ARGUS UKRAINIAN OIL PRODUCTS

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The most up-to-date Argus Ukrainian Oil Products 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 Ukrainian oil products 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.
metrics mirror the process used by physical commodity traders and uses widely accepted valuation metrics. These valuation metrics include the following:

- 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 judgement.

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 judgement 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 is 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
Ukrainian oil products prices are published in the Argus Ukrainian Oil Products 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 judgement 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 judgement
- 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 judgement for illiquid markets
- Editors are required to sign-off on all price assessments each day, thus ensuring the consistent application of judgement.

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.

**Price reporting and analysis**

Argus publishes price assessments for domestically produced and imported oil products in the Russian-language daily Argus Ukrainian Oil Products report. 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). The information on deals done, bids and offers is collected from traders, producers, wholesale consumers and other market participants by phone or electronic means of communication throughout the day. All data received are subject to detailed research and verification. Argus will contact and accept market data from all credible market sources including the front and back offices of market participants and brokers. Prices are assessed until 5:30pm Kiev time and the report is distributed after 6:00pm Kiev time. Argus assesses spot and term contract prices separately.

**Imported products prices on Ukrainian border**

Argus publishes price assessments for motor gasoline and diesel.

**General specifications**

- Delivery basis: cif or daf/dap
- 100% prepayment
- Cif prices do not include port charges
- Standard size: 500-2,500t for spot rail
- 1,000-20,000t monthly for long-term rail
- 2,500-10,000t for tanker cargoes
- 500-2,500t for spot pipeline
- 1,000-20,000t monthly for long-term pipeline
- Unit: US dollars per tonne
- Prices do not include Ukrainian excise duty and VAT

**Fuel quality**

**Gasoline A-95 and A-92**

Gasoline A-95 and A-92 imported to the Ukrainian market complies with the Euro 5 standard for auto engines.

**Diesel**

Diesel price assessments are for 10ppm diesel, which complies with the Euro 5 standard.

**Differential pricing**

Imported products are usually priced using formulas linked to international benchmarks. Argus discovers pricing differentials over the course of the trading day, and applies them to latest available international benchmarks published in the previous day’s Argus European Products report.

See the Argus European Products methodology.

**Assessments based on long-term contracts**

**Gasoline A-95 Lithuanian daf Belarus/Ukraine (term)**

Producer: Mazeikiai refinery, Lithuania
Delivery: daf Belarus-Ukraine border
Assessment period: Three days before the shipment date
Prices are assessed by adding a differential to an average of the Argus gasoline 95r 10ppm NWE cif price assessment as published in Argus European Products over the last three working days. The differential is assessed based on trades, bids and offers.

**Gasoline A-95 Belarusian dap Slovechno/Berezhest (term)**

Producer: Mozyr refinery
Delivery: dap Slovechno (Belarus)/Berezhest (Ukraine)
Assessment period: the month to date
Prices are assessed by adding a differential to an average of the Argus Eurobob oxy NWE barge price assessment as published in Argus European Products since the beginning of the calendar month. The differential is assessed based on trades, bids and offers.
**Methodology and Specifications Guide**

**Imported products assessments**

<table>
<thead>
<tr>
<th>Product origin</th>
<th>Basis</th>
<th>Gasoline A-95</th>
<th>Gasoline A-92</th>
<th>Diesel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belarus</td>
<td>dap Slovechno (Belarus)/Berezhest (Ukraine)</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Lithuania</td>
<td>daf Belarus/Ukraine</td>
<td>X</td>
<td>–</td>
<td>X</td>
</tr>
<tr>
<td>Any, delivered by sea</td>
<td>cif Ukrainian ports</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Russia</td>
<td>ddu Novograd-Volynsky</td>
<td>–</td>
<td>–</td>
<td>X</td>
</tr>
</tbody>
</table>

**Gasoline A-92 Belarusian dap Slovechno/Berezhest (term)**

Producer: Mozyr refinery
Delivery: dap Slovechno (Belarus)/Berezhest (Ukraine)
Assessment period: the month to date
Prices are assessed by adding a differential to an average of the Argus Eurobob oxy northwest Europe barge price assessment as published in Argus European Products since the beginning of the calendar month. The differential is assessed based on trades, bids and offers.

**Diesel 10ppm Belarusian dap Slovechno/Berezhest (term)**

Producer: Mozyr and Novopolotsk refineries
Delivery: dap Slovechno (Belarus)/Berezhest (Ukraine)
Includes trade on the Electronic Trading System of Belarus’ state-owned refining concern Belneftekhim, and trade done outside of the Electronic Trading System
Assessment period: the month to date
Prices are assessed by adding a differential to an average of the average of the diesel French 10ppm cif northwest Europe cargoes and diesel German 10ppm northwest Europe barges price assessments as published in Argus European Products since the beginning of the calendar month. The differential is assessed based on trades, bids and offers.

**Diesel 10ppm Lithuanian dfb Belarus/Ukraine (term)**

Producer: Mazeikiai refinery
Delivery: dfb Belarus-Ukraine border
Assessment period: three days before the loading date
Prices are assessed by adding a differential to an average of the diesel French 10ppm cif northwest Europe cargoes price assessment as published in Argus European Products over the last three working days. The differential is assessed based on trades, bids and offers.

**Diesel 10ppm Russian ddu Novograd-Volynsky (term)**

Russian diesel ddu, supplied by pipeline by term contracts between foreign suppliers and Ukrainian importers
Prices are assessed by adding a differential to an average of the diesel French 10ppm fob west Mediterranean barges price assessment as published in Argus European Products since the beginning of the calendar month. The differential is assessed based on trades, bids and offers.

**Spot assessments**

**Gasoline A-95 Belarusian dap Slovechno/Berezhest**

Delivery: dap Slovechno (Belarus)/Berezhest (Ukraine)
Includes trade on the Electronic Trading System of Belarus’ state-owned refining concern Belneftekhim, and trade done outside of the Electronic Trading System.

**Gasoline A-92 Belarusian dap Slovechno/Berezhest**

Delivery: dap Slovechno (Belarus)/Berezhest (Ukraine)
Includes trade on the Electronic Trading System of Belarus’ state-owned refining concern Belneftekhim, and trade done outside of the Electronic Trading System.

**Diesel 10ppm Belarusian dap Slovechno/Berezhest**

Producer: Mozyr and Novopolotsk refineries
Delivery: dap Slovechno (Belarus)/Berezhest (Ukraine)
Includes trade on the Electronic Trading System of Belarus’ state-owned refining concern Belneftekhim, and trade done outside of the Electronic Trading System.

**Diesel 10ppm Russian ddu Novograd-Volynsky**

Russian diesel ddu, supplied by pipeline.

**Diesel 10ppm cif Ukrainian ports**

Delivery: cif Ukrainian ports
Assessment period: three days before the shipment date
Specification: Diesel complies with the Euro 5 auto engine standard, with base density units 835-840
Prices are assessed by adding a differential to an average of the diesel French 10ppm fob west Mediterranean barges price assessment as published in Argus European Products since the beginning of the calendar month. The differential is assessed based on trades, bids and offers.
Differentials to European price assessments

In addition to outright price assessments, Argus publishes price differentials to European benchmarks.

As differentials to gasoline Eurobob oxy northwest Europe barges

- Gasoline A-95 Lithuanian daf Belarus/Ukraine (term)
- Gasoline A-95 Belarusian dap Slovechno/Berezhest (spot and term)
- Gasoline A-92 Belarusian dap Slovechno/Berezhest (spot and term)

As a differential to the mean of diesel French 10ppm cif northwest Europe cargoes and diesel German 10ppm northwest Europe barges

- Diesel 10ppm Belarusian dap Slovechno/Berezhest (spot and term)

As a differential to diesel French 10ppm cif northwest Europe cargoes

- Diesel 10ppm Lithuanian daf Belarus/Ukraine (term)

As a differential to diesel French 10ppm fob west Mediterranean barges

- Diesel 10ppm Russian ddu Novograd-Volynsky (spot and term)
- Diesel 10ppm cif Ukrainian ports

Differentials to European price assessments

Trade in non-standard product will be taken into account in the assessment based on the market’s valuation of the trade relative to the standard product.

Differential to European price assessments

In addition to outright price assessments, Argus publishes price differentials to European benchmarks.

As differentials to gasoline Eurobob oxy northwest Europe barges

- Gasoline A-95 Lithuanian daf Belarus/Ukraine (term)
- Gasoline A-95 Belarusian dap Slovechno/Berezhest (spot and term)
- Gasoline A-92 Belarusian dap Slovechno/Berezhest (spot and term)

As a differential to the mean of diesel French 10ppm cif northwest Europe cargoes and diesel German 10ppm northwest Europe barges

- Diesel 10ppm Belarusian dap Slovechno/Berezhest (spot and term)

As a differential to diesel French 10ppm cif northwest Europe cargoes

- Diesel 10ppm Lithuanian daf Belarus/Ukraine (term)

As a differential to diesel French 10ppm fob west Mediterranean barges

- Diesel 10ppm Russian ddu Novograd-Volynsky (spot and term)
- Diesel 10ppm cif Ukrainian ports

Domestic price assessments

Argus publishes prices for the following bases:

Gasoline fca Kagamlykskaya (Kremenchug refinery)
Gasoline A-95 and gasoline A-92, which comply with the Euro 5 standard for auto engines.

Gasoline cpt Korosten
Producers: Belarusian refineries
Gasoline A-95 and gasoline A-92 which comply with Euro 5 standard for auto engines.

Gasoline fca Shebelinka (Shebelinka gas processing plant)
Gasoline A-95 and gasoline A-92 which comply with the Euro 5 standards for auto engines

Gasoline A-95 fca North-West Ukraine
Producer: the Mazeikiai refinery
Gasoline A-95, which complies with the Euro 5 standard for auto engines.

Diesel fca North-West Ukraine (up to 10ppm)
Producer: the Mazeikiai refinery

Diesel fca Kagamlykskaya (Kremenchug refinery, up to 10ppm)

Diesel fca Shebelinka (Shebelinka gas processing plant, up to 10ppm)

Diesel fca Novograd-Volynsky (up to 10ppm)
Producers: Russian refineries

Diesel cpt Korosten (up to 10ppm)
Producers: Mozyr and Novopolotsk refineries

Diesel fot Ukrainian ports (up to 10ppm)
Producers: Mediterranean, Black Sea and Caspian countries refineries
Argus will continue to track diesel shipments by rail. In the case that rail shipments of diesel resume, their prices will be taken into consideration when forming the assessment.

Domestic market prices

General specifications

Delivery: within 1-7 days, basis fca railway station
100pc prepayment
Cargo size: 60-600t
Unit: hryvnas per tonne
If there is more than one offer from the same refinery, the assessment is of the lowest price available for the maximum number of buyers.
Assessments are published as high and low prices, within which trades could have occurred.

Prices will not be published when sufficient information is unavailable.

Fuel quality

Ukrainian gasoline quality usually complies with DSTU 7687:2015, and diesel with DSTU 7688:2015.
Netback prices
In addition to domestic and imported cargo prices, Argus calculates netback price indexes for diesel and gasoline exports from Russian and Belarusian refineries towards Ukraine and northwest Europe (through Ventspils).

The methodologies for European products and freight rates assessments are available at www.argusmedia.com

Northwest Europe
Netbacks for the northwest Europe market are calculated daily according to the formula:

\[ N = P - F - D - S \]

Where
- \( N \) – netback index
- \( P \) – price assessment for oil products in northwest Europe
- \( F \) – cost of seaborne transportation (including the cost of sea transportation for 30,000t clean product tankers on the Ventspils-Rotterdam route, cargo insurance and additional charges excluding transit).
- \( D \) – Russian/Belarusian export duty
- \( S \) – cost of loading, storage and transportation of oil product, including transit

fca Novograd-Volynsky and cpt Korosten
Netbacks from fca Novograd-Volynsky and cpt Korosten basises are calculated daily according to the formula:

\[ N = P - T - D - S - ID \]

Where
- \( N \) – netback index
- \( P \) – oil product quotation in Ukraine
- \( T \) – Ukrainian taxes (VAT and excise tax)
- \( D \) – Russian/Belarusian export duty
- \( S \) – cost of loading, storage and transportation of oil product, including transit
- \( ID \) – import duty on Russian diesel

dap Slovechno
Netbacks from dap Slovechno basis are calculated daily according to the formula:

\[ N = P - D - S \]

Where
- \( N \) – netback index
- \( P \) – oil product assessment on the border point Slovechno (Belarus)/Berezhest (Ukraine)
- \( D \) – Belarusian export duty
- \( S \) – cost of transportation of oil product, including transit

ddu Novograd-Volynsky
Netbacks from ddu Novograd-Volynsky basis are calculated daily according to the formula:

\[ N = P - D - S \]

Where
- \( N \) – netback index
- \( P \) – oil product quotation on the Ukrainian market (excluding taxes) in USD
- \( D \) – Russian export duty
- \( S \) – cost of transportation of oil product, including transit

All components of the formula are prices and rates effective on the date of the base assessment. When calculating the netback index for all oil products, the export duty for the current month is used.

Cost of transportation calculation

Railways
The railway tariff calculation is based on the tariff policy of the CIS and Baltic countries effective on the date of publication for net tonnage. Argus uses specialised software for tariff calculations, such as Polus and Rail-Tarif.

The following assumptions are used for tariff calculations:

- oil product tank car load – 60t;
- speed of loaded tankcar – 550 km/d for oil products;
- speed of empty rail tankcar return – 330 km/d;
- delays during tankcar loading and discharge for oil products – four days;
- delay on each border station – one day.

Loading at port terminals
The information on loading prices is collected from terminal operators and cargo owners. The costs of loading operations are assessed in the January and July editions of Argus Neftetransport. Loading prices include the railway or pipeline transit tariff. Argus assesses the cost of diesel loading from terminal operators and cargo owners as well. The prices are renewed in January.

Foreign exchange
For netback calculations for supplies to Ukraine, Argus uses the Ukrainian hryvna to euro rate provided by the National Bank of Ukraine, the prevailing selling rate in the Ukrainian interbank market to convert US dollars into Ukrainian hryvnia as well as the Russian rouble rate provided by the Central Bank of Russia. For euro and US dollar rates, Argus uses the market rate provided by Interactive Data for 6:00pm London time.

Motor fuel cost indexes
Cost indexes, normalised to Ukrainian domestic prices for gasoline and diesel imported into Ukraine from Belarus, Lithuania, Russia, the Black Sea and Mediterranean regions. Indexes include the production cost of gasoline and diesel purchased under long-term contracts and in the spot market.

Indexes are assessed daily using the following formula:

\[ I = P + N + T \]
Where
I - price of imported gasoline or diesel (cpt Korosten, Sarny, Novograd-Volynsky and fot Ukrainian seaports)
P - prices for imported motor fuels daf Belarusian-Ukrainian border (individually for Belarusian and Lithuanian fuels), ddu Novograd-Volynsky (for Russian diesel) or cif Ukrainian ports (published in the Argus Ukrainian Motor Fuels report)
N - tax rates (VAT, excise duty). The excise duty rate is calculated in euros per 1,000 litres and converted to tonnes at the reference values of gasoline and diesel density. For diesel, Argus uses a density of 835 kg/m³, for A-92 and A-95 gasoline, 745 kg/m³
T = railway tariffs and other costs for transportation of oil products from the border crossing to an inland railway station in Ukraine. The calculation of railway tariffs uses the inventory railcar fleet (the fleet of wagons is owned by the railway, not by private owners).
The following assumptions are made for railway tariff calculation:
The rail tankcar has four axles, the load-bearing capacity of a product tankcar is 60t, the actual average tankcar load is 60t, regardless of the type of oil cargo.

All tariffs are assessed inclusive of VAT.

Argus also assesses the implied margin of Ukrainian importers for wholesale of oil products in large cargoes. The calculation is made by deducting the cost indexes from the assessed price of gasoline and diesel published in Argus Ukrainian Oil Products for the same terms of delivery.

Foreign exchange
Price assessments denominated in US dollars are converted into Ukrainian hryvnia at the prevailing selling rate in the Ukrainian inter-bank market. The excise duty rate assessed in Ukraine in euros is converted into hryvnia at the exchange rate of the National Bank of Ukraine, published on the date of assessment.

International market prices
International prices for gasoline and diesel are published in the Argus European Products daily report. Please see the Argus European Products methodology.
## Netback calculation components

<table>
<thead>
<tr>
<th>Product</th>
<th>Price assessment</th>
<th>Freight</th>
<th>Additional costs</th>
<th>Trans-shipment</th>
<th>Export duty</th>
<th>Tariff outside the country of origin</th>
<th>Tariff in the country of origin</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10ppm diesel</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Northwest Europe (from Russia)</td>
<td>Diesel French 10ppm cif NWE</td>
<td>Ventspils-Rotterdam (30,000t)</td>
<td>Insurance, Rotterdam port charges</td>
<td>Ventspils</td>
<td>Current month</td>
<td>Belarus, Lithuania</td>
<td>Pipeline</td>
</tr>
<tr>
<td>Ukraine (from Russia)</td>
<td>Diesel 10ppm ddu Novograd-Volynsky</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Current month</td>
<td>Belarus, Ukraine</td>
<td>Pipeline</td>
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<td>Ukraine (from Russia)</td>
<td>Diesel 10ppm fca Novograd-Volynsky</td>
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<td>-</td>
<td>Current month</td>
<td>Belarus, Ukraine</td>
<td>Pipeline</td>
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<td>Northwest Europe (from Belarus)</td>
<td>Diesel French 10ppm cif NWE</td>
<td>Ventspils-Rotterdam (30,000t)</td>
<td>Insurance, Rotterdam port charges</td>
<td>Ventspils</td>
<td>Current month</td>
<td>-</td>
<td>Railway</td>
</tr>
<tr>
<td>Ukraine (from Belarus)</td>
<td>Diesel 10ppm ddp Slovechno/Berezhest</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Current month</td>
<td>Ukraine</td>
<td>Railway</td>
</tr>
<tr>
<td>Ukraine (from Belarus)</td>
<td>Diesel summer/winter 10ppm cpo Korosten</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Current month</td>
<td>Ukraine</td>
<td>Railway</td>
</tr>
</tbody>
</table>

### Gasoline 92 Ron

<table>
<thead>
<tr>
<th>Product</th>
<th>Price assessment</th>
<th>Freight</th>
<th>Additional costs</th>
<th>Trans-shipment</th>
<th>Export duty</th>
<th>Tariff outside the country of origin</th>
<th>Tariff in the country of origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest Europe (from Belarus)</td>
<td>Gasoline 91R cif NWE</td>
<td>Ventspils-Rotterdam (30,000t)</td>
<td>Insurance, Rotterdam port charges</td>
<td>Ventspils</td>
<td>Current month</td>
<td>-</td>
<td>Railway</td>
</tr>
<tr>
<td>Ukraine (from Belarus)</td>
<td>Gasoline A-92 ddp Slovechno/Berezhest</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Current month</td>
<td>Ukraine</td>
<td>Railway</td>
</tr>
<tr>
<td>Ukraine (from Belarus)</td>
<td>Gasoline A-92 cpo Korosten</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Current month</td>
<td>Ukraine</td>
<td>Railway</td>
</tr>
</tbody>
</table>

### Gasoline 95 Ron

<table>
<thead>
<tr>
<th>Product</th>
<th>Price assessment</th>
<th>Freight</th>
<th>Additional costs</th>
<th>Trans-shipment</th>
<th>Export duty</th>
<th>Tariff outside the country of origin</th>
<th>Tariff in the country of origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest Europe (from Belarus)</td>
<td>Gasoline 95R cif NWE</td>
<td>Ventspils-Rotterdam (30,000t)</td>
<td>Insurance, Rotterdam port charges</td>
<td>Ventspils</td>
<td>Current month</td>
<td>-</td>
<td>Railway</td>
</tr>
<tr>
<td>Ukraine (from Belarus)</td>
<td>Gasoline A-95 ddp Slovechno/Berezhest</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Current month</td>
<td>Ukraine</td>
<td>Railway</td>
</tr>
<tr>
<td>Ukraine (from Belarus)</td>
<td>Gasoline A-95 cpo Korosten</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Current month</td>
<td>Ukraine</td>
<td>Railway</td>
</tr>
</tbody>
</table>