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The most up-to-date Argus Biofuels 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 indicators of commodity market values, free from distortion and representative of spot market values. As a result, the specific currencies, volume units, locations and other particulars of an assessment are determined by industry conventions.

In the European biofuels market, Argus publishes physical market prices in the open spot 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 spot 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, 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, Argus Open Markets® (AOM®) and directly from the back offices of market participants. Argus will accept market data by telephone, instant messenger, email, AOM 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. This data includes 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.

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
As insufficient, inadequate, or no transaction information may exist in the biofuels markets, 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, replicatable, 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 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 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.
• Analysis of prices in forward markets for a physically deliverable commodity that allow extrapolation of value into the prompt timing for the commodity assessed.
• 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
Because of the varying transportation infrastructure and varying specifications traded for different European markets, Argus does not establish thresholds on the basis of a count of transactions, or volumes traded in biofuel markets, as this would lead to unreliable and non-representative assessments. Argus will typically use comparative metrics (as defined above) and relative value transactions to determine price assessments in the absence of confirmed transaction data. As no transaction threshold exists, Argus follows the procedures outlined elsewhere in this document regarding the exercise of judgment 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 biofuels prices for Europe are published in the Argus Biofuels report. 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.

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 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 recognizes 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 indicators of commodity market values, free from distortion and representative of spot market values. 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 physical market being assessed. This process is integral with reporting on a given market. In addition to this ongoing review of methodology, Argus conduct 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 submis-sions
- 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 assessments — introduction**

Argus Biofuels is a daily market report that publishes prices and market commentary on the international bulk spot market for biofuels. Argus Biofuels contains price assessments for different types of spot contracts at specified locations. The market commentary is on the main regional market at Rotterdam.

The assessed prices are based on prices from the open spot market whenever possible.

All assessments and formulas refer to the price of the product on the day of the published report and are expressed in US dollars unless otherwise stated. The prices are for contracts under whatever general terms and conditions are accepted as standard and prevailing in that particular market. Price changes refer to the last published report.

**Timing**

Price assessment times are as outlined below except on the last publication day before holidays listed in the publishing schedule or announced in the publication. On those days, prices are assessed at 12:30pm local time. For prices with an assessment period, that period advances to 12:00pm-12:30pm local time.

**Currency**

All euro and pound sterling to US dollar conversions use rates at 4:00pm London time on the day of publication. All Malaysian ringgit to US dollar conversions use rates at 11:00am London time on the day of publication. All Chinese yuan to US dollar conversions use rates at 4:00pm London time the day before publication.

**Argus Open Markets**

Argus Open Markets (AOM) is a web-based platform enabling market participants to post bids and offers and initiate trade for physical commodities in real time on the spot market.

In biofuels, AOM is available for:

- RED rapeseed OME fob ARA range
- RED Fame 0°C CFP fob ARA range
- RED UCOME fob ARA range
- RED HVO fob ARA range (Class I)
- RED HVO fob ARA range (Class II)
- RED HVO fob ARA range (Class III)
- RED T2 Ethanol fob ARA range, inc duty
- RED T2 premium Ethanol fob ARA range, inc duty
- RED UCO fob ARA range
- RED UCOME fob China bulk
- RED UCOME fob strait of Malacca bulk
- UCO fob China bulk
- Premium UCO fob China bulk
- UCO fob strait of Malacca bulk

Related price assessments are typically assessed as a volume-weighted average of deals done within Argus criteria and reported on the Argus Open Markets platform.

At times, trade initiated on AOM may occur at a price that is neither the best bid nor best offer available on AOM at the time. This may occur because of credit restrictions, logistics, because of the speed of market activity, or for other reasons.

Such trades are subject to additional scrutiny to determine why they were initiated at a price other than the best bid or best offer on AOM at the time. Argus may, when possible, normalise the price of such transactions using the most competitive bid or offer on AOM at the time when doing so would produce an assessment more reflective of market conditions.

Note, AOM users attempting to initiate trade at a price that is neither the best bid nor the best offer price available on AOM at that time will be alerted to this fact by the platform.

For the avoidance of doubt, all trade is subject to scrutiny before acceptance for inclusion in the relevant assessment.

Assessments are based on information according to the following hierarchy:

1. Confirmed trade conducted via Argus Open Markets that meets the Argus specifications, timing and location criteria
2. Confirmed trade conducted outside of Argus Open Markets that meets the Argus specifications, timing and location criteria that are reported via Argus Open Markets
3. Confirmed bids and offers conducted via Argus Open Markets that meet Argus specifications, timing and location criteria
4. Bids and offers conducted outside of Argus Open Markets that meet the Argus specifications, timing and location criteria
5. Other market information including but not limited to bids, offers and trades for other volumes, timing and locations, forward markets and arbitrage economics

In the event that Argus Open Markets is unavailable, Argus reserves the right to alter the above hierarchy in the interest of producing an accurate price assessment.
Europe

RED rapeseed OME fob ARA range
Rapeseed oil methyl ester meeting EN14214 specification
If the EN14214 specification differs from the Argus specification listed below, the Argus specification takes precedence.
EU duty free or EU duty paid
Currency/Unit: US dollars/tonne
Timing: barges loading 7-28 days forward of the day of assessment
Location: fob ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht, Flushing and Ghent
Basis: assessed as a differential to 7-28 day Ice gasoil, calculated on the day of assessment as the average of settlement prices for the first or first and second forward month ICE gasoil contract, weighted by the number of Argus publishing days in the 7-28 day loading period
Size: 1,000t, barge shipping tolerance of +/-2pc at buyer’s option
Cold filter plugging point: -13°C or lower
Pour point: between -9°C and -18°C
Water content: 300ppm
Additives: product must not contain additives with the exception of oxidation stabilisers

Typical properties: the following properties are expected for rapeseed OME
- Iodine value: 105-114g iodine/hg
- Saturated methyl ester: max 8pc m/m (gram of component per 100g sample)
- FAME composition in which the C18:1/C18:2 ratio is 3 or above and C18:1/C16:0 ratio is 13 or above

Market participants initiating trades on the Argus Open Markets platform acknowledge that small deviations from these standards are possible and that only a combination of test results indicating blended product will be considered as off specification.

Certificate of analysis: product must be accompanied by a Certificate of Analysis from accredited inspectors with information including CFPF, pour point, iodine value, saturated methyl ester content and FAME composition

Certification: material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body

GHG savings: 60pc greenhouse gas savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ.

Assessment time: 4.00pm to 4.30pm London time

Terms and conditions: trades are conducted under standard industry-acceptable terms and conditions (for example those of BP, Shell and Total) or other pre-agreed terms and conditions

Proof of sustainability: trades must be accompanied by non-palm oil proof of sustainability and must include only standard industry-acceptable proof of sustainability clauses (for example, those of BP and Shell) in compliance with the EU RED.

Argus reserves the right to exclude from the assessment process trades accompanied by restrictive terms of Proof of Sustainability (POS). Documentation of POS or sustainability declaration must be transferred between counterparties within 20 working days after bill of lading.

Payment: must be made within 5 calendar days after the bill of lading

RME-FAME: For the purposes of price assessment it is assumed that RED rapeseed OME fob ARA can replace FAME 0°C CFPF.

Accordingly, the published RED rapeseed OME fob ARA price assessment will never fall below parity with the FAME 0°C CFPF price assessment published in Argus Biofuels. If the assessment process results in a RED rapeseed OME fob ARA price that is below the contemporaneous assessment of FAME 0°C CFPF fob ARA, the RED rapeseed OME fob ARA AND THE FAME 0°C price assessments will be equal. Note, in this event, the less liquid of the two prices will be adjusted to meet the price of the more liquid market.

RED FAME 0°C CFPF fob ARA range
Fatty acid methyl ester meeting EN14214 specification
If the EN14214 specification differs from the Argus specification listed below, the Argus specification takes precedence.
EU duty free or EU duty paid
Currency/Unit: US dollars/tonne
German-mandate compliant: any feedstock in line with § 37b of the “Bundes-Immissionsschutzgesetz” and “Biomasseverordnung”
Timing: barges loading 7-28 days forward of the day of assessment
Location: fob ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht, Flushing and Ghent
Basis: assessed as a differential to 7-28 day Ice gasoil, calculated on the day of assessment as the average of settlement prices for the first or first and second forward month ICE gasoil contract, weighted by the number of Argus publishing days in the 7-28 day loading period
Size: 1,000t, barge shipping tolerance of +/-2pc at buyer’s option
Cold filter plugging point: 0°C
Water content: 350ppm

Certification: material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body

GHG savings: 60pc greenhouse gas savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ.

Assessment time: 4.00pm to 4.30pm London time

Terms and conditions: trades are conducted under standard industry-acceptable terms and conditions (for example those of BP, Shell and Total) or other pre-agreed terms and conditions

Proof of sustainability: trades must be accompanied by non-palm oil proof of sustainability and must include only standard industry-acceptable proof of sustainability clauses (for example, those of BP and Shell) in compliance with the EU RED.

Argus reserves the right to exclude from the assessment process trades accompanied by restrictive terms of Proof of Sustainability (POS). Documentation of POS or sustainability declaration must be transferred between counterparties within 20 working days after bill of lading.

Payment: must be made within 5 calendar days after the bill of lading

RME-FAME: For the purposes of price assessment it is assumed that RED rapeseed OME fob ARA can replace FAME 0°C CFPF.

Accordingly, the published RED rapeseed OME fob ARA price assessment will never fall below parity with the FAME 0°C CFPF price assessment published in Argus Biofuels. If the assessment process results in a RED rapeseed OME fob ARA price that is below the contemporaneous assessment of FAME 0°C CFPF fob ARA, the RED rapeseed OME fob ARA AND THE FAME 0°C price assessments will be equal. Note, in this event, the less liquid of the two prices will be adjusted to meet the price of the more liquid market.
RED UCOME fob ARA range
Used cooking oil methyl ester meeting EN14214
If the EN14214 specification differs from the Argus specification listed below, the Argus specification takes precedence.
EU duty free or EU duty paid
Currency/unit: US dollars/tonne
Timing: loading 7-28 days forward of the day of assessment
Location: fob ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht, Flushing and Ghent
Basis: assessed as a differential to 7-28 day Ice gasoil, calculated on the day of assessment as the average of settlement prices for the first or first and second forward month Ice gasoil contract, weighted by the number of Argus publishing days in the 7-28 day loading period.
Size: 1,000t, barge shipping tolerance of +/- 2pc at buyer's option
Cold filter plugging point: 0°C
Water content: maximum 350ppm
Certification: Material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body. Sellers must be able to provide all of the below certification criteria and, in addition, buyers must declare the relevant certification scheme when nominating barges
- German mandate compliant — of used cooking oil feedstock in line with § 37b of the “Bundes-Immissionsschutzgesetz” and “Biomasseverordnung”
- Netherlands double-counting eligible — qualified to count double under Netherlands renewable energy for transport laws and regulations
- UK double-counting eligible — qualified to count double under UK renewable energy for transport laws and regulations

Assessment time: 4.00pm to 4.30pm London time
GHG savings: 87.5pc greenhouse gas (GHG) savings, based on a fossil fuel comparitor of 94g CO2 equivalent/MJ.
The material contained in each 1,000t barge need only meet the required GHG savings requirement on average, and multiple POS certificates may be attached such that they average to the required GHG savings requirement. All qualities included in a 1,000t barge must be derived from used cooking oil (UCO) feedstock and meet a minimum GHG savings of 84pc based on a fossil fuel comparator of 94g CO2 equivalent/MJ.

Proof of sustainability: documentation of POS or sustainability declaration must be transferred between counterparties within 20 working days after bill of lading.

RED UCOME fob ARA range
Used cooking oil methyl ester meeting EN14214
If the EN14214 specification differs from the Argus specification listed below, the Argus specification takes precedence.
EU duty free or EU duty paid
Currency/unit: US dollars/tonne
Timing: barges loading 7-28 days forward of the day of assessment
Location: fob ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht, Flushing and Ghent
Size: 1,000t, barge shipping tolerance of +/- 2pc at buyer's option
Free fatty acids (FFA) as oleic: maximum 7.5pc
Moisture and impurities (MIU): maximum 2pc
Unsaponifiables: maximum 1pc
Ester content: maximum 2pc
Iodine value (IV): minimum 75g iodine/hg
Phosphorus content: maximum 40ppm
Sulphur content: maximum 40ppm
Polyethylene content: maximum 50ppm
Wax content: maximum 150ppm
Material must not be chemically modified

Certificate of analysis: product must be accompanied by a Certificate of Analysis from accredited inspectors generated a maximum of two working days before bill of lading

Certification: material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body. Material must be used cooking oil entirely of vegetable origin
GHG savings: material must be accompanied by sustainability declaration stating disaggregated default values or calculated actual values for greenhouse gas emissions including emissions from transport and distribution (ETD).
Assessment time: 4.00pm to 4.30pm London time
ABP documentation: material must be accompanied by commercial documentation demonstrating animal by-product category 3 classification as per Regulation (EC) No 1069/2009, 142/2011 and 2017/1261
Proof of sustainability: documentation of POS or sustainability declaration must be transferred between counterparties within 20 working days after bill of lading.

Payment: must be made within 5 calendar days after the bill of lading

RED HVO fob ARA range (Class I)
Hydrotreated vegetable oil (HVO) meeting EN15940 specifications
If the EN15940 specification differs from the Argus specification listed below, the Argus specification takes precedence.
EU duty free or EU duty paid
Feedstock: RED-compliant food and feed crops
Currency/unit: US dollars/m³ Prices are assessed as a US dollar/m³ premium to HVO-escalated 7-28 day Ice gasoil. Prices are also converted to a US dollar/t premium to HVO-escalated 7-28 day Ice gasoil and to outright US dollar/t prices for publication.
Market information priced as a US dollar/m³ differential to another basis, including but not limited to HVO-escalated French diesel, will be converted to a differential to HVO-escalated 7-28 day Ice gasoil for consideration for inclusion in the assessment.

HVO escalation: HVO typically trades in volumetric terms and is less dense than diesel and gasoil. Accordingly, Argus adjusts the prices of the underlying diesel or gasoil contracts against which HVO trades to an assumed HVO-equivalent density of 0.78kg/l. For the purpose of this escalation, Argus assumes both French diesel and Ice gasoil to have a density of 0.845kg/l in a vacuum at 15°C.
Timing: loading 7-28 days forward of the day of the assessment
Location: fob ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht, Flushing and Ghent
Basis: assessed as a differential to HVO-escalated 7-28 day Ice gasoil, calculated on the day of assessment as the average of settlement prices for the first or first and second forward month Ice gasoil contract, weighted by the number of Argus publishing days in the 7-28 day loading period and adjusted as described above.
Size: 1,000-2,000t, barge shipping tolerance of +/- 2pc at buyer’s option
Cold filter plugging point: maximum -10°C
**Cloud point:** maximum -7°C  
**Cetane number:** minimum 70  
**Water content:** 350ppm  
**Fatty acid methyl ester (FAME) content:** maximum 0.5pc  
**Additives:** product must not contain additives with the exception of lubricity additives  
**Certification:** material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body. In addition, material must be German mandate compliant, in line with § 37b of the “Bundes-Immissionsschutzgesetz” and “ Biomasseverordnung” — and validated against Germany’s biomass web application system Nabisy. Certificate of analysis (CoA), regardless of the intended destination of the barge, must include C14 analysis from accredited inspectors, with acceptable results aligned with requirements set out in the “HVO framework” published by the Dutch Emissions Authority (NEA).  
**GHG savings:** minimum 60pc greenhouse gas savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ  
**Assessment time:** differentials are assessed at 4.30pm London time on Fridays. Outright prices are published daily using the last assessed differential and the daily price of HVO-escalated 7-28 day ice gasoil.  
**Proof of sustainability:** trades must be accompanied by non-palm oil proof of sustainability and must include only standard industry-acceptable proof of sustainability clauses (for example, those of BP and Shell) in compliance with the EU RED. Argus reserves the right to exclude from the assessment process trades accompanied by restrictive terms of Proof of Sustainability (POS). Documentation of POS or sustainability declaration must be transferred between counterparties within 20 working days after bill of lading.

**RED HVO fob ARA range (Class II)**  
Hydrotreated vegetable oil (HVO) meeting EN15940 specifications if the EN15940 specification differs from the Argus specification listed below, the Argus specification takes precedence. EU duty free or EU duty paid  
**Feedstock:** RED-compliant used cooking oil  
**Currency/unit:** US dollars/m³  
Prices are assessed as a US dollar/m³ premium to HVO-escalated 7-28 day ice gasoil. Prices are also converted to a US dollar/t premium to HVO-escalated 7-28 day ice gasoil and to outright US dollar/t and US dollar/m³ prices for publication. Market information priced as a US dollar/m³ differential to another basis, including but not limited to HVO-escalated French diesel, will be converted to a differential to HVO-escalated 7-28 day ice gasoil for consideration for inclusion in the assessment.  
**HVO escalation:** HVO typically trades in volumetric terms and is less dense than diesel and gasoil. Accordingly, Argus adjusts the prices of the underlying diesel or gasoil contracts against which HVO trades to an assumed HVO-equivalent density of 0.78kg/l. For the purpose of this escalation, Argus assumes both French diesel and ice gasoil to have a density of 0.845kg/l in a vacuum at 15°C.  
**Timing:** loading 7-28 days forward of the day of the assessment  
**Location:** fob ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht, Flushing and Ghent  
**Basis:** assessed as a differential to HVO-escalated 7-28 day ice gasoil, calculated on the day of assessment as the average of settlement prices for the first or first and second forward month ice gasoil contract, weighted by the number of Argus publishing days in the 7-28 day loading period and adjusted as described above.  
**Size:** 1,000-2,000t, barge shipping tolerance of +/- 2pc at buyer’s option  
**Cold filter plugging point:** maximum -10°C  
**Cloud point:** maximum -7°C  
**Cetane number:** minimum 70  
**Water content:** 350ppm  
**Fatty acid methyl ester (FAME) content:** maximum 0.5pc  
**Additives:** product must not contain additives with the exception of lubricity additives  
**Certification:** material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body. In addition, material must be German mandate compliant, in line with § 37b of the “Bundes-Immissionsschutzgesetz” and “Biomasseverordnung” — and validated against Germany’s biomass web application system Nabisy. Certificate of analysis (CoA), regardless of the intended destination of the barge, must include C14 analysis from accredited inspectors, with acceptable results aligned with requirements set out in the “HVO framework” published by the Dutch Emissions Authority (NEA). Sellers must be able to provide Netherlands double-counting certification — qualified to count double under Netherlands renewable energy for transport laws and regulations — and, in addition, buyers must declare this certification scheme when nominating barges.  
**GHG savings:** minimum 85pc greenhouse gas savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ  
**Assessment time:** differentials are assessed at 4.30pm London time on Fridays. Outright prices are published daily using the last assessed differential and the daily price of HVO-escalated 7-28 day ice gasoil.  
**Proof of sustainability:** trades must be accompanied by proof of sustainability and must include only standard industry-acceptable proof of sustainability clauses (for example, those of BP and Shell) in compliance with the EU RED. Argus reserves the right to exclude from the assessment process trades accompanied by restrictive terms of Proof of Sustainability (POS). Documentation of POS or sustainability declaration must be transferred between counterparties within 20 working days after bill of lading.  

**RED HVO fob ARA range (Class III)**  
Hydrotreated vegetable oil (HVO) meeting EN15940 specifications if the EN15940 specification differs from the Argus specification listed below, the Argus specification takes precedence. EU duty free or EU duty paid  
**Feedstock:** RED-compliant tallow (category 3)  
**Currency/unit:** US dollar/m³  
Prices are assessed as a US dollar/m³ premium to HVO-escalated 7-28 day ice gasoil. Prices are also converted to a US dollar/t premium to HVO-escalated 7-28 day ice gasoil and to outright US dollar/t prices for publication. Market information priced as a US dollar/m³ differential to another basis, including but not limited to HVO-escalated French diesel, will be converted to a differential to HVO-escalated 7-28 day ice gasoil for consideration for inclusion in the assessment.  
**HVO escalation:** HVO typically trades in volumetric terms and is less dense than diesel and gasoil. Accordingly, Argus adjusts the prices of the underlying diesel or gasoil contracts against which HVO trades to an assumed HVO-equivalent density of 0.78kg/l. For
the purpose of this escalation, Argus assumes both French diesel and Ice gasoil to have a density of 0.845kg/l in a vacuum at 15°C.

**Timing:** loading 7-28 days forward of the day of the assessment

**Location:** fob ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht, Flushing and Ghent

**Basis:** assessed as a differential to HVO-escalated 7-28 day Ice gasoil, calculated on the day of assessment as the average of settlement prices for the first or first and second forward month Ice gasoil contract, weighted by the number of Argus publishing days in the 7-28 day loading period and adjusted as described above.

**Size:** 1,000-2,000t, barge shipping tolerance of +/- 2pc at buyer’s option

**Cold filter plugging point:** maximum -10°C

**Cloud point:** maximum -7°C

**Cetane number:** minimum 70

**Water content:** 350ppm

**Fatty acid methyl ester (FAME) content:** maximum 0.5pc

**Additives:** product must not contain additives with the exception of lubricity additives

**Certification:** material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body. Certificate of analysis (CoA), regardless of the intended destination of the barge, must include C14 analysis from accredited inspectors, with acceptable results aligned with requirements set out in the “HVO framework” published by the Dutch Emissions Authority (NEA).

**GHG savings:** minimum 82pc greenhouse gas savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ

**Assessment time:** differentials are assessed at 4.30pm London time on Fridays. Outright prices are published daily using the last assessed differential and the daily price of HVO-escalated 7-28 day Ice gasoil.

**Proof of sustainability:** trades must be accompanied by proof of sustainability and must include only standard industry-acceptable proof of sustainability clauses (for example, those of BP and Shell) in compliance with the EU RED. Argus reserves the right to exclude from the assessment process trades accompanied by restrictive terms of Proof of Sustainability (POS). Documentation of POS or sustainability declaration must be transferred between counterparties within 20 working days after bill of lading.

**RED HVO fob ARA range (Class IV)**

Hydrotreated vegetable oil (HVO) meeting EN15940 specifications. If the EN15940 specification differs from the Argus specification listed below, the Argus specification takes precedence.

EU duty free or EU duty paid

**Feedstock:** RED-compliant palm oil mill effluent (POME) oil

**Currency/unit:** US dollars/m³

Prices are assessed as a US dollar/m³ premium to HVO-escalated 7-28 day Ice gasoil. Prices are also converted to a US dollar/t premium to HVO-escalated 7-28 day Ice gasoil and to outright US dollar/t prices for publication.

Market information priced as a US dollar/m³ differential to another basis, including but not limited to HVO-escalated French diesel, will be converted to a differential to HVO-escalated 7-28 day Ice gasoil for consideration for inclusion in the assessment.

**HVO escalation:** HVO typically trades in volumetric terms and is less dense than diesel and gasoil. Accordingly, Argus adjusts the prices of the underlying diesel or gasoil contracts against which HVO trades to an assumed HVO-equivalent density of 0.78kg/l. For the purpose of this escalation, Argus assumes both French diesel and Ice gasoil to have a density of 0.845kg/l in a vacuum at 15°C.

**Timing:** loading 7-28 days forward of the day of the assessment

**Location:** fob ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht, Flushing and Ghent

**Basis:** assessed as a differential to HVO-escalated 7-28 day Ice gasoil, calculated on the day of assessment as the average of settlement prices for the first or first and second forward month Ice gasoil contract, weighted by the number of Argus publishing days in the 7-28 day loading period and adjusted as described above.

**Size:** 1,000-2,000t, barge shipping tolerance of +/- 2pc at buyer’s option

**Cold filter plugging point:** maximum -10°C

**Cloud point:** maximum -7°C

**Cetane number:** minimum 70

**Water content:** 350ppm

**Fatty acid methyl ester (FAME) content:** maximum 0.5pc

**Additives:** product must not contain additives with the exception of lubricity additives

**Certification:** material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body. Certificate of analysis (CoA), regardless of the intended destination of the barge, must include C14 analysis from accredited inspectors, with acceptable results aligned with requirements set out in the “HVO framework” published by the Dutch Emissions Authority (NEA).

**GHG savings:** minimum 82pc greenhouse gas savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ

**Assessment time:** differentials are assessed at 4.30pm London time on Fridays. Outright prices are published daily using the last assessed differential and the daily price of HVO-escalated 7-28 day Ice gasoil.

**Proof of sustainability:** trades must be accompanied by proof of sustainability and must include only standard industry-acceptable proof of sustainability clauses (for example, those of BP and Shell) in compliance with the EU RED. Argus reserves the right to exclude from the assessment process trades accompanied by restrictive terms of Proof of Sustainability (POS). Documentation of POS or sustainability declaration must be transferred between counterparties within 20 working days after bill of lading.

**Asia-Pacific**

**RED UCOME fob China bulk**

Used cooking oil methyl ester meeting EN14214

If the EN14214 specification differs from the Argus specification listed below, the Argus specification takes precedence.

**Currency/unit:** US dollars/tonne

**Timing:** loading 30-45 days forward of the day of assessment

**Location:** fob China (Tianjin, Tangshan, Lianyungang, Nantong, Taizhou, Jiangyin, Zhangjiagang, Xiamen, Huangpu, Nansha, Zhuhai, Fangchenggang)

**Size:** 2,500-5,000t
Cold filter plugging point: maximum 5°C
Water content: maximum 400ppm
Oxidation stability: no requirement
Certification: material must be accompanied with RED-compliant certification issued by European Commission-authorised body. Sellers must be able to provide all the below certification criteria and, in addition, buyers must declare the relevant certification scheme before loading:
- German mandate compliant — of used cooking oil feedstock in line with § 37b of the “Bundes-Immissionsschutzgesetz” and “Biomasseverordnung”
- Netherlands double-counting eligible — qualified to count double under Netherlands renewable energy for transport laws and regulations
- UK double-counting eligible — qualified to count double under UK renewable energy for transport laws and regulations

GHG savings: 87.5pc greenhouse gas savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ. The material contained in each cargo need only meet the required GHG savings requirement on average, and multiple POS certificates may be attached such that they average to the required GHG savings requirement. All qualities included must be derived from used cooking oil (UCO) feedstock and meet a minimum default GHG savings of 84pc based on a fossil fuel comparator of 94g CO2 equivalent/MJ.

Assessment time: 5:00-5:30pm Singapore time
Terms and conditions: trades are conducted under standard industry-acceptable terms and conditions (for example those of BP and Shell) in compliance with the EU RED and must be delivered no later than 30 days after bill of lading. Argus reserves the right to exclude from the assessment process trades accompanied by restrictive terms of Proof of Sustainability (POS).

Payment: must be made within 5 calendar days after the bill of lading upon receipt of:
- 3/3 bill of lading, or Letter of Indemnity countersigned by first class bank
- Invoice
- Quality and Quantity documentation
- Certificate of origin showing China origin
- Sustainability documents

Sustainability documents can be provided after payment if mutually agreed by the counterparties but must be provided within the time limits set by the appropriate European government body or European Commission-approved auditing body.

UCO fob China bulk
Used cooking oil as defined by Harmonised System (HS) code 151800. If the HS code 151800 definition differs from the Argus specification listed below, the Argus specification takes precedence.

Currency/unit: US dollars/tonne
Timing: loading 30-45 days forward of the day of assessment
Location: fob China (Tianjin, Tangshan, Lianyungang, Nantong, Taizhou, Jiangyin, Zhangjiagang, Xiamen, Huangpu, Nansha, Zhuhai, Fangchenggang)
Size: 2,500-5,000t

Red UCOME fob strait of Malacca bulk
Used cooking oil methyl ester meeting EN14214 if the EN14214 specification differs from the Argus specification listed below, the Argus specification takes precedence.

Currency/unit: US dollars/tonne
Timing: loading 30-45 days forward of the day of assessment
Location: fob strait of Malacca bulk
Size: 2,500-5,000t

Water content: maximum 400ppm
Oxidation stability: no requirement
Certification: material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body. Sellers must be able to provide all the below certification criteria and, in addition, buyers must declare the relevant certification scheme before loading:
- German mandate compliant (registered Nabisy) — of used cooking oil feedstock in line with § 37b of the “Bundes-Immissionsschutzgesetz” and “Biomasseverordnung”
- Netherlands double-counting eligible — qualified to count double under Netherlands renewable energy for transport laws and regulations
- UK double-counting eligible — qualified to count double under UK renewable energy for transport laws and regulations

GHG savings: minimum 87.5pc greenhouse gas (GHG) savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ. The material contained in each cargo need only meet the required GHG savings requirement on average, and multiple POS certificates may be attached such that they average to the required GHG savings requirement. All qualities included must be derived from used cooking oil (UCO) feedstock and meet a minimum GHG savings of 84pc based on a fossil fuel comparator of 94g CO2 equivalent/MJ.

Assessment time: 5:00-5:30pm Singapore time
Terms and conditions: trades are conducted under standard industry-acceptable terms and conditions (for example those of BP, Shell and Total) or other pre-agreed terms and conditions.

Proof of sustainability: trades must include only standard industry-acceptable proof of sustainability clauses (for example, those of BP and Shell) in compliance with the EU RED and must be delivered no later than 30 days after bill of lading. Argus reserves the right to exclude from the assessment process trades accompanied by restrictive terms of Proof of Sustainability (POS).

Payment: must be made within 5 calendar days after the bill of lading upon receipt of:
- 3/3 bill of lading, or Letter of Indemnity countersigned by first class bank
- Invoice
- Quality and Quantity documentation
- Certificate of origin
- Sustainability documents

Sustainability documents can be provided after payment if mutually agreed by the counterparties but must be provided within the time limits set by the appropriate European government body or European Commission-approved auditing body.
Total fatty matter: minimum 98pc
Free fatty acids (FFA): maximum 7pc
Moisture and impurities (MIU): maximum 2pc
Moisture: maximum 1pc
Unsaponifiables: maximum 1pc
Ester content: maximum 1pc
Iodine value (IV): minimum 80g iodine/hg
Phosphorous content: maximum 50ppm
Sulphur content: maximum 50ppm
Wax content: maximum 250ppm
Certification: material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body. Material must be used cooking oil entirely of vegetable origin.

Assessment time: 5:00-5:30pm Singapore time
Payment: must be made within 5 calendar days after the bill of lading upon receipt of:
• 3/3 bill of lading, or Letter of Indemnity countersigned by first class bank
• Invoice
• Quality and Quantity documentation
• Certificate of origin showing China origin
• Sustainability documents
• Annex VII under the EU regulation 1013/2006 on shipments of waste

Sustainability documents can be provided after payment if mutually agreed by the counterparties but must be provided within the time limits set by the appropriate European government body or European Commission-approved auditing body.

UCO fob strait of Malacca bulk
Used cooking oil as defined by Harmonised System (HS) code 151800. If the HS code 151800 definition differs from the Argus specification listed below, the Argus specification takes precedence.
Currency/unit: US dollars/tonne
Timing: loading 30-45 days forward of the day of assessment
Location: fob Port Klang, Pasir Gudang, Tanjung Langsat, Singapore
Size: 2,500-5,000t
Total fatty matter: minimum 98pc
Free fatty acids (FFA): maximum 5pc
Moisture and impurities (MIU): maximum 2pc
Moisture: maximum 1pc
Unsaponifiables: maximum 1pc
Ester content: maximum 1pc
Iodine value (IV): minimum 50g iodine/hg
Phosphorous content: maximum 50ppm
Sulphur content: maximum 50ppm
Wax content: maximum 250ppm
Certification: material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body. Material must be used cooking oil entirely of vegetable origin.
Assessment time: 5:00-5:30pm Singapore time
Payment: must be made within 5 calendar days after the bill of lading upon receipt of:
• 3/3 bill of lading, or Letter of Indemnity countersigned by first class bank
• Invoice
• Quality and Quantity documentation
• Certificate of origin issued by relevant authorities
• Sustainability documents
• Annex VII under the EU regulation 1013/2006 on shipments of waste

Sustainability documents can be provided after payment if mutually agreed by the counterparties but must be provided within the time limits set by the appropriate European government body or European Commission-approved auditing body.
Europe biofuels

RED Palm OME fob ARA range
Palm oil methyl ester meeting EN14214 specifications
If the EN14214 specification differs from the Argus specification listed below, the Argus specification takes precedence.
EU duty free or EU duty paid
Currency/unit: US dollars/tonne
Timing: loading 7-28 days forward of the day of assessment
Location: fob ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht, Flushing and Ghent
Basis: assessed as a differential to 7-28 day Ice gasoil, calculated on the day of assessment as the average of settlement prices for the first or first and second forward month Ice gasoil contract, weighted by the number of Argus publishing days in the 7-28 day loading period
Size: 1,000t
Cold filter plugging point: -10°C
Certification: material must be accompanied with RED-compliant certification issued by European Commission-approved auditing body
GHG savings: minimum 78pc greenhouse gas savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ
Assessment time: 4.00pm to 4.30pm London time

RED Soya OME fob ARA range
Soya oil methyl ester meeting EN14214 specifications
If the EN14214 specification differs from the Argus specification listed below, the Argus specification takes precedence.
EU duty free or EU duty paid
Currency/unit: US dollars/tonne
Timing: loading 7-28 days forward of the day of assessment
Location: fob ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht, Flushing and Ghent
Basis: assessed as a differential to 7-28 day Ice gasoil, calculated on the day of assessment as the average of settlement prices for the first or first and second forward month Ice gasoil contract, weighted by the number of Argus publishing days in the 7-28 day loading period
Size: 1,000t
Cold filter plugging point: -4°C
Certification: material must be accompanied with RED-compliant certification issued by European Commission-approved auditing body
GHG savings: minimum 60pc greenhouse gas savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ
Assessment time: 4.00pm to 4.30pm London time

RED Advanced FAME 0°C CFPP fob ARA range
Fatty acid methyl ester meeting EN14214 specifications
If the EN14214 specification differs from the Argus specification listed below, the Argus specification takes precedence.
EU duty free or EU duty paid
Currency/unit: US dollars/tonne
Timing: loading 7-28 days forward of the day of assessment
Location: fob ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht, Flushing and Ghent
Basis: assessed as a differential to 7-28 day Ice gasoil, calculated on the day of assessment as the average of settlement prices for the first or first and second forward month Ice gasoil contract, weighted by the number of Argus publishing days in the 7-28 day loading period
Size: 1,000t
Cold filter plugging point: 0°C
Certification: material must be accompanied with RED-compliant certification issued by European Commission-approved auditing body
GHG savings: minimum 84pc greenhouse gas savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ
Assessment time: 4.00pm to 4.30pm London time
Proof of sustainability: trades must be accompanied by non-palm oil mill effluent proof of sustainability
RED POME OME fob ARA range
Palm oil mill effluent (POME) oil methyl ester meeting EN14214 specifications
If the EN14214 specification differs from the Argus specification listed below, the Argus specification takes precedence.
EU duty free or EU duty paid
Feedstock: RED-compliant POME oil
Currency/unit: US dollars/tonne
Timing: loading 7-28 days forward of the day of assessment
Location: fob ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht, Flushing and Ghent
Basis: assessed as a differential to 7-28 day Ice gasoil, calculated on the day of assessment as the average of settlement prices for the first or first and second forward month Ice gasoil contract, weighted by the number of Argus publishing days in the 7-28 day loading period
Size: 1,000t
Cold filter plugging point: 10°C
Certification: material must be accompanied with RED-compliant certification issued by European Commission-approved auditing body
GHG savings: minimum 80% greenhouse gas savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ
Assessment time: 4.00pm to 4.30pm London time

Bionaphtha fob ARA range
EU duty free or EU duty paid
Feedstock: RED-compliant used cooking oil
Currency/unit: US dollars/tonne, a US dollar/m³ conversion is published assuming 1m³ = 0.69t
Timing: loading 7-28 days forward of the day of assessment
Location: fob ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht, Flushing and Ghent
Size: 1,000-2,000t
Certification: material must be accompanied with RED-compliant certification or certification for markets and sectors not regulated by RED including chemical and energy markets — such as ISCC Plus — issued by a European Commission-approved auditing body
GHG savings: minimum 87% greenhouse gas (GHG) savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ
Assessment time: 4.30pm London time

Europe feedstocks

Crude rapeseed oil
Fob Dutch Mill
EU duty free or EU duty paid
Currency/unit: euros/tonne
Timing: price assessments are published for prompt loading, and for loading during a named three-month forward period. Prompt assessments are for loading 30-45 days forward of the day of assessment. Prices for forward periods are for the named three-month period:
• February, March, April (FMA)
• May, June, July (MJJ)
• August, September, October (ASO)
• November, December, January (NDJ)
Price assessments for the first three forward three-month periods are published. Forward periods roll on the first working day of the three-month period. For example, on 15 May, prices are published for the August, September, October (ASO), November, December, January (NDJ) and February, March, April (FMA) contracts. On 1 August, prices are published for November, December, January (NDJ), February, March, April (FMA) and May, June, July (MJJ) contracts.
Size: minimum 100t
Assessment time: 12:30pm-4:30pm UK time

Crude sunflower oil (SFO)
Fob northwest Europe (“fob 6 ports”) for delivery during the first forward quarter. See the Argus AgriMarkets methodology.

UCO cif ARA
Used cooking oil
EU duty unpaid
Currency/unit: US dollars/tonne
Timing: delivery 30-45 days forward of the day of assessment
Location: cif ARA
Parcel size: 500-1,000t
Free fatty acids (FFA): 5pc
Moisture and impurities (MIU): maximum 2pc
Iodine value (IV): minimum 80g iodine/hg
Sulphur content: maximum 50ppm
Certification: material must be accompanied with RED-compliant certification issued by European Commission-authorised body
Assessment time: 4:30pm London time

Bionaphtha fob ARA range specifications

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UCO ex-works Netherlands
Used cooking oil
EU duty free or EU duty paid
Currency/unit: euros/tonne
Timing: loading 30-45 days forward of the day of assessment
Location: ex-works Netherlands
Parcel size: 25-500t
Free fatty acids (FFA): 5pc
Moisture and impurities (MIU): maximum 2pc
Iodine value (IV): minimum 70g iodine/hg
Sulphur content: maximum 50ppm
Certification: material must be accompanied with RED-compliant certification issued by European Commission-authorised body
Assessment time: 4:30pm London time

Tallow (categories 1 and 2) fca northwest Europe
Animal fats derived from category 1 and category 2 materials as per Regulation (EC) No 1069/2009 (Article 3, No 19) and 142/2011. If the (EC) No 1069/2009 and 142/2011 specifications differ from the Argus specification listed below, the Argus specification takes precedence. EU duty free or EU duty paid
Currency/unit: euros/tonne
Timing: delivery 30-45 days forward of the day of assessment
Location: fca northwest Europe
Parcel size: 100-1,000t
Free fatty acids (FFA): maximum 20pc
Moisture and impurities (MIU): maximum 1pc
Certification: material must be accompanied with RED-compliant certification issued by European Commission-authorised body
Assessment time: 4:30pm London time

Tallow (category 3) fca northwest Europe
Animal fats derived from category 3 materials as per Regulation (EC) No 1069/2009 (Article 3, No 19) and 142/2011. If the (EC) No 1069/2009 and 142/2011 specifications differ from the Argus specification listed below, the Argus specification takes precedence. EU duty free or EU duty paid
Currency/unit: euros/tonne
Timing: delivery 30-45 days forward of the day of assessment
Location: fca northwest Europe
Parcel size: 100-1,000t
Free fatty acids (FFA): maximum 5pc
Moisture and impurities (MIU): maximum 2pc
Certification: material must be accompanied with RED-compliant certification issued by European Commission-authorised body
Assessment time: 4:30pm London time

POME oil cif ARA
Palm oil mill effluent (POME) oil
EU duty unpaid
Currency/unit: US dollars/tonne
Timing: delivery 30-45 days forward of the day of assessment
Location: cif ARA
Size: 2,000-5,000t
Total fatty matter (TFM): minimum 95pc
Free fatty acids (FFA): minimum 50pc
Moisture and impurities (MIU): maximum 3pc
Certification: material must be accompanied with RED-compliant certification issued by European Commission-authorised body
Assessment time: 4:30pm London time

Asia-Pacific biofuels

RED PME fob Malaysia
Palm oil methyl ester meeting European EN14214
Currency/unit: US dollars/tonne
Timing: cargoes loading 2-6 weeks forward of the day of assessment
Location: fob Malaysia (Port Klang/Pasir Gudang)
Size: assessments are standardised to cargoes of 2,000-10,000t
Cold filter plugging point: 15°C
Certification: material must be accompanied with RED-compliant certification issued by European Commission-authorised body
Assessment time: 5:30pm Singapore time

RED PME fob Indonesia
Palm oil methyl ester meeting European EN14214
Currency/unit: US dollars/tonne
Timing: cargoes loading 2-6 weeks forward of the day of assessment
Location: fob Indonesia (Port Dumai)
Size: assessments are standardised to cargoes of 2,000-40,000t
Cold filter plugging point: 15°C
Certification: material must be accompanied with RED-compliant certification issued by European Commission-authorised body
Assessment time: 5:30pm Singapore time

PME ex-works Indonesia
Palm oil methyl ester meeting SNI 7182-2015 specifications.
Currency/unit: US dollars/tonne
Timing: loading 30-45 days forward of the day of assessment
Location: ex-works Dumai/Belawan
Size: 3,000-5,000t
Cold filter plugging point: 15°C
Assessment time: 5:30pm Singapore time

RED HVO (Class I) fob Singapore netback
Calculated as the RED HVO fob ARA range (Class I) assessment less the weekly Singapore to ARA region HVO freight assessment.

RED HVO (Class II) fob Singapore netback
Calculated as the RED HVO fob ARA range (Class II) assessment less the weekly Singapore to ARA region HVO freight assessment.

RED HVO (Class III) fob Singapore netback
Calculated as the RED HVO fob ARA range (Class III) assessment less the weekly Singapore to ARA region HVO freight assessment.

RED HVO (Class IV) fob Singapore netback
Calculated as the RED HVO fob ARA range (Class IV) assessment less the weekly Singapore to ARA region HVO freight assessment.
RED HVO fob China (Class II)
Hydrotreated vegetable oil (HVO) meeting EN15940 specifications
If the EN15940 specification differs from the Argus specification listed below, the Argus specification takes precedence.
Feedstock: RED-compliant used cooking oil
Currency/unit: US dollars/tonne
Timing: loading 30-45 days forward of the day of assessment
Location: fob China
Size: assessments are standardised to cargoes of 3,000-5,000t
Cold filter plugging point: maximum -10°C
Cloud Point: maximum -7°C
Water content: 200ppm
Lubricity HFRR at 60°C: maximum 600μm
Biogenic carbon by C14: minimum 97pc
Certification: material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body
GHG savings: minimum 85pc greenhouse gas savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ
Assessment time: 5.30pm Singapore time

RED HVO fob China (Class IV)
Hydrotreated vegetable oil (HVO) meeting EN15940 specifications
If the EN15940 specification differs from the Argus specification listed below, the Argus specification takes precedence.
Feedstock: RED-compliant palm oil mill effluent (POME) oil
Currency/unit: US dollars/tonne
Timing: loading 30-45 days forward of the day of assessment
Location: fob China
Size: assessments are standardised to cargoes of 3,000-5,000t
Cold filter plugging point: maximum -10°C
Cloud Point: maximum -7°C
Water content: 200ppm
Lubricity HFRR at 60°C: maximum 660μm
Biogenic carbon by C14 analysis: minimum 97pc
Certification: material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body
GHG savings: minimum 85pc greenhouse gas (GHG) savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ
Assessment time: 5.30pm Singapore time

RED brown grease methyl ester fob China
Brown grease methyl ester meeting EN14214
Currency/unit: US dollars/tonne
Timing: loading 30-45 days forward of the day of assessment
Location: fob China
Size: 3,000-5,000t
Water content: maximum 350ppm
Cold filter plugging point: maximum 5°C
GHG savings: default 87.5pc
Certification: material must be accompanied with RED-compliant certification issued by European Commission-authorised body
Assessment time: 5.30pm Singapore time

RED POME OME fob China bulk
Palm oil mill effluent (POME) oil methyl ester meeting EN14214 specifications
If the EN14214 specification differs from the Argus specification listed below, the Argus specification takes precedence.
Feedstock: RED-compliant POME oil
Currency/unit: US dollars/tonne
Timing: loading 30-45 days forward of the day of assessment
Location: fob China
Size: 2,500-5,000t
Water content: maximum 400 ppm
Cold filter plugging point: maximum 13°C
GHG savings: minimum 80pc greenhouse gas (GHG) savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ
Certification: material must be accompanied by ISCC Plus or similar certification
Assessment time: 5.30pm Singapore time

Bionaphtha cfr northeast Asia
Currency/unit: US dollars/tonne
Timing: delivery 30-60 days forward of the day of assessment
Location: cfr northeast Asia (South Korea/Japan)
Size: assessments are standardised to cargoes of 3,000-5,000t
Certification: material must be accompanied by ISCC Plus or similar certification
Assessment time: 5.30pm Singapore time

Asia-Pacific feedstocks
UCO fob China
Used cooking oil
Currency/unit: US dollars/tonne
Timing: loading 30-45 days forward of the day of assessment
Location: fob China
Size: 500-1,000t
Free fatty acids (FFA): maximum 7pc
Moisture and impurities (MIU): maximum 2pc
Iodine value (IV): minimum 80g iodine/hg
Sulphur content: maximum 50ppm
Certification: material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body
Assessment time: 5.30pm Singapore time

UCO dap China
Used cooking oil (including VAT)
Currency/unit: Chinese yuan/tonne and converted to US dollars/tonne
Timing: loading 10-30 days forward of the day of assessment
Location: dap China
Size: 200-2,000t
Free fatty acids (FFA): maximum 7pc
Moisture and impurities (MIU): maximum 2pc
Iodine value (IV): minimum 80g iodine/hg
Sulphur content: maximum 50ppm
Certification: material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body
Assessment time: 5.30pm Singapore time

Brown grease DAP China
Brown grease (including VAT)
Currency/unit: Chinese yuan/tonne and converted to US dollars/tonne
Timing: delivery 7-10 days forward of the day of assessment
Location: dap China
Size: 200-1,000t
Moisture and impurities (MIU): maximum 3pc
Unsaponifiables: maximum 2pc
Saponification value (SV): minimum 185mg KOH/g
Iodine value (IV): minimum 60g iodine/hg
Certification: material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body
Assessment time: 5.30pm Singapore time

UCO fob Indonesia
Used cooking oil
Currency/unit: US dollars/tonne
Timing: loading 30-45 days forward of the day of assessment
Location: fob Indonesia (Belawan, Gresik, Jakarta, Semarang and Makassar)
Size: 500-1,000t
Free fatty acids (FFA): maximum 5pc
Moisture and impurities (MIU): maximum 2pc
Iodine value (IV): minimum 50g iodine/hg
Sulphur content: maximum 50ppm
Certification: material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body
Assessment time: 5.30pm Singapore time

UCO fob Vietnam
Used cooking oil
Currency/unit: US dollars/tonne
Timing: loading 30-45 days forward of the day of assessment
Location: fob Vietnam
Size: 200-1,000t
Free fatty acids (FFA): maximum 5pc
Moisture and impurities (MIU): maximum 2pc

Unsaponifiables: maximum 1pc
Iodine value (IV): minimum 60g iodine/hg
Sulphur content: maximum 50ppm
Certification: material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body
Assessment time: 5.30pm Singapore time

POME oil fob Malaysia/Indonesia
Palm oil mill effluent (POME) oil
Currency/unit: US dollars/tonne
Timing: loading 30-45 days forward of the day of assessment
Location: fob Malaysia (Port Klang/Pasir Gudang/Lahad Datu) or fob Indonesia (Dumai/Belawan)
Size: 2,000-5,000t
Total fatty matter (TFM): minimum 95pc
Free fatty acids (FFA): minimum 50pc
Moisture and impurities (MIU): maximum 3pc
Certification: material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body
Assessment time: 5.30pm Singapore time

RBD palm olein fob Malaysia/Indonesia
Currency/unit: US dollars/tonne
Size: 500-2,000t bulk
Timing: loading 2-4 weeks forward of the day of assessment
Fatty acid: maximum 0.1pc
Moisture and impurities: maximum 0.1pc
Iodine value: minimum of 56g iodine/hg
Melting point: maximum 24°C
Colour: minimum 3 red
Assessment time: 5.30pm Singapore time
Prices are published for the first three months trading

Americas biofuels

SME fob upriver, Argentina
Published prices are the previous day’s close in the US. See the Argus Americas Biofuels methodology.

Argentinian soybean oil
Published prices are the previous day’s close in the US. See the Argus Americas Biofuels methodology.

SME fob US Houston B100
Published prices are the previous day’s close in the US. See the Argus Americas Biofuels methodology.

SME fob US Houston B100 ¢/USG
Published prices are the previous day’s close in the US. See the Argus Americas Biofuels methodology.
Alternative aviation fuels

Hydrotreated esters and fatty acids (HEFA-SPK)

SAF fob ARA range
Sustainable Aviation Fuel (SAF) – prices are converted to US dollars/t assuming 1m³ = 0.76t

SAF fob ARA differential to SAF-escalated 7-28 day Ice gasoil
See the Argus Jet Fuel methodology.

SAF fob ARA range less HBE-IXB
Calculated and published in US dollars/tonne as the Argus HEFA-SPK SAF fob ARA range less 2.4 times the price of the daily Netherlands advanced renewable fuels unit (HBE-IXB) assessment. HBE-IXBs generated from the sale of HEFA-SPK for the use in aviation are subject to a multiplier of 1.2 in the Netherlands and are also eligible for double counting.

SAF cif northwest Europe
Sustainable Aviation Fuel (SAF) – prices are converted to US dollars/t assuming 1m³ = 0.76t

SAF cif northwest Europe differential to SAF-escalated 7-28 day Ice gasoil
See the Argus Jet Fuel methodology.

SAF fob Singapore netback
See the Argus Jet Fuel methodology.

Alternative marine fuels

Marine biodiesel blend

RED B30 marine UCOME fob ARA range
Calculated and published in US dollars/tonne as a B30 blend ratio of RED UCOME fob ARA range (30pc) and 0.5%S fuel oil fob northwest Europe barge (70pc).

Currency/unit: US dollars/tonne
Size: 2,000-5,000t
See the Argus European Products methodology for information about Argus refined products coverage.

RED marine Advanced Fame 0°C CFPP fob ARA range
Calculated and published in US dollars/tonne as B20, B30 and B100 blend ratios of RED Advanced Fame 0°C CFPP fob ARA range and 0.5%S 380cst fuel oil fob ARA, less 1.6 times the price of the daily Netherlands advanced renewable fuels unit (HBE-G) assessment. HBE-Gs generated from the sale of Advanced Fame for use as marine fuel are subject to a multiplier of 0.8 in the Netherlands but are also eligible for double counting. Calculation includes variable costs associated with storage, throughput and transport that are regularly reviewed. For example, B20 is a blend of 20pc biodiesel and 80pc fuel oil and B100 is 100pc biodiesel.

Currency/unit: US dollars/tonne
Size: 1,000-3,000t

Ethanol spot price assessments

RED (T2) Ethanol fob ARA range, inc duty
Ethanol meeting EN15376 specifications
If the EN15376 specification differs from the Argus specification listed below, the Argus specification takes precedence.
EU duty free or EU duty paid
Currency/unit: assessed and published in euros/m³. The assessment is also converted to and published in US dollars/tonne
Timing: loading 5-15 days forward of the day of assessment
Location: fob ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht and Ghent
Size: 1,000t
Certification: material must be accompanied with RED-compliant certification
GHG savings: minimum 64pc greenhouse gas savings, based on a fossil fuel comparator of 94g CO2 equivalent/MJ
Assessment time: 4pm to 4.30pm London time

RED (T2) fob ARA range, inc duty differential to Eurobob oxy
Argus RED T2 ethanol differentials to Argus Eurobob oxy prices are calculated using a conversion rate of 1m³ = 0.789t
EU duty free or EU duty paid
**Currency/unit:** US dollars/tonne  
**Assessment time:** 4pm to 4.30pm London time  
See the Argus European Products methodology.

**RED (T2) premium Ethanol fob ARA range, inc duty**
Ethanol meeting EN15376 specifications
If the EN15376 specification differs from the Argus specification listed below, the Argus specification takes precedence.
EU duty free or EU duty paid
**Currency/unit:** assessed and published in euros/m³. The assessment is also converted to and published in US dollars/tonne
**Timing:** loading 5-15 days forward of the day of assessment
**Location:** fob ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht and Ghent
**Size:** 1,000t
**Certification:** material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body
**GHG savings:** minimum 90% greenhouse gas savings based on a fossil fuel comparator of 94g CO2 equivalent/MJ.
**Assessment time:** 4pm to 4.30pm London time

**Ethanol cfr Philippines**
99pc anhydrous fuel-grade ethanol
**Currency/unit:** US dollars/m³
**Timing:** delivery 30-60 days forward of the day of assessment
**Location:** cfr Philippines (Subic Bay/Batangas)
**Size:** assessments are standardised to cargoes of 10,000-20,000m³
**Assessment time:** 5.30pm Singapore time

**Ethanol cfr China fuel-grade**
**Currency/unit:** US dollars/tonne
**Timing:** delivery 60-75 days forward of the day of assessment
**Location:** cfr northeast China including Lianyungang, Rizhao, Tianjin, Dalian, Shanghai, Nanjing and Nantong
**Size:** assessments are standardised to full MR vessels of 40,000-50,000t
**Specification:** China GB/T
**Assessment time:** 5.30pm Singapore time

**B-grade cfr northeast Asia**
95pc hydrous ethanol
**Currency/unit:** US dollars/m³
**Timing:** delivery 60-90 days forward of the day of assessment
**Location:** cfr northeast Asia (Ulsan/Chiba)
**Size:** assessments are standardised to cargoes of 5,000-15,000m³
**Assessment time:** 5.30pm Singapore time

**Biomethanol spot price assessments**

**RED biomethanol cif UK**
**Quality:** IMPCA specification
**Currency/unit:** US dollars/tonne
**Timing:** loading 5-30 forward of the day of assessment
**Location:** cif UK
**Size:** 1,000-4,000t
**Certification:** material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body. Sellers must be able to provide certification that product is UK double-counting eligible — qualified to count double under UK renewable energy for transport laws and regulations
**Assessment time:** 4:30pm London time

**RED biomethanol fob ARA range netback**
Calculated as the cif UK biomethanol assessment less the daily freight differential between ARA and the Thames. Published in US dollars/tonne and converted to euros/tonne.

**Biomethanol differential to fob Rotterdam methanol**
Argus RED biomethanol fob ARA differential to Argus fob Rotterdam barge daily methanol index
**Currency/unit:** US dollars/tonne
**Assessment time:** 4:30pm London time
See the Argus Methanol Daily methodology.
Biomethane

**RED biomethane Germany VTP (THE)**
Unsubsidized, gaseous biomethane meeting EN 16723-2 specifications and produced in line with requirements laid out in the Biomasseverordnung and Biokraftstoff-Nachhaltigkeitsverordnung delivered into the German transport sector.

**Feedstock:** RED-compliant Annex IX Part A feedstocks as listed in Annex 1 of the 38th enactment of the Bundes-Immissionsschutzgesetz

**Currency/unit:** euros/MWh

**Timing:** prices are assessed for the current compliance year and may also be assessed for forward compliance years for which Argus has determined that sufficient market liquidity exists to produce a robust assessment.

A compliance year ends and the respective assessment ceases on 31 December. Argus begins assessing a forward compliance year no later than 1 October of the current compliance year. For example, Argus will begin publishing a 2024 compliance year assessment no later than 1 October 2023.

**Origin:** Germany

**Size:** minimum 1GWh

**Certification:** material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body and validated against Germany’s biomass web application system Nabisy

**Carbon intensity:** 10grCO2e/MJ

**GHG savings:** minimum 89.4pc greenhouse gas (GHG) savings based on a fossil fuel comparator of 94g CO2 equivalent/MJ

**Assessment time:** 4:30pm London time on Thursdays

**RED premium biomethane Germany VTP (THE)**
Unsubsidized, gaseous biomethane meeting EN 16723-2 specifications and produced in line with requirements laid out in the Biomasseverordnung and Biokraftstoff-Nachhaltigkeitsverordnung

**Feedstock:** RED-compliant Annex IX Part A feedstocks as listed in Annex 1 of the 38th enactment of the Bundes-Immissionsschutzgesetz

**Currency/unit:** euros/MWh

**Timing:** prices are assessed for the current compliance year and may also be assessed for forward compliance years for which Argus has determined that sufficient market liquidity exists to produce a robust assessment.

A compliance year ends and the respective assessment ceases on 31 December. Argus begins assessing a forward compliance year no later than 1 October of the current compliance year. For example, Argus will begin publishing a 2024 compliance year assessment no later than 1 October 2023.

**Origin:** Germany

**Size:** minimum 1GWh

**Certification:** material must be accompanied with RED-compliant certification issued by a European Commission-approved auditing body and validated against Germany’s biomass web application system Nabisy

**Carbon intensity:** -100grCO2e/MJ

**GHG savings:** minimum 206.4pc greenhouse gas (GHG) savings based on a fossil fuel comparator of 94g CO2 equivalent/MJ

**Assessment time:** 4:30pm London time on Thursdays

Biopropane

**Biopropane fca ARA range**
EU duty free or EU duty paid

**Feedstock:** RED-compliant used cooking oil

**Currency/unit:** US dollars/tonne, a US dollar/m³ conversion is published assuming 1m³ = 0.522t

**Timing:** loading 7-28 days forward of the day of the assessment

**Location:** fca ARA range — including Antwerp, Rotterdam, Amsterdam, Dordrecht, Flushing and Ghent

**Size:** 20-500t

**Certification:** material must be accompanied with RED-compliant certification or certification for markets and sectors not regulated by RED including chemical and energy markets – such as ISCC Plus – issued by a European Commission-approved auditing body

**Assessment time:** 4:30pm London time

**Monthly averages**

Monthly averages are the average of midpoint prices published during the calendar month. The final indexes for a month should be taken as those published in the last Argus Biofuels of the month. Monthly averages are published in $/t unless specified.

**Monthly indexes are published for:**
- RED Palm OME fob ARA range
- RED rapeseed OME fob ARA range
- RED Soya OME fob ARA range
- RED Fame 0°C CFPP fob ARA range
- RED Fame -10°C CFPP fob ARA range
- RED UCOME fob ARA range
- RED Tallow OME fob ARA range
- RED POME OME fob ARA range
- RED Advanced Fame 0°C CFPP fob ARA range
- RED UCOME fob China
- RED UCOME fob Straits of Malacca
- RED PME fob Malaysia
- RED PME fob Indonesia
- SME fob Argentina
- RED HVO fob ARA range (Class I)
- RED HVO fob ARA range (Class II)
- RED HVO fob ARA range (Class III)
- RED HVO fob ARA range (Class IV)
- RED HVO fob China (Class II)
- RED HVO fob China (Class IV)
- RED HVO fob Singapore (Class I)
- RED HVO fob Singapore (Class II)
- RED HVO fob Singapore (Class III)
- RED HVO fob Singapore (Class IV)
- RED POME OME fob China bulk
- SAF fob ARA range
- SAF fob Singapore
- Bionaphtha fob ARA range
- Bionaphtha cfr northeast Asia range
• Biopropane fca ARA range
• RSO fob Dutch mill prompt (€/t)
• UCO fob ARA range
• UCO cif ARA
• UCO ex-works Netherlands
• Tallow (categories 1 and 2) fca northwest Europe
• Tallow (category 3) fca northwest Europe
• POME oil cif ARA
• RED premium bulk UCO fob China
• RED bulk UCO fob Straits of Malacca
• RED UCO fob China
• RED UCO fob Indonesia
• RED UCO fob Vietnam
• RED bulk UCO fob China
• RED POME oil fob Malaysia/Indonesia
• RED (T2) premium Ethanol fob ARA range, inc duty
• RED (T2) premium Ethanol fob ARA range, inc duty differential to Eurobob oxy
• RED (T2) Ethanol fob ARA range, inc duty
• RED (T2) Ethanol fob ARA range, inc duty (€/m³)
• RED (T2) Ethanol fob ARA range, inc duty differential to Eurobob oxy
• Ethanol fob Pakistan

UK renewable transport fuel certificate (RTFC)
The price of an RTFC, a certificate acceptable for use in meeting the legally prescribed volumetric obligation for finished transport fuel under the UK Renewable Transport Fuel Obligation (RTFO).

Prices are assessed and published as the best bid and offer in the market at 4:30pm London time.

Currency/unit: p/RTFC (p/l)
Timing: prices are assessed for the most recent obligation period that has yet to be surrendered and may also be assessed for forward obligation periods for which Argus has determined that sufficient market liquidity exists to produce a robust assessment.

The obligation period ends on 31 December, and obligations are surrendered on 15 September the following year. Argus ceases the assessment of the obligation year on 15 June of the following year. Argus will publish a 2020 obligation period up to and including 15 June 2021.

Crop-based RTFC
The price of an RTFC generated by single counting crop-based biofuels as defined under UK RTFO Order 2007 No. 3072 and subsequent amendments.

Other RTFC
The price of an RTFC generated by double counting biofuels produced from wastes and processing residues, agricultural residues, non-food cellulosic and ligno-cellulosic material and renewable fuels of non-biological origin, as defined under UK RTFO Order 2007 No. 3072 and subsequent amendments.

Netherlands renewable fuel units (HBE)
The price of an HBE, a certificate acceptable for use in meeting the legally prescribed energetic obligation for finished transport fuel under the Netherlands’ Energy for Transport Registry. Prices are assessed and published daily as the best bid and offer in the market at 4:30pm London time.

Currency/unit: €/GJ
Timing: All HBE prices are assessed for the most recent obligation period that has yet to be surrendered and may also be assessed for forward obligation periods for which Argus has determined that sufficient market liquidity exists to produce a robust assessment.

The obligation period ends on 31 December, and obligations are surrendered on 30 April the following year. Argus ceases the assessment of the obligation year on 30 April of the following year and begins assessing the next obligation period no later than 31 March of the obligation year.

For example, Argus will begin publishing a 2023 obligation period assessment no later than 31 March 2023 but may begin publication...
earlier than that date should Argus deem market liquidity sufficient to produce a robust assessment. Argus will publish a 2023 obligation period up to and including 30 April 2024.

Netherlands advanced renewable fuel units (Hernieuwbare brandstoffen-eenheden-Geavanceerd)
The price of an advanced renewable fuel unit (HBE-G), acceptable for use in meeting the legally prescribed energetic obligation for finished transport fuel under the Netherlands’ Energy for Transport Registry.

Netherlands conventional renewable fuel units (Hernieuwbare brandstoffen-eenheden-Conventioneel)
The price of a conventional renewable fuel unit (HBE-C), acceptable for use in meeting the legally prescribed energetic obligation for finished transport fuel under the Netherlands’ Energy for Transport Registry.

Netherlands other renewable fuel units (Hernieuwbare brandstoffen-eenheden-Overig)
The price of an ‘other’ renewable fuel unit (HBE-O), acceptable for use in meeting the legally prescribed energetic obligation for finished transport fuel under the Netherlands’ Energy for Transport Registry.

Netherlands Annex IX part B renewable fuel units (Hernieuwbare brandstoffen-eenheden-bijlage IX-B)
The price of an Annex IX part B renewable fuel unit (HBE-IXB) acceptable for use in meeting the legally prescribed energetic obligation for finished transport fuel under the Netherlands’ Energy for Transport Registry.

Renewable gas guarantees of origin
Prices are published weekly on Thursday for renewable gas guarantees of origin (RGGOs) issued for gas produced in Denmark, the Netherlands and the UK. Prices are published for gas produced during the previous calendar year, current calendar year and one year ahead and for two feedstock categories, crop-based and waste-based. See the Argus European Natural Gas methodology.

Freight
Argus Biofuels contains freight cost assessments. Freight assessments are published weekly on Friday and are the low-high range of the price at which fixtures were made or could have been made on the day of publication. Assessments are based on fixtures and market discussions for the relevant cargo, volume, route and timings. Freight assessments are published in US dollars/t.

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<th>Commodity</th>
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<td>Palm oil</td>
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<td>15,000-30,000t</td>
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<tr>
<td>Palm oil</td>
<td>Malaysia to Mediterranean region (including Genoa, Barcelona and Huelva)</td>
<td>15,000-30,000t</td>
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<tr>
<td>PME</td>
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</tr>
<tr>
<td>PME</td>
<td>Malaysia to Mediterranean region (including Genoa, Barcelona and Huelva)</td>
<td>3,000-5,000t</td>
<td>15-30 days</td>
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<tr>
<td>HVO</td>
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<td>40,000t</td>
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<td>Ethanol</td>
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<tr>
<td>UCO/POME oil</td>
<td>Malaysia to Mediterranean region (including Genoa, Barcelona and Huelva)</td>
<td>3,000-5,000t</td>
<td>15-30 days</td>
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<tr>
<td>UCOME/HVO</td>
<td>China to ARA region</td>
<td>5,000t</td>
<td>15-30 days</td>
</tr>
</tbody>
</table>

Forward price assessments and swaps
All RED swaps and forward assessments assume product that is accompanied with RED-compliant certification issued by the European Commission-approved auditing body. All RED swaps and forward prices are assessed for three months and three quarters forward. The last day of assessment of the first forward month will be the last full UK day of trading of that month prior to the Ice low-sulphur gasoil last trade date. The last day of assessment of the first forward quarter will be the last full UK day of trading prior to the Ice low-sulphur gasoil last trade date of the month preceding the start of the quarter.

Swap and forward price assessments are published for:

- RED RME swap
- RED Fame 0°C CFPP swap
- RED UCOME fob ARA range swap
- RED PME forward physical
- RED SME forward physical
- RED Fame -10°C CFPP forward physical
- RED (T2) Ethanol fob ARA range swap

See spot price assessments above for specifications.
Timestamp: 4:30pm London time
Ice gasoil swap
The front-month Ice gasoil swaps price is calculated as the number of working days in the current calendar month including and between the publication date and the last working day of the month pro-rata for the two possible Ice gasoil front-month settles based on the days covered by each contract.

Ice gasoil settle
The official settlement figures published by Ice in London.

7-28 day Ice gasoil
Calculated on the day of assessment as the average of settlement prices for the first or first and second forward month Ice gasoil contract, weighted by the number of Argus publishing days in the 7-28 day loading period.

7-28 day HVO-escalated Ice gasoil
The 7-28 day Ice gasoil price adjusted to an HVO-equivalent density of 0.78kg/l, assuming a gasoil density of 0.845kg/l in a vacuum at 15°C.

7-28 day SAF-escalated Ice gasoil
The 7-28 day Ice gasoil price adjusted to an SAF-equivalent density of 0.76kg/l, assuming a gasoil density of 0.845kg/l in a vacuum at 15°C.

Palm oil-gasoil spread (Pogo)
The spread between the third forward month Bursa Malaysia palm oil futures settlement price and the corresponding Ice low sulphur gasoil futures settlement price.

Currency/unit: US dollars/tonne
Conversion and rounding: palm oil futures prices are converted to US dollars and rounded to the nearest $0.25/t
Assessment time: the timestamp for the spread is 4.30pm London time, based on the latest available Bursa Malaysia and Ice prices. The assessment follows the Argus rolling schedule for Bursa Malaysia futures prices. The palm oil-gasoil spread is published on Argus Biofuels publication dates for which the relevant Bursa Malaysia and Ice futures prices are available.

Bean oil-gasoil spread (Bogo)
The spread between the second forward month Cbot soybean oil futures price and the corresponding Ice low sulphur gasoil futures settlement price.

Currency/unit: US dollars/tonne
Conversion and rounding: soybean oil futures prices are converted to metric tonnes and rounded to the nearest $0.25/t
Assessment time: the timestamp for the spread is 4.30pm London time, based on the latest available Cbot and Ice prices. The assessment follows the Cbot rolling schedule. The bean oil-gasoil spread is published only on Argus Biofuels publication dates for which the relevant Cbot and Ice futures prices are available.