a wide cross-section of coking coal market participants for a minimum of three times a week via telephone, instant messenger, and through email communication. A balance is maintained in the survey between sellers, buyers and trading companies.

The market reporters/analysts ask market participants in the survey whether they have bought or sold any coking coal, whether they have heard of any trade in coking coal, and whether they have received any bids or offers for coking coal.

The participants are asked where they see the level of prices for coking coal traded on the international spot market.

## Price specifications

All of the coking coal prices refer to deliveries within 90 days from the date of assessment. Except where specified, prices are in US dollars/metric tonne. Argus coking coal assessments standardise to the following specifications:

Information on transactions and offers that lie outside the specifications of timing, size and quality will be taken into account but information that lies within the listed specifications of the assessment will be given most weight. Argus applies editorial judgment to the surveys and will eliminate information that appears to be 'off the consensus' in its final assessment of the price.

### Australia

For price assessments of the fob Australia physical coking coal market Argus contacts Australian producers, buyers of Australian coking coal and international traders.

Argus also calculates a weighted average of any reported transactions traded for coal specified in the coking coal specifications table. These averages serve as guides to the prevailing market levels.

Argus then constructs a weighted transaction average and an average of estimates from participants in the Australian export market. This assessment takes both elements into account and does not rely exclusively upon transactions to determine the index. This is to eliminate the possibility of manipulation of the index.

Argus publishes daily fob Australia coking coal prices and physical prices assessments are conducted a minimum of three times a week.

### China import

Argus assesses the price of seaborne imports of coking coal into northern China.

Argus polls international producers, Chinese end-users and traders in order to arrive at its assessment of import prices.

The primary assessment locations are Rizhao, Qinhuangdao, Jingtang, Qingdao and Caofeidian, although other import locations will be taken into account.

### China domestic

Argus assesses prices in the Chinese domestic coking coal market. This assessment relates solely to coking coal produced within mainland China and sold to domestic Chinese users.

Argus polls Chinese producers, end-users and intermediaries in order to arrive at its assessment of the domestic market. The mini-

um size of trade, bid or offer for inclusion in the Argus assessment process is 5,000t.

The assessment is made primarily in Chinese yuan/t (RMB). It is also shown in US dollars/t for ease of comparison with the import market.

### India import

Since 12 May 2010, Argus assesses the price of seaborne imports of coking coal into the east coast of India.

Argus polls international producers, Indian end-users and traders in order to arrive at its assessment of import prices. The primary assessment locations are Gangavaram, Vishakapatnam, Haldia, Paradip, Chennai, although other relevant import locations will be taken into account.

### Japan

The cif Japan price assessment is constructed by adding the Argus fob Australia assessment to a representative spot Australia to Japan panamax freight assessment.

### United States

Argus assesses prices for coking coal exports from North America via the Port of Hampton Roads on the US East Coast. One high-volatile matter coking coal specification and one low-volatile matter coking coal specification are assessed for prompt 90 days delivery free on board (fob).

Argus polls US producers, US and international traders who deal with exports of US coal to both Atlantic Basin and Pacific Rim markets, buyers of US coal at coking and steel companies, and transport system operators to obtain pricing and market-relevant information on prompt physical sales.

Coal exported from Hampton Roads largely comes from Central and Northern Appalachia. Coking coal sales from other US producing regions and for different delivery periods are taken into account in setting Hampton Roads export prices, but the heaviest weight is given to confirmed prompt physical sales out of the Hampton Roads-located export terminals.

*Latest revision: April 2012*

## Coking coal specifications

| Grade  | Free swelling index (FSI) | Average max. reflectance | Coke Strength after Reaction (CSR) | Sulphur     | Ash       | Total Moisture (TM) | Volatile matter | Size           |
|--|---------------------------|--------------------------|------------------------------------|-------------|-----------|---------------------|-----------------|----------------|
| Coking coal fob Australia                            | 7-9                       | 1.1-1.5%                 | minimum 67                         | up to 0.6%  | up to 10% | up to 10%           | up to 25%       | Panamax        |
| Coking coal cif northern China                       | 7-9                       | 1.1-1.5%                 | minimum 67                         | up to 0.6%  | up to 10% | up to 10%           | up to 25%       | 20,000-80,000t |
| Coking coal China domestic (US\$)                    | 7-9                       | 1.1-1.5%                 | minimum 67                         | up to 0.6%  | up to 10% | up to 10%           | up to 25%       | minimum 5,000t |
| Coking coal China domestic (RMB)                     | 7-9                       | 1.1-1.5%                 | minimum 67                         | up to 0.6%  | up to 10% | up to 10%           | up to 25%       | minimum 5,000t |
| Coking coal cif east coast India                     | 7-9                       | 1.1-1.5%                 | minimum 67                         | up to 0.6%  | up to 10% | up to 10%           | up to 25%       | 20,000-80,000t |
| Coking coal cif Japan                                | 7-9                       | 1.1-1.5%                 | minimum 67                         | up to 0.6%  | up to 10% | up to 10%           | up to 25%       | Panamax        |
| Coking coal fob Hampton Roads US East Coast low vol  | 7-9                       | 1.1-1.5%                 | minimum 70                         | up to 1.25% | up to 10% | 5.75%               | up to 26%       | Panamax        |
| Coking coal fob Hampton Roads US East Coast high vol | less than 7               | less than 1%             | less than 50                       | up to 1.3%  | up to 8%  | max 8%              | up to 31%       | Panamax        |