METHODOLOGY AND SPECIFICATIONS GUIDE

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ARGUS RUSSIAN COAL

Contents:

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The most up-to-date *Argus Russian Coal* methodology is available on www.argusmedia.com

Methodology overview

Methodology rationale

Argus strives to construct methodologies that reflect the way the market trades. Argus aims to produce price assessments which are reliable and representative indicators of commodity market values and are free from distortion. As a result, the specific currencies, volume units, locations and other particulars of an assessment are determined by industry conventions.

In the Russian coal markets, Argus publishes physical market prices in the open market as laid out in the specifications and methodology guide. Argus uses the trading period deemed by Argus to be most appropriate, in consultation with industry, to capture market liquidity.

In order to be included in the assessment process, deals must meet the minimum volume, delivery, timing and specification requirements in our methodology. In illiquid markets, and in other cases where deemed appropriate, Argus assesses the range within which product could have traded by applying a strict process outlined later in this methodology.

Survey process

Argus price assessments are informed by information received from a wide cross-section of market participants, including producers, consumers and intermediaries. Argus reporters engage with the industry by proactively polling participants for market data. Argus will contact and accept market data from all credible market sources including front and back office of market participants and brokers. Argus will also receive market data from electronic trading platforms and directly from the back offices of market participants. Argus will accept market data by telephone, instant messenger, email or other means.

Argus encourages all sources of market data to submit all market data to which they are a party that falls within the Argus stated methodological criteria for the relevant assessment. Argus encourages all sources of market data to submit transaction data from back office functions.

Throughout all markets, Argus is constantly seeking to increase the number of companies willing to provide market data. Reporters are mentored and held accountable for expanding their pool of contacts. The number of entities providing market data can vary significantly from day to day based on market conditions.

For certain price assessments identified by local management, if more than 50pc of the market data involved in arriving at a price assessment is sourced from a single party, the supervising editor will engage in an analysis of the market data with the primary reporter to ensure that the quality and integrity of the assessment has not been affected.

Market data usage

In each market, Argus uses the methodological approach deemed to be the most reliable and representative for that market. Argus will utilise various types of market data in its methodologies, to include:

- Transactions
- Bids and offers
- Other market information, to include spread values between grades, locations, timings, and many other data.

In many markets, the relevant methodology will assign a relatively higher importance to transactions over bids and offers, and a relatively higher importance to bids and offers over other market information. Certain markets however will exist for which such a hierarchy would produce unreliable and non-representative price assessments, and so the methodology must assign a different relative importance in order to ensure the quality and integrity of the price assessment. And even in markets for which the hierarchy normally applies, certain market situations will at times emerge for which the strict hierarchy would produce non-representative prices, requiring Argus to adapt in order to publish representative prices.

Verification of transaction data

Reporters carefully analyse all data submitted to the price assessment process. These data include transactions, bids, offers, volumes, counterparties, specifications and any other information that contributes materially to the determination of price. This high level of care described applies regardless of the methodology employed. Specific to transactions, bids, and offers, reporters seek to verify the price, the volume, the specifications, location basis, and counterparty. In some transactional average methodologies, reporters also examine the full array of transactions to match counterparties and arrive at a list of unique transactions. In some transactional average methodologies, full details of the transactions verified are published electronically and are accessible by subscribers. The deals are also published in the daily report.

Several tests are applied by reporters in all markets to transactional data to determine if it should be subjected to further scrutiny. If a transaction has been identified as failing such a test, it will receive further scrutiny. For assessments used to settle derivatives and for many other assessments, Argus has established internal procedures that involve escalation of inquiry within the source's company and escalating review within Argus management. Should this process determine that a transaction should be excluded from the price assessment process, the supervising editor will initiate approval and, if necessary, documentation procedures.

Primary tests applied by reporters

- Transactions not transacted at arm's length, including deals between related parties or affiliates.
- Transaction prices that deviate significantly from the mean of all transactions submitted for that day.
- Transaction prices that fall outside of the generally observed lows and highs that operated throughout the trading day.
- Transactions that are suspected to be a leg of another transaction or in some way contingent on an unknown transaction.
- Single deal volumes that significantly exceed the typical transaction volume for that market.
- Transaction details that are identified by other market participants as being for any reason potentially anomalous and perceived by Argus to be as such.

- Transaction details that are reported by one counterparty differently than the other counterparty.
- Any transaction details that appear to the reporter to be illogical or to stray from the norms of trading behaviour. This could include but is not limited to divergent specifications, unusual delivery location and counterparties not typically seen.
- Transactions that involve the same counterparties, the same price and delivery dates are checked to see that they are separate deals and not one deal duplicated in Argus records.

Secondary tests applied by editors for transactions identified for further scrutiny

Transaction tests
- The impact of linkage of the deal to possible other transactions such as contingent legs, exchanges, options, swaps, or other derivative instruments. This will include a review of transactions in markets that the reporter may not be covering.
- The nature of disagreement between counterparties on transactional details.
- The possibility that a deal is directly linked to an offsetting transaction that is not publicly known, for example a "wash trade" which has the purpose of influencing the published price.
- The impact of non-market factors on price or volume, including distressed delivery, credit issues, scheduling issues, demurrage, or containment.

Source tests
- The credibility of the explanation provided for the outlying nature of the transaction.
- The track record of the source. Sources will be deemed more credible if they:
  - Regularly provide transaction data with few errors.
  - Provide data by Argus' established deadline.
  - Quickly respond to queries from Argus reporters.
  - Have staff designated to respond to such queries.
- How close the information receipt is to the deadline for information, and the impact of that proximity on the validation process.

Assessment guidelines
When insufficient, inadequate, or no transaction information exists, or when Argus concludes that a transaction-based methodology will not produce representative prices, Argus reporters will make an assessment of market value by applying intelligent judgment based on a broad array of factual market information. Reporters must use a high degree of care in gathering and validating all market data used in determining price assessments, a degree of care equal to that applying to gathering and validating transactions. The information used to form an assessment could include deals done, bids, offers, tenders, spread trades, exchange trades, fundamental supply and demand information and other inputs.

The assessment process employing judgment is rigorous, replicable, and uses widely accepted valuation metrics. These valuation metrics mirror the process used by physical commodity traders to internally assess value prior to entering the market with a bid or offer. Applying these valuation metrics along with sound judgment significantly narrows the band within which a commodity can be assessed, and greatly increases the accuracy and consistency of the price series. The application of judgment is conducted jointly with the supervising editor, in order to be sure that the guidelines below are being followed. Valuation metrics include the following:

Relative value transactions
Frequently transactions occur which instead of being an outright purchase or sale of a single commodity, are instead exchanges of commodities. Such transactions allow reporters to value less liquid markets against more liquid ones and establish a strong basis for the exercise of judgment.

- Exchange one commodity for a different commodity in the same market at a negotiated value.
- Exchange delivery dates for the same commodity at a negotiated value.
- Exchange a commodity in one location for the same commodity at another location at a negotiated value.

Bids and offers
If a sufficient number of bids and offers populate the market, then in most cases the highest bid and the lowest offer can be assumed to define the boundaries between which a deal could be transacted.

Comparative metrics
- The relative values between compared commodities are readily discussed in the market and can be discovered through dialogue with market participants. These discussions are the precursor to negotiation and conclusion of transactions.
- Comparison to the same commodity in another market centre.
- Comparison to a more actively traded but slightly different specification commodity in the same market centre.
- Comparison to the same commodity traded for a different delivery timing.
- Comparison to the commodity's primary feedstock or primary derived product(s).
- Comparison to trade in the same commodity but in a different modality (as in barge versus oceangoing vessel) or in a different total volume (as in full cargo load versus partial cargo load).

Volume minimums and transaction data thresholds
Argus typically does not establish thresholds strictly on the basis of a count of transactions, as this could lead to unreliable and non-representative assessments and because of the varying transportation infrastructure found in all commodity markets. Instead, minimum volumes are typically established which may apply to each transaction accepted, to the aggregate of transactions, to transactions which set a low or high assessment or to other volumetrically relevant parameters.

For price assessments used to settle derivatives, Argus will seek to establish minimum transaction data thresholds and when no such threshold can be established Argus will explain the reasons. These thresholds will often reflect the minimum volumes necessary to produce a transaction-based methodology, but may also establish minimum deal parameters for use by a methodology that is based primarily on judgment.

Should no transaction threshold exist, or should submitted data fall below this methodology's stated transaction data threshold for any reason, Argus will follow the procedures outlined elsewhere in this document regarding the exercise of judgment in the price assessment process.

Transparency
Argus values transparency in energy markets. As a result, where available, we publish lists of deals in our reports that include price, basis, counterparty and volume information. The deal tables allow subscribers to cross-check and verify the deals against the prices. Argus feels transparency and openness are vital to developing confidence in the price assessment process.

Swaps and forwards markets
Argus publishes forward assessments for numerous markets. These include forward market contracts that can allow physical delivery and swaps contracts that swap a fixed price for the average of a floating published price. Argus looks at forward swaps to inform physical assessments but places primary emphasis on the physical markets.

Publications and price data
Argus Russian coal prices are published in the Argus Russian Coal report. Subsets of these prices appear in other Argus market reports and newsletters in various forms. The price data are available independent of the text-based report in electronic files that can feed into various databases. These price data are also supplied through various third-party data integrators. The Argus website also provides access to prices, reports and news with various web-based tools. All Argus prices are kept in a historical database and available for purchase. Contact your local Argus office for information.

A publication schedule is available at www.argusmedia.com

Corrections to assessments
Argus will on occasion publish corrections to price assessments after the publication date. We will correct errors that arise from clerical mistakes, calculation errors, or a misapplication of our stated methodology. Argus will not retroactively assess markets based on new information learned after the assessments are published. We make our best effort to assess markets based on the information we gather during the trading day assessed.

Ethics and compliance
Argus operates according to the best practices in the publishing field, and maintains thorough compliance procedures throughout the firm. We want to be seen as a preferred provider by our subscribers, who are held to equally high standards, while at the same time maintaining our editorial integrity and independence. Argus has a strict ethics policy that applies to all staff. The policy can be found on our website at www.argusmedia.com. Included in this policy are restrictions against staff trading in any energy commodity or energy related stocks, and guidelines for accepting gifts. Argus also has strict policies regarding central archiving of email and instant messenger communication, maintenance and archiving of notes, and archiving of spreadsheets and deal lists used in the price assessment process. Argus publishes prices that report and reflect prevailing levels for open-market arms length transactions (please see the Argus Global Compliance Policy for a detailed definition of arms length).

Consistency in the assessment process
Argus recognises the need to have judgment consistently applied by reporters covering separate markets, and by reporters replacing existing reporters in the assessment process. In order to ensure this consistency, Argus has developed a programme of training and oversight of reporters. This programme includes:

- A global price reporting manual describing among other things the guidelines for the exercise of judgment
- Cross-training of staff between markets to ensure proper holiday and sick leave backup. Editors that float between markets to monitor staff application of best practices
- Experienced editors overseeing reporting teams are involved in daily mentoring and assisting in the application of judgment for illiquid markets
- Editors are required to sign off on all price assessments each day, thus ensuring the consistent application of judgment.

Review of methodology
The overriding objective of any methodology is to produce price assessments which are reliable and representative indicators of commodity market values and are free from distortion. As a result, Argus editors and reporters are regularly examining our methodologies and are in regular dialogue with the industry in order to ensure that the methodologies are representative of the market being assessed. This process is integral with reporting on a given market. In addition to this ongoing review of methodology, Argus conducts reviews of all of its methodologies and methodology documents on at least an annual basis.

Argus market report editors and management will periodically and as merited initiate reviews of market coverage based on a qualitative analysis that includes measurements of liquidity, visibility of market data, consistency of market data, quality of market data and industry usage of the assessments. Report editors will review:

- Appropriateness of the methodology of existing assessments
- Termination of existing assessments
- Initiation of new assessments.

The report editor will initiate an informal process to examine viability. This process includes:

- Informal discussions with market participants
- Informal discussions with other stakeholders
- Internal review of market data

Should changes, terminations, or initiations be merited, the report editor will submit an internal proposal to management for review and approval. Should changes or terminations of existing assessments be approved, then formal procedures for external consultation are begun.

Changes to methodology

Formal proposals to change methodologies typically emerge out of the ongoing process of internal and external review of the methodologies. Formal procedures for external consultation regarding material changes to existing methodologies will be initiated with an announcement of the proposed change published in the relevant Argus report. This announcement will include:

- Details on the proposed change and the rationale
- Method for submitting comments with a deadline for submissions
- For prices used in derivatives, notice that all formal comments will be published after the given consultation period unless submitter requests confidentiality.

Argus will provide sufficient opportunity for stakeholders to analyse and comment on changes, but will not allow the time needed to follow these procedures to create a situation wherein unrepresentative or false prices are published, markets are disrupted, or market participants are put at unnecessary risk. Argus will engage with industry throughout this process in order to gain acceptance of proposed changes to methodology. Argus cannot however guarantee universal acceptance and will act for the good order of the market and ensure the continued integrity of its price assessments as an overriding objective.

Following the consultation period, Argus management will commence an internal review and decide on the methodology change. This will be followed by an announcement of the decision, which will be published in the relevant Argus report and include a date for implementation. For prices used in derivatives, publication of stakeholders' formal comments that are not subject to confidentiality and Argus' response to those comments will also take place.

Introduction

Argus Russian Coal is an English-language publication, which covers the Russian and CIS coal export market and contains weekly prices for Russian export thermal and metallurgical coal. Published each week, the report includes data on coal production, transportation and exports by port and producer. The report also includes domestic consumption information, port throughput data and infrastructure project developments, as well as full commentary and market analysis.

Price assessments

Weekly spot prices

Weekly spot price assessments are published for:

- fob Baltic ports
- fob Vostochny
- fob Vostochny 5,500
- fob Taman
- fob Black Sea – Russian thermal coal fines
- Turkey mini bulk

See the Argus Coal Daily International methodology.

Low-high prices

In addition to the weekly assessments, a low-high range is also published for:

- Fob Baltic ports
- Fob Vostochny
- Fob Vostochny 5,500
- Fob Taman
- Fob Black Sea – Russian thermal coal fines

The published low-high range is the lowest and highest index-relevant survey response received and included in the assessment process.

Note, the published assessment will not necessarily be equal to the average of the published low-high range. See the Argus Coal Daily International methodology for more information.

cfr China (Russian origin), dap Russia-China border

Assessments are based 50pc on a volume-weighted average of deals done and 50pc on a survey of active market participants. In the absence of transactions, the assessment will be based on the market survey and the highest bids and lowest offers received. Bids and offers must be deemed to be representative of the market price for the full delivery or loading period being assessed.

In the absence of both transactions and representative bids and offers, the assessment will be based on the market survey. To merit inclusion in the Argus assessment process, transactions and survey responses must meet standard specification guidelines.

A low-high range is also published as the lowest and highest index-relevant survey response received and included in the assessment process. Note, the published assessment will not necessarily be equal to the average of the published low-high range.

cfr China (Russian origin)

Delivery timing: in two months
Assessment timing: weekly - deals conducted no later than 5.30pm Moscow time. Market information will be accepted until 5.45pm Friday Moscow time
NCV: 5,500kcal/kg NAR basis (< 5,300kcal/kg rejection limit)
Sulphur: < 1pc

Ash: < 23pc
Total moisture: < 18pc
Volatile matter: < 40pc
Size range: 0-50mm (information about 0-300mm product will also be considered for inclusion in the assessment if deemed relevant to the price)
Cargo size: 35,000-150,000t (delivered on Capesize, Panamax or Handysize vessel)

dap Zabaikalsk

Delivery timing: in one month
Assessment timing: weekly - deals conducted no later than 5.30pm Moscow time. Market information will be accepted until 5.45pm Friday Moscow time
NCV: 5,500kcal/kg NAR basis (< 4,900kcal/kg rejection limit)
Sulphur: < 1pc
Ash: < 18pc
Total moisture: < 18pc
Volatile matter: 40-48pc
Size range: 0-50mm (information about 0-300mm product will also be considered for inclusion in the assessment if deemed relevant to the price)
Cargo size: 4,700-10,500t

dap Grodekovo

Delivery timing: in one month
Assessment timing: weekly - deals conducted no later than 5.30pm Moscow time. Market information will be accepted until 5.45pm Friday Moscow time
NCV: 5,500kcal/kg NAR basis (< 4,900kcal/kg rejection limit)
Sulphur: < 1pc
Ash: < 18pc
Total moisture: < 18pc
Volatile matter: 40-48pc
Size range: 0-50mm (information about 0-300mm product will also be considered for inclusion in the assessment if deemed relevant to the price)
Cargo size: 4,700-10,500t

fob Taman netbacks

Argus publishes weekly netback prices for thermal coal shipped from the Russian Black sea port Taman in the Krasnodar region calculated as:

- cif Turkey supra plus NAR 6,000 kcal/kg less the published Taman-Isdemir/Iskenderun time charter freight cost
- cif ARA NAR 6,000 kcal/kg less the published Taman-Rotterdam time charter freight cost
- cfr South Korea NAR 6,080 kcal/kg less the published Taman-South Korea time charter freight cost
- cfr east India NAR 5,500 kcal/kg less the published Taman-east coast India time charter freight cost

See the Argus Coal Daily International methodology for more information on the assessment of international coal prices.

Metallurgical coal

Argus Russian Coal includes weekly price assessments of spot PCI and coking coal prices on a fob Vostochny basis. See the Argus Steelmaking Raw Materials methodology.

Cost of transshipment at ports

Argus monitors changes in the service fees of port terminals for the transshipment of coal from rail to sea transport.

Storage rates and port transshipment rates for coal are established by terminal operators. The analysis of transshipment costs at terminals that ship coal from the ports of Russia and the Baltic states are published four times a year, on the last Monday of January, April, July and October. Argus also publishes monthly averages for handling rates at terminals at each of Ust-Luga, Taman and Vostochny. Monthly average handling rates are published by the 15th of the month.

In the absence of new market information, transshipment costs are left unchanged. Costs are assessed on the basis of discussions with shippers, terminal operators and owners.

Rates are published in US dollars per tonne for:

Far eastern ports
- Vostochny Port
- Vostochno-Uralsky Terminal
- Vanino Commercial Sea Port
- Evraz Nakhodka Commercial Sea Port
- Astafyeva
- Vostochnyye Vorota
- Livadiya
- Vladivostok Sea Fishing Port
- Vladivostok Commercial Sea Port
- Sukhodol
- Daltransugol, Vanino
- Attis
- Dalmormontazh
- Vera

Northwestern ports
- Rosterminalugol, Ust-Luga
- Multipurpose Reloading Complex, Ust-Luga
- ULCT, Ust-Luga
- Ultramar, Ust-Luga
- Lugaport, Ust-Luga
- Murmansk Commercial Sea Port
- Vyborg
- Ventspils (Latvia)

Southern ports
- Novorossiysk
- Tuapse
- Rostov-on-Don
- Temryuk
- Azov

- Taman
- Kavkaz
- Taganrog

Time charter-based freight rates

Argus publishes calculated $/t freight costs based on a weekly assessment of annual time charter rates.

Assessments assume a 68,000t shipment aboard a Panamax vessel or a 160,000t shipment aboard a Capesize vessel and are calculated as:

I = P + B + F + K + Ins

where

- I – the final freight index
- P – port fees at the loading and unloading ports
- B – bunker fuel costs
- F – time charter cost for a round-trip voyage
- K – ship broker commission, assumed to be 2.5pc of the freight cost
- Ins – marine insurance (applies only to Taman-Asia-Pacific routes)

Port fees are evaluated annually.

Relevant bunker fuel prices are published in Argus Marine Fuels – see the Argus Marine Fuels methodology.

Rates are calculated for:

Panamax

Europe, Mediterranean and Black Sea

- Ust-Luga-Rotterdam
- Ust-Luga-Iskenderun
- Taman-Rotterdam
- Taman-Isdemir/Iskenderun
- Ventspils-Rotterdam

Asia Pacific

- Vostochny's Specialised coal terminal (PPK-3)-South Korea
- Vostochny's Specialised coal terminal (PPK-3)-China
- Vostochny's Specialised coal terminal (PPK-3)-Taiwan
- Vostochny's Specialised coal terminal (PPK-3)-Japan
- Vostochny's Specialised coal terminal (PPK-3)-Vietnam
- Taman-west coast India
- Taman-east coast India
- Taman-Vietnam
- Taman-South Korea

Capesize

Europe Mediterranean and Black Sea

- Taman-Eren/Zonguldak
- Taman-Iskenderun

Asia-Pacific

- Vanino-South Korea
- Vanino-China
- Vanino-Taiwan
- Vanino-east coast India
- Vostochny's Specialised coal terminal (PPK-3)-South Korea
- Vostochny's Specialised coal terminal (PPK-3)-China
- Vostochny's Specialised coal terminal (PPK-3)-Taiwan
- Taman-west coast India
- Taman-east coast India
- Taman-South Korea

Voyage freight rates

Argus Russian Coal includes freight rates for Russian coal republished from Argus Dry Freight. See the Argus Dry Freight methodology.

- Taman to Iskenderun 75,000t
- Taman to west coast India 75,000t
- Ust-Luga to China 75,000t
- Ust-Luga to Iskenderun 75,000t
- Ust-Luga to west coast India 75,000t
- Vostochny to north China 75,000t

Thermal coal netbacks

Argus publishes netbacks for thermal coal shipped via Russian and Latvian ports based on the region of production: Kemerovo (Kuznetsk Basin) and Khakassia in Russia, and Karaganda in Kazakhstan.

Netbacks for Russian coal are derived from fob Russian ports prices less transhipment and associated costs, railway tariffs and the cost of coal transportation in open-top railcars. Netbacks for Kazakh coal are derived in a similar manner from the delivered price in the Amsterdam-Rotterdam-Antwerp area (ARA) and from fob Russian ports prices.

In some cases, an adjustment of the delivered ARA price is made to account for differences in energy content and quality.

See the Argus Coal Daily International methodology for more information on the assessment of international coal prices.

Netbacks are published based on spot and forward delivery timings accordingly to the following formulas

Spot netbacks

For the export of Russian coal and of Kazakh coal from the east

Netbacks are calculated based of the price of coal fob Russian ports.

N = P – T – C – R – L

where

- N – netback on an fca region-of-production basis
- P – spot price assessment for thermal coal on a fob Russian port of loading basis
- T – cost of transshipment in the port of loading
- C – associated costs (port agent and independent cargo inspection fees)
- R – railway tariff
- L – cost of coal transportation in open-top railcars

For the export of Kazakh coal

Netbacks for Kazakh coal exported via the Latvian port of Ventspils are calculated based on the assessed and quality-adjusted price of cif ARA coal. Netbacks for Kazakh coal exported via the Russian ports of Ust-Luga and Taman are calculated based on the assessed and quality-adjusted price of fob Ust-Luga and fob Taman coal.

Netback via Ventspils

N = P – D – DIS – F – T – C – R – L

where

- N – netback on an fca region-of-production basis
- P – Argus 6,000 kcal/kg cif ARA spot price assessment
- D – a factor used to account for the difference in energy content between the 5,700 kcal/kg specification of coal being exported via Ventspils and the 6,000 kcal/kg specification in northwest Europe. Calculated as D= P–P/6,000*5,700 or 5pc of the coal price
- DIS – discount for quality, calculated as the weekly average of the difference between Argus 6,000 kcal/kg and 5,700 kcal/kg cif ARA assessments
- F – panamax freight from Ventspils to Rotterdam
- T – cost of transhipment in the port of loading
- C – associated costs (port agent and independent cargo inspection fees)
- R – railway tariff
- L – cost of coal transportation in open-top railcar

Netbacks via Ust-Luga and Taman

N = P – D – T – C – R – L

where

- N – netback on an fca region-of-production basis
- P – Argus 6,000 kcal/kg fob Baltic ports or Argus 6,000 kcal/kg fob Taman spot price assessment
- D – a factor used to account for the difference in energy content between the 5,700 kcal/kg specification of coal being exported via Ust-Luga and Taman and the 6,000 kcal/kg specification in northwest Europe. Calculated as D= P–P/6,000*5,700 or 5pc of the coal price
- T – cost of transhipment in the port of loading
- C – associated costs (port agent and independent cargo inspection fees)
- R – railway tariff
- L – cost of coal transportation in open-top railcar

Forward netbacks

For the export of Kazakh coal via Ventspils

N = P – D – DIS – F – T – C – R – L

where

- N – netback on an fca region-of-production basis
- P – forward price assessment for the cif ARA API 2 swap, 6,000 kcal/kg, as published in Argus Coal Daily International with delivery next month (month +1), during the next three months (the average of months 1-3), over the remainder of the current year, and next year (year+1)
- D – a factor used to account for the difference in energy content between 5,700 kcal/kg specification of coal being exported via Ventspils and the 6,000 kcal/kg specification in northwest Europe. Calculated as D= P–P/6,000*5,700 or 5pc of the coal price
- DIS – discount for quality, calculated as the weekly average of the difference between Argus 6,000 kcal/kg and 5,700 kcal/kg cif ARA assessments
- F – panamax freight from Ventspils to Rotterdam
- T – cost of transhipment in the port of loading
- C – associated costs (port agent and independent cargo inspection fees)
- R – railway tariff
- L – cost of coal transportation in open-top railcar

For the export of Kazakh coal via Ust-Luga and fob Taman

N = P – D – T – C – R – L

where

- N – netback on an fca region-of-production basis
- P – forward price assessment for thermal coal on a fob Baltic ports or fob Taman basis, 6,000 kcal/kg, as published in Argus International Coal Forward Curves, with delivery next month (month +1), during the next three months (the average of months 1-3), during the next six months (the average of months 1-6), over the remainder of the current year, and next year (year+1)
- D – a factor used to account for the difference in energy content between the 5,700 kcal/kg specification of coal being exported via Ust-Luga and Taman and the 6,000 kcal/kg specification in northwest Europe. Calculated as D= P–P/6,000*5,700 or 5pc of the coal price
- T – cost of transhipment in the port of loading
- C – associated costs (port agent and independent cargo inspection fees)
- R – railway tariff
- L – cost of coal transportation in open-top railcar

Netbacks are published in US dollars per tonne ($/t) and rounded to two decimal places. Daily values and weekly averages are available on Argus Direct; weekly averages of the netbacks are also published in the PDF version of the Argus Russian Coal report.

See the Argus International Coal Forward Curves methodology for more information on fob Baltic and fob Taman forward prices.

Calculation of transportation costs

Railway tariffs are based on the tariff policies of Russia and Kazakhstan effective on the date of publication for owned (rented) rolling stock. To assess the tariffs, Argus uses Rail-Tariff, a specialised software programme for railway tariff calculations.

The following assumptions are used for tariff calculations:

- Number of open car axles – four
- Open car capacity – 69t
- Average actual open car load – 69t
- All tariffs are calculated exclusive of VAT with the exception of the tariffs for empty open car return in Russia
- To calculate the cost of full train and empty car return, Argus uses the export railway tariffs for the export of Russian coal for full train (fixed-route dispatch), to the export of Kazakhstan coal (group of wagon dispatch)
- Cost of coal transportation in open-top railcars
- Cost of coal transportation is calculated for individual destinations based on the daily fee for coal transportation in Russian open-top railcars
- Costs are based on information obtained from major operators of freight rolling stock and consumers of their services — energy and coal companies
- The daily fee for coal transportation in open-top railcars in Russia is calculated on a monthly basis and published in the Argus Russian Generation Fuels and Power report

The following base parameters are used for cost assessments:

- Speed of loaded open car in Russia – 550 km/d
- Speed of empty open car return in Russia – 400 km/d
- Speed of loaded open car and empty open car return in Kazakhstan – 330 km/d; in Belarus and Latvia – 200 km/d
- Total delays during tank car loading and discharge – 4 days
- Delay of wagons at the border station – 1 day for loaded and 1 day for empty run for group of wagon dispatch
- The rate includes the costs for running repairs of the rolling stock

Railway stations used to calculate railway tariffs and rent

Export destination / region of production	Kuznetsk basin	Khakassia	Kazakhstan
Far east	Yerunakovo, Kiyzak, Meret		Shubarkol
Black and Azov seas	Yerunakovo, Zaboyschik, Latyshi	Chernogorskiye Kopi, Kamyshta, Tasheba, Abakan	Shubarkol
Baltic and North seas	Yerunakovo, Terentyevskaya, Kaltan		Shubarkol

Exchange rates

For netback calculations Argus uses the Russian rouble rate of the Central Bank of Russia and the Kazakh tenge rate of the National Bank of Kazakhstan published on the date of assessment. For conversion of transshipment and transit costs from euros to US dollars, Argus uses the market rate provided by Interactive Data at 6pm London time.