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## ***ARGUS TANKER FREIGHT***

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The most up-to-date *Argus Tanker Freight* methodology is available on [www.argusmedia.com](http://www.argusmedia.com)

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## Methodology overview

### Methodology rationale

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

In the freight markets, Argus publishes physical market prices in the open market as laid out in the specifications and methodology guide. Argus uses the trading period deemed by Argus to be most appropriate, in consultation with industry, to capture market liquidity. In order to be included in the assessment process, deals must meet the minimum volume, delivery, timing and specification requirements in our methodology. In illiquid markets, and in other cases where deemed appropriate, Argus assesses the range within which product could have traded by applying a strict process outlined later in this methodology.

### Survey process

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

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

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

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

### Market data usage

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

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

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

### Verification of transaction data

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

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

### Primary tests applied by reporters

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

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

### Secondary tests applied by editors for transactions identified for further scrutiny

#### Transaction tests

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

#### Source tests

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

### Assessment guidelines

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

The assessment process employing judgment is rigorous, replicable, and uses widely accepted valuation metrics. These valuation metrics mirror the process used by physical commodity traders

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

#### Relative value transactions

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

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

#### Bids and offers

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

#### Comparative metrics

The relative values between compared commodities are readily discussed in the market and can be discovered through dialogue with market participants. These discussions are the precursor to negotiation and conclusion of transactions.

- Comparison to the same commodity in another market centre.
- Comparison to a more actively traded but slightly different specification commodity in the same market centre.
- Comparison to the same commodity traded for a different delivery timing.
- Comparison to the commodity’s primary feedstock or primary derived product(s).
- Comparison to trade in the same commodity but in a different modality (as in barge versus oceangoing vessel) or in a different total volume (as in full cargo load versus partial cargo load).

#### Volume minimums and transaction data thresholds

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

For price assessments used to settle derivatives, Argus will seek to establish minimum transaction data thresholds and when no such

threshold can be established Argus will explain the reasons. These thresholds will often reflect the minimum volumes necessary to produce a transaction-based methodology, but may also establish minimum deal parameters for use by a methodology that is based primarily on judgment.

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

### Transparency

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

### Swaps and forwards markets

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

### Publications and price data

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

A publication schedule is available at [www.argusmedia.com](http://www.argusmedia.com)

### Corrections to assessments

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

### Ethics and compliance

Argus operates according to the best practices in the publishing field, and maintains thorough compliance procedures throughout the firm. We want to be seen as a preferred provider by our subscribers, who are held to equally high standards, while at the same time maintaining our editorial integrity and independence. Argus has a strict ethics policy that applies to all staff. The policy can be

found on our website at [www.argusmedia.com](http://www.argusmedia.com). Included in this policy are restrictions against staff trading in any energy commodity or energy related stocks, and guidelines for accepting gifts. Argus also has strict policies regarding central archiving of email and instant messenger communication, maintenance and archiving of notes, and archiving of spreadsheets and deal lists used in the price assessment process. Argus publishes prices that report and reflect prevailing levels for open-market arms length transactions (please see the [Argus Global Compliance Policy](#) for a detailed definition of arms length).

### Consistency in the assessment process

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

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

### Review of methodology

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

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

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

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

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

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

### Changes to methodology

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

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

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

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

## Introduction

Argus Tanker Freight is a daily market report that publishes prices and market commentary on the international shipping spot market for crude and petroleum products.

Assessments are of typical and repeatable freight rates discussed in the market. The assessed prices are based on prices from the open spot market whenever possible. Argus Tanker Freight assessments are of the prices at which vessels have been fixed and could be fixed. A fixture does not need to be concluded with subjects lifted in order for a rate to be taken into account when making an assessment. Offers of and bids for tonnage and discussed market levels will also be considered for inclusion in the assessment if deemed to be representative of an achievable market rate.

Argus assessments are of the prevailing market rate within the parameters defined in this document.

Rates are based on fixtures and market discussion for forward periods specified below. Argus takes into account liquidity outside this period and market structure.

Argus does not independently calculate or include an allowance for low-sulphur fuel costs within the Baltic and North Sea, North America and Caribbean Emissions Control Areas (ECAs). If the market in a given sector evolves to incorporate an allowance for increased fuel costs within the ECA as a convention, Argus will exercise its discretion in assessing the prevailing spot price.

Argus market specialists conduct comprehensive daily surveys of key industry participants to collect trade information and gauge prevailing market sentiment. Argus price assessments for Argus Tanker Freight include market information gathered on fixtures and daily bid/ask spreads for each route under standardised specifications and under the general terms and conditions employed for the standard contracts in common use.

The market surveys are balanced in their approach and are conducted by well-trained specialists who are part of a dedicated team responsible for the Argus Tanker Freight report.

The Argus methodology relies on a common sense approach and informed analysis of all market data. The market surveys involve more than 30 market participants contacted by telephone or electronically. Market participants each day include ship owners, oil company charterers and ship brokers. The information is verified and analysed. The approach is methodical and standardised and the assessments are tested against the views of other market participants. Argus Tanker Freight does not use the Baltic Exchange for its freight assessments.

Factors including but not limited to vessel age (often from 15 years and older for certain vessel classes and in certain markets), the last cargo carried, an absence of Sire certificate, recent dry docking, non-standard cargoes and positioning considerations may affect the agreed rate. Argus will, where possible, remove discounts or premiums from rates considered for inclusion in an assessment, following discussion with the market.

Information from the survey is verified as best possible and archived in databases.

Assessments are of prevailing market levels at the end of the trading day or week as specified in the tables below.

Regional freight data will become available at the close of business in Asia, Europe-Africa, and the Americas.

## Oil and refined products

Argus Tanker Freight contains assessments of the prevailing Worldscale spot rates for generic routes for dirty and clean tankers and also US dollars per tonne costs for all routes reported. Market commentary is provided for the main routes. The key benchmark Mideast Gulf\* to east route is based on double hull ships.

The assessment, whenever possible, will be based on tonnage that has passed two major oil companies' vetting procedure in the previous 12 months. If fixing activity for well approved tonnage constitutes a minority of the total market activity in a sector, Argus will consider any other relevant market information in making the Argus assessment. Fixtures and bid/ask ranges outside of the Argus specifications are considered when assessing prices if market participants believe they have affected market values for the routes under the standardised terms reported in the Argus Tanker Freight report.

All day information is taken into account but if the market shows high intra-day volatility, Argus will weight the assessments towards trading activity at the end of the working day up to the cut-off times in the specifications listed below.

*\* This stretch of water is traditionally referred to as the Persian Gulf but some reference prices used by the industry refer to it as the Arab Gulf. Argus Tanker Freight uses Mideast Gulf to avoid any contractual confusion.*

### Units of measurement

Argus Tanker Freight assessments for dirty and clean tankers are made in Worldscale spot rates and are inter-regional (regions defined below) and are not port specific. The conversion from Worldscale spot rates assessed by Argus to a \$/t figure in the Argus Tanker Freight report is made using an average of the three most typically-used Worldscale flat rates in a region. The Mideast Gulf-Singapore 55,000t gasoil and Guyana-Panama 130,000t rates are exceptions, based on an average of the two most typically-used Worldscale flat rates in each region. This does not mean that only fixtures for those routes are taken into account; these routes are used only to derive a typical Worldscale flat rate which is then applied to the inter-regional Worldscale spot assessment.

All assessments and formulas refer to the price of the product on the day of the published report and expressed in Worldscale spot rates and/or US dollars a tonne 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.

All rates are published in \$/t. Indicated rates are assessed and published as lump sums and converted to \$/t, except for the US Gulf Coast Aframax reverse lightering assessment. References to t or tonnes are metric tonnes.

### Clean and dirty vessels

Unless otherwise specified in the description of assessed rates below, "dirty" refers to shipping that is chartered for the shipment of crude, or of dirty petroleum products (DPP), which are fuel oil and

vacuum gasoil. "Clean" refers to shipping that is chartered for the shipment of "clean petroleum products" (CPP), which are gasoline, naphtha and middle distillates. LPG rates are assessed separately.

### Vessel type

To be considered for inclusion in oil and refined products freight rate assessments, vessels must be double hull and double bottomed with segregated ballast tanks.

Clean rates in the Mediterranean and Black Sea assume a base rate for gasoil.

See the complete list of assessed [clean](#) and [dirty](#) oil and refined freight rates and their specifications below.

## Time charter assessments

Time-charter rates are the \$/ day cost of hiring a standard tanker for a duration of one, three or five years. Time-charter rates exclude bunker costs, port fees, canal tolls, and other voyage-related fees. Argus assesses time-charter rates weekly on Wednesday and on the following day if Wednesday is a holiday.

For each vessel class, separate assessments are published for one-, three- and five-year time charters, except Panamax crude tankers, for which only one-year time charter rates are assessed.

Time-charter rates are published for:

#### Dirty

- VLCC
- Suezmax
- Aframax
- Panamax

#### Clean

- LR2
- LR1
- MR

## Oil and products calculated rates

Argus publishes a series of calculated time-charter equivalent and voyage rates for clean and dirty vessels on specified routes. Time-charter equivalent rates are based on assessed \$/t freight rates, bunker fuel costs and Argus assessments of other costs involved with the voyage. Calculated voyage rates are based on assessed one-year time-charter rates, bunker fuel costs and Argus assessments of other costs involved with the voyage.

All time-charter equivalent rates are calculated using the same generalised formula:  $TCE (\$/day) = (Voyage\ rate (\$/t) \times Cargo\ size (t) - Costs (\$)) / Voyage\ duration$

All voyage rates are calculated using the same generalised formula:  $Voyage\ rate (\$/t) = (Time-charter\ rate (\$/d) \times Voyage\ duration + Costs (\$)) / Cargo\ size (t)$

Lumpsum rates are calculated for several routes originating in Russia. The calculation uses the generalised formula:  $Lumpsum\ rate (\$) = (Time-charter\ equivalent\ rate (TCE, \$/d) \times Voyage\ duration + Costs (\$))$ .

The TCE rates used in the calculation are derived from the Argus assessment of rates for 80,000t or 135,000t cargoes of non-Russian crude on the Black Sea to Mediterranean route. Calculated lumpsum values for routes ending in China are adjusted for the longer voyage using Argus assessments of rates for routes delivering in India and east Asia.

To differentiate these calculated rates from assessments of market rates on similar routes, they are named "baseline" rates in print and across digital distribution channels.

## Bunker fuel

Published time-charter equivalent rates are based on vessels burning 0.5pc sulphur fuel oil. VLCC and Suezmax rates are also published for scrubber-equipped vessels burning 3.5pc sulphur fuel oil.

Fuel prices are the latest Argus assessments at the named fuelling location (Singapore, Fujairah, South Korea, far east Russia, Rotterdam, Gibraltar and Houston) available at the time of publication. See the [Argus Marine Fuels methodology](#).

## Assumptions

In addition to those specified below, Argus also assumes standard sea margins, and standard address and broker commissions. All routes assume two days for each loading and discharge and 36 hours of waiting time added to the duration of the voyage.

Unless otherwise specified, all voyages are assumed to take the shortest-distance route, via canals if possible. Canals costs are included where necessary. Panama Canal transits are assumed to have been pre-booked and to add two days to the voyage time, one in transit and one waiting. Suez Canal transits are assumed to add one day to the voyage time, 12 hours in transit and 12 hours waiting.

All assumptions are under continual review and are updated at least once a year.

### Vessel assumptions and port costs – VLCC

| Term   | Value   | Port           | Cost    |
|--|---------|----------------|---------|
| Deadweight tonnage (dwt)                     | 319,000 | Basrah         | 318,000 |
| Length (m)                                   | 333     | Bonny          | 60,000  |
| Beam (m)                                     | 60      | Corpus Christi | 250,000 |
| Speed (knots)                                | 12.5    | LOOP           | 40,000  |
| Ballast fuel consumption (t/d)               | 47      | Los Angeles    | 94,000  |
| Laden fuel consumption (t/d)                 | 65      | Ningbo         | 194,000 |
| Loading operation fuel consumption (t/d)     | 20      | Ras Tanura     | 80,000  |
| Discharging operation fuel consumption (t/d) | 110     | Rotterdam      | 312,000 |
| Idle consumption (t/d)                       | 10      |                |         |

### Vessel assumptions and port costs – Suezmax

| Term   | Value   | Port         | Cost    |
|--|---------|--------------|---------|
| Deadweight tonnage (dwt)                     | 158,000 | Basrah       | 295,000 |
| Length (m)                                   | 275     | Bonny        | 40,000  |
| Beam (m)                                     | 48      | Houston      | 127,000 |
| Speed (knots)                                | 12.5    | Mumbai       | 170,000 |
| Ballast fuel consumption (t/d)               | 39      | Murmansk     | 52,000  |
| Laden fuel consumption (t/d)                 | 49      | Ningbo       | 115,000 |
| Loading operation fuel consumption (t/d)     | 12      | Novorossiysk | 53,000  |
| Discharging operation fuel consumption (t/d) | 68      | Qingdao      | 65,000  |
| Idle consumption (t/d)                       | 10      | Ras Tanura   | 25,000  |
|  |         | Rotterdam    | 168,000 |
|  |         | Singapore    | 57,500  |
|  |         | Trieste      | 87,000  |

**Vessel assumptions and port costs – Aframax and LR2**

| Term   | Value   | Port               | Cost    |
|--|---------|--------------------|---------|
| Deadweight tonnage (dwt)                     | 115,000 |                    |         |
| <b>Aframax port costs</b>                    |         |                    |         |
| Length (m)                                   | 250     | Arzew              | 175,000 |
| Beam (m)                                     | 44      | Batangas           | 46,000  |
| Speed (knots)                                | 12.5    | Bukit Tua          | 43,750  |
| Ballast fuel consumption (t/d)               | 34      | Dalian             | 61,500  |
| Laden fuel consumption (t/d)                 | 40      | De-Kastri          | 27,000  |
| Loading operation fuel consumption (t/d)     | 10      | Dongjiakou         | 53,000  |
| Discharging operation fuel consumption (t/d) | 49      | Dongying           | 45,660  |
| Idle consumption (t/d)                       | 5       | Dos Bocas          | 63,000  |
| Maintain heat (t/d)                          | 10      | Fujairah           | 46,000  |
| Heat up (t/d)                                | 17.5    | Geelong            | 128,000 |
|  |         | Houston            | 86,000  |
|  |         | Huangdao           | 70,000  |
|  |         | Huanghua           | 70,000  |
|  |         | Huizhou            | 75,000  |
|  |         | Jinzhou            | 58,000  |
|  |         | Kiire              | 82,000  |
|  |         | Kikuma             | 82,000  |
|  |         | Kimanis            | 115,500 |
|  |         | Kochi              | 89,000  |
|  |         | Kozmino            | 90,000  |
|  |         | Lianyungang        | 72,500  |
|  |         | Longkou            | 82,000  |
|  |         | Mumbai             | 75,000  |
|  |         | Nakhodka           | 27,800  |
|  |         | Ningbo             | 64,500  |
|  |         | Novorossiysk       | 115,000 |
|  |         | Panjin             | 56,000  |
|  |         | Paradip            | 84,000  |
|  |         | Primorsk           | 80,000  |
|  |         | Qingdao            | 41,000  |
|  |         | Qinzhou            | 55,400  |
|  |         | Rizhao             | 127,000 |
|  |         | Rotterdam          | 127,000 |
|  |         | Shanghai           | 53,000  |
|  |         | Sikka              | 110,000 |
|  |         | Singapore          | 32,500  |
|  |         | Sriracha           | 18,000  |
|  |         | Tianjin            | 50,000  |
|  |         | Trieste            | 65,000  |
|  |         | Visakhapatnam      | 130,760 |
|  |         | Yangshan           | 47,700  |
|  |         | Yantai             | 69,000  |
|  |         | Yeosu              | 35,000  |
|  |         | Yeosu STS discount | 20,000  |
|  |         | Zhanjiang          | 69,000  |
|  |         | Zhoushan           | 75,000  |
| <b>LR2 port costs</b>                        |         |                    |         |
|  |         | Arzew              | 194,000 |
|  |         | Chiba              | 69,000  |
|  |         | Oita               | 46,000  |
|  |         | Ras Tanura         | 40,000  |
|  |         | Rotterdam          | 115,200 |
|  |         | Santos             | 110,000 |
|  |         | Sikka              | 92,200  |
|  |         | Yanbu              | 9,800   |

**Vessel assumptions and port costs – Panamax and LR1**

| Term   | Value  | Port       | Cost    |
|--|--------|------------|---------|
| Deadweight tonnage (dwt)                     | 74,000 |            |         |
| <b>Panamax port costs</b>                    |        |            |         |
| Length (m)                                   | 228    | Esmeraldas | 33,000  |
| Beam (m)                                     | 32     | Houston    | 60,000  |
| Speed (knots)                                | 12.5   |            |         |
| <b>LR1 port costs</b>                        |        |            |         |
| Ballast fuel consumption (t/d)               | 28     | Arzew      | 124,000 |
| Laden fuel consumption (t/d)                 | 32     | Chiba      | 57,500  |
| Loading operation fuel consumption (t/d)     | 5      | Oita       | 40,700  |
| Discharging operation fuel consumption (t/d) | 32     | Ras Tanura | 30,000  |
| Idle consumption (t/d)                       | 5      | Rotterdam  | 86,400  |
|  |        | Sikka      | 58,700  |
|  |        | Singapore  | 25,000  |
|  |        | Yanbu      | 8,800   |

**Vessel assumptions and port costs – handysize**

| Term   | Value  | Port       | Cost   |
|--|--------|------------|--------|
| Deadweight tonnage (dwt)                     | 37,500 | Arzew      | 71,400 |
| Length (m)                                   | 175    | Brofjordan | 42,000 |
| Beam (m)                                     | 27.5   | Rotterdam  | 56,000 |
| Speed (knots)                                | 12.5   | Trieste    | 36,300 |
| Ballast fuel consumption (t/day)             | 20     |            |        |
| Laden fuel consumption (t/d)                 | 24     |            |        |
| Loading operation fuel consumption (t/d)     | 5      |            |        |
| Discharging operation fuel consumption (t/d) | 20     |            |        |
| Idle consumption (t/d)                       | 5      |            |        |

**Vessel assumptions and port costs – MR**

| Term   | Value  | Port          | Cost   |
|--|--------|---------------|--------|
| Deadweight tonnage (dwt)                     | 51,000 | Augusta       |        |
| Length (m)                                   | 183    | Chiba         | 37,500 |
| Beam (m)                                     | 32.2   | Coronel       | 84,000 |
| Speed (knots)                                | 12.5   | Daesan        | 35,000 |
| Ballast fuel consumption (t/d)               | 22     | Dalian        | 30,000 |
| Laden fuel consumption (t/d)                 | 26     | Dar es Salaam | 30,000 |
| Loading operation fuel consumption (t/d)     | 5      | Houston       | 42,000 |
| Discharging operation fuel consumption (t/d) | 25     | Los Angeles   | 40,600 |
| Idle consumption (t/d)                       | 5      | New York      | 42,000 |
|  |        | Pengerang     | 8,000  |
|  |        | Port Botany   | 60,000 |
|  |        | Pozos         | 87,000 |
|  |        | Ras Tanura    | 20,000 |
|  |        | Rotterdam     | 56,000 |
|  |        | Santa Panagia | 28,000 |
|  |        | Sarroch       | 55,000 |
|  |        | Singapore     | 20,000 |
|  |        | Tanjung Bin   | 7,000  |
|  |        | Yeosu         | 30,000 |

**Oil and products TCE assessments**

| Load port                           | Discharge port | Cargo size (t) | Bunker Price     | Vessel starting position |
|-------------------------------------|----------------|----------------|------------------|--------------------------|
| <b>Dirty tanker TCE assessments</b> |                |                |                  |                          |
| Ras Tanura*                         | LOOP*          | 280,000        | Singapore        | Ningbo                   |
| Ras Tanura**                        | Rotterdam**    | 280,000        | Singapore        | Ningbo                   |
| Basrah                              | Los Angeles    | 280,000        | Fujairah         | Los Angeles              |
| Corpus Christi                      | Ningbo         | 270,000        | Singapore        | Ningbo                   |
| Ras Tanura                          | Ningbo         | 270,000        | Singapore        | Ningbo                   |
| Bonny                               | Ningbo         | 260,000        | Singapore        | Ningbo                   |
| Houston                             | Rotterdam      | 145,000        | Rotterdam        | Rotterdam                |
| Basrah                              | Trieste        | 140,000        | Singapore        | Ningbo                   |
| Novorossiysk-CPC                    | Ningbo         | 135,000        | Singapore        | Ningbo                   |
| Bonny                               | Rotterdam      | 130,000        | Rotterdam        | Rotterdam                |
| Ras Tanura                          | Qingdao        | 130,000        | Singapore        | Qingdao                  |
| Ras Tanura                          | Singapore      | 130,000        | Singapore        | Singapore                |
| Kozmino                             | Longkou        | 100,000        | Russian far east | Longkou                  |
| Arzew                               | Trieste        | 80,000         | Gibraltar        | Trieste                  |
| Fujairah                            | Singapore      | 80,000         | Singapore        | Singapore                |
| Bukit Tua                           | Kikuma         | 80,000         | Singapore        | Kikuma                   |
| Kimanis                             | Geelong        | 80,000         | Singapore        | Geelong                  |
| Dos Bocas                           | Houston        | 70,000         | Houston          | Houston                  |
| Houston                             | Rotterdam      | 70,000         | Houston          | Rotterdam                |

\*Laden leg via Cape of Good Hope/ballast leg via Suez

\*\*Laden leg and ballast leg via Cape of Good Hope

**Dirty tanker voyage rate assessments**

Based on Kozmino-north China 100,000t TCE

|            |             |         |                  |         |
|------------|-------------|---------|------------------|---------|
| De-Kastri* | Batangas    | 100,000 | Russian far east | Longkou |
| De-Kastri* | Dalian      | 100,000 | Russian far east | Longkou |
| De-Kastri* | Dongjiakou  | 100,000 | Russian far east | Longkou |
| De-Kastri* | Dongying    | 100,000 | Russian far east | Longkou |
| De-Kastri* | Huangdao    | 100,000 | Russian far east | Longkou |
| De-Kastri* | Hunaghua    | 100,000 | Russian far east | Longkou |
| De-Kastri* | Huizhou     | 100,000 | Russian far east | Longkou |
| De-Kastri* | Jinzhou     | 100,000 | Russian far east | Longkou |
| De-Kastri* | Kiire       | 100,000 | Russian far east | Longkou |
| De-Kastri* | Kochi       | 100,000 | Russian far east | Longkou |
| De-Kastri* | Longkou     | 100,000 | Russian far east | Longkou |
| De-Kastri* | Lianyungang | 100,000 | Russian far east | Longkou |
| De-Kastri* | Mumbai      | 100,000 | Russian far east | Longkou |
| De-Kastri* | Ningbo      | 100,000 | Russian far east | Longkou |
| De-Kastri* | Panjin      | 100,000 | Russian far east | Longkou |
| De-Kastri* | Paradip     | 100,000 | Russian far east | Longkou |
| De-Kastri* | Qingdao     | 100,000 | Russian far east | Longkou |
| De-Kastri* | Qinzhou     | 100,000 | Russian far east | Longkou |
| De-Kastri* | Rishao      | 100,000 | Russian far east | Longkou |
| De-Kastri* | Shanghai    | 100,000 | Russian far east | Longkou |
| De-Kastri* | Sikka       | 100,000 | Russian far east | Longkou |
| De-Kastri* | Singapore   | 100,000 | Russian far east | Longkou |
| De-Kastri* | Sriracha    | 100,000 | Russian far east | Longkou |
| De-Kastri* | Tianjin     | 100,000 | Russian far east | Longkou |
| De-Kastri* | Yangshan    | 100,000 | Russian far east | Longkou |

**Oil and products TCE assessments**

| Load port  | Discharge port | Cargo size (t) | Bunker Price     | Vessel starting position |
|------------|----------------|----------------|------------------|--------------------------|
| De-Kastri* | Yantai         | 100,000        | Russian far east | Longkou                  |
| De-Kastri* | Yeosu          | 100,000        | Russian far east | Longkou                  |
| De-Kastri* | Yeosu STS      | 100,000        | Russian far east | Longkou                  |
| De-Kastri* | Zhanjiang      | 100,000        | Russian far east | Longkou                  |
| De-Kastri* | Zhoushan       | 100,000        | Russian far east | Longkou                  |
| Kozmino    | Paradip        | 100,000        | Russian far east | Longkou                  |
| Kozmino    | Sikka          | 100,000        | Russian far east | Longkou                  |
| Kozmino    | Singapore      | 100,000        | Russian far east | Longkou                  |

Based on De-Kastri to Nakhodka 100,000t TCE

|           |                |         |                  |          |
|-----------|----------------|---------|------------------|----------|
| De-Kastri | Nakhodka       | 100,000 | Russian far east | Nakhodka |
| De-Kastri | Nakhodka STS** | 100,000 | Russian far east | Nakhodka |

\*\*includes a weekly assessed ship-to-ship (STS) transfer cost

Based on Aframax one-year time charter

|            |             |         |             |             |
|------------|-------------|---------|-------------|-------------|
| Esmeraldas | Los Angeles | 100,000 | Los Angeles | Los Angeles |
|------------|-------------|---------|-------------|-------------|

Based on Panamax one-year time charter

|            |         |        |         |         |
|------------|---------|--------|---------|---------|
| Esmeraldas | Houston | 50,000 | Houston | Houston |
|------------|---------|--------|---------|---------|

Based on Yeosu-East Coast India 100,000t TCE

|            |               |         |                  |         |
|------------|---------------|---------|------------------|---------|
| Yeosu STS* | Dongying      | 100,000 | Russian far east | Longkou |
| Yeosu STS* | Huangdao      | 100,000 | Russian far east | Longkou |
| Yeosu STS* | Huanghua      | 100,000 | Russian far east | Longkou |
| Yeosu STS* | Huizhou       | 100,000 | Russian far east | Longkou |
| Yeosu STS* | Qingdao       | 100,000 | Russian far east | Longkou |
| Yeosu STS* | Tianjin       | 100,000 | Russian far east | Longkou |
| Yeosu STS* | Visakhapatnam | 100,000 | Russian far east | Longkou |

Based on Yeosu-West Coast India 100,000t TCE

|            |        |         |                  |         |
|------------|--------|---------|------------------|---------|
| Yeosu STS* | Kochi  | 100,000 | Russian far east | Longkou |
| Yeosu STS* | Mumbai | 100,000 | Russian far east | Longkou |
| Yeosu STS* | Sikka  | 100,000 | Russian far east | Longkou |

\*Also published in lumpsum

**Russian dirty tanker baseline rates**

|              |             |         |           |             |
|--------------|-------------|---------|-----------|-------------|
| Primorsk     | north China | 100,000 | Singapore | north China |
| Primorsk     | WC India    | 100,000 | Rotterdam | WC India    |
| Murmansk     | north China | 140,000 | Singapore | north China |
| Murmansk     | WC India    | 140,000 | Rotterdam | WC India    |
| Novorossiysk | north China | 140,000 | Singapore | north China |
| Novorossiysk | WC India    | 140,000 | Gibraltar | WC India    |
| Novorossiysk | north China | 80,000  | Singapore | north China |
| Novorossiysk | WC India    | 80,000  | Gibraltar | WC India    |

**Oil and products TCE assessments**

| Load port  | Discharge port | Cargo size (t) | Bunker Price | Vessel starting position |
|--|----------------|----------------|--------------|--------------------------|
| <b>Clean tanker TCE assessments</b>                    |                |                |              |                          |
| Ras Tanura   | Rotterdam      | 90,000         | Rotterdam    | Rotterdam                |
| Sikka  | Rotterdam      | 90,000         | Rotterdam    | Rotterdam                |
| Yanbu  | Rotterdam      | 90,000         | Rotterdam    | Rotterdam                |
| Arzew  | Oita           | 80,000         | Singapore    | Rotterdam                |
| Ras Tanura   | Chiba          | 75,000         | Singapore    | Chiba                    |
| Ras Tanura   | Rotterdam      | 65,000         | Rotterdam    | Rotterdam                |
| Sikka  | Rotterdam      | 65,000         | Fujairah     | Rotterdam                |
| Yanbu  | Rotterdam      | 65,000         | Rotterdam    | Rotterdam                |
| Arzew  | Oita           | 60,000         | Singapore    | Rotterdam                |
| Ras Tanura   | Chiba          | 55,000         | Singapore    | Chiba                    |
| Ras Tanura   | Singapore      | 55,000         | Singapore    | Singapore                |
| Houston  | Pozos          | 38,000         | Houston      | Pozos                    |
| Houston  | Coronel        | 38,000         | Houston      | Coronel                  |
| Rotterdam  | New York       | 37,000         | Rotterdam    | Rotterdam                |
| Daesan   | Port Botany    | 35,000         | South Korea  | Port Botany              |
| Ras Tanura   | Chiba          | 35,000         | Singapore    | Singapore                |
| Ras Tanura   | Singapore      | 35,000         | Singapore    | Singapore                |
| Ras Tanura   | Dar es Salaam  | 35,000         | Fujairah     | Dar es Salaam            |
| Singapore  | Port Botany    | 35,000         | Singapore    | Port Botany              |
| Yeosu  | Los Angeles    | 35,000         | South Korea  | Los Angeles              |
| Yeosu  | Singapore      | 35,000         | South Korea  | Hong Kong                |
| Southeast Asia*<br>(Singapore, Tanjung Bin, Pengerang) | Walvis Bay     | 35,000         | Singapore    | Singapore                |
| Mediterranean*<br>(Augusta, Sarroch, Santa Panagia)    | Walvis Bay     | 35,000         | Gibraltar    | Mediterranean            |
| Arzew  | Trieste        | 30,000         | Gibraltar    | Trieste                  |
| Brojorden  | Rotterdam      | 30,000         | Rotterdam    | Rotterdam                |
| Dalian   | Singapore      | 30,000         | Singapore    | Hong Kong                |

\*Also published in *Worldscale*

### Additional war risk premium

Argus Tanker Freight includes assessments of the cost of additional war risk insurance premiums (AWRP) for crude- and product-carrying vessels calling at Russian ports.

#### Dirty tankers

- Baltic Sea Aframax
- Black Sea Aframax
- Barents Sea Suezmax
- Black Sea Suezmax

AWRP are also calculated as \$/bl costs for the named crude using the latest available bl/t density figure for each grade.

- Urals Novorossiysk Aframax
- Urals Ust-Luga Aframax
- Urals Novorossiysk Suezmax
- Varandey Blend Murmansk Suezmax
- Novy Port Light Murmansk Suezmax
- Arco Murmansk Suezmax

#### Clean tankers

- Baltic Sea MR
- Black Sea MR
- Baltic Sea Handysize
- Black Sea Handysize

See the [Argus Nefetransport methodology](#).

### Delays, demurrage and canal auctions

#### Turkish straits delays

Delays, in number of days, are assessed for northbound and southbound transits of the Turkish straits (the Bosphorus and Dardanelles). The number of days delay includes the days on the owner's account. Assessments are as of 5pm London time on the day of assessment.

#### Demurrage

The price of demurrage in \$/d for a vessel of the named type on the named route.

| Demurrage               |         |            |             |
|-------------------------|---------|------------|-------------|
| Assessment              | Vessel  | Timing     | Time        |
| Atlantic basin-Asia     | VLCC    | 20-50 days | NY, 5pm     |
| Mideast Gulf-East       | VLCC    | 15-30 days | UK, 5pm     |
| Mideast Gulf-East       | Suezmax | 15-30 days | UK, 5pm     |
| Black Sea-Med           | Suezmax | 15-20 days | UK, 5pm     |
| Black Sea-Med           | Aframax | 15-20 days | UK, 5pm     |
| De-Kastri-India         | Aframax | 15-30 days | SGP, 4.30pm |
| De-Kastri-north China   | Aframax | 15-30 days | SGP, 4.30pm |
| De-Kastri-South Korea   | Aframax | 15-30 days | SGP, 4.30pm |
| Kozmino-north China     | Aframax | 15-30 days | SGP, 4.30pm |
| USGC-Europe             | Aframax | 5-22 days  | NY, 5pm     |
| Atlantic coast Americas | MR      | 3-10 days  | NY, 5pm     |

### Panama Canal wait times

Assessed daily as the number of days a vessel without a booked slot must wait before it can transit the specified set of locks in the named direction. Wait times are assessed as of 5pm New York time.

Northbound and southbound wait times are assessed for

- Neopanamax locks for vessels with a beam exceeding 107ft
- Panamax locks for vessels with a 91-107ft beam

### Panama Canal auction prices

Argus publishes a weekly average of daily auction prices paid by shippers to reserve a transit slot when pre-booked slots are unavailable. Auction prices are published on Monday for

- Panamax locks
- Neopanamax locks

### Jones Act freight rates

Argus publishes assessments of Jones Act-compliant freight rates between US ports for Suezmaxes, medium range tankers (MR) and oceangoing articulated tug barges (ATB). Jones Act-compliant vessels are US-flagged, built and crewed.

In the absence of spot activity, changes in time charter rates may be taken into account.

Jones Act rates are for loading in 3-15 days. Rates are assessed weekly on Friday at a 2.30pm New York timestamp.

| Jones Act rate specifications |         |                   |       |
|-------------------------------|---------|-------------------|-------|
| Assessment                    | Vessel  | Cargo size (bl)   | Unit  |
| <b>Dirty</b>                  |         |                   |       |
| Valdez-Anacortes              | Suezmax | 900,000-1,100,000 | \$/bl |
| Valdez-Los Angeles            | Suezmax | 900,000-1,100,000 | \$/bl |
| Corpus Christi-Delaware Bay   | MR      | 260,000-330,000   | \$/bl |
| Corpus Christi-St. James      | MR      | 260,000-330,000   | \$/bl |
| Corpus Christi-St. James      | ATB     | 140,000-260,000   | \$/bl |
| <b>Clean</b>                  |         |                   |       |
| Houston-Tampa                 | MR      | 310,000-330,000   | \$/bl |
| Houston-Tampa                 | ATB     | 140,000-260,000   | \$/bl |
| Houston-Port Everglades       | MR      | 310,000-330,000   | \$/bl |
| Houston-Port Everglades       | ATB     | 140,000-260,000   | \$/bl |
| Houston-Jacksonville          | MR      | 310,000-330,000   | \$/bl |
| Houston-New York Harbor       | MR      | 310,000-330,000   | \$/bl |
| Houston-New York Harbor       | ATB     | 140,000-260,000   | \$/bl |
| Houston-New York Harbor       | ATB     | 80,000-100,000    | \$/bl |
| New Orleans-Los Angeles       | MR      | 310,000-330,000   | \$/bl |
| US-US                         | MR      | 310,000-330,000   | \$/d  |

The US-US \$/d rate is for voyages between any US ports.

The New Orleans-Los Angeles \$/bl calculation assumes Panama Canal transit and accounts for canal costs, including transit tolls and costs associated with delays and slot reservations. If canal disruption at the time of publication makes the Cape Horn route the lower-cost voyage, Argus will calculate \$/bl rates assuming a voyage around Cape Horn.

### Additional Rotterdam charges

Argus Tanker Freight publishes “Rotterdam charges”, an assessment of additional charges for vessels of the sizes below calling at Rotterdam that are not included in spot tanker rates but are used in the calculation of several crude and products netback prices. These charges are excluded from the port fees assumed in time charter and other freight rate calculations.

Charges are published for

- 100,000t dirty
- 100,000t clean
- 40,000t clean
- 30,000t dirty
- 30,000t clean
- 20,000t clean
- 15,000t clean

### Crude-specific freight rates

Argus publishes freight rates for individual crude oil grades on relevant routes, in \$/bl. These are calculated as the \$/bl cost of shipment of the named crude on the named route using the latest available bl/t density figure for each grade.

#### Al-Shaheen

- Mideast Gulf to Asia Pacific 270,000t
- Mideast Gulf to Europe 280,000t
- Mideast Gulf to USGC 280,000t
- Mideast Gulf to USWC 280,000t

#### Arab Heavy

- Mideast Gulf to Asia Pacific 270,000t
- Mideast Gulf to China 130,000t
- Mideast Gulf to Europe 280,000t
- Mideast Gulf to Med 140,000t
- Mideast Gulf to southeast Asia 130,000t
- Mideast Gulf to Singapore 270,000t
- Mideast Gulf to southeast Asia 80,000t
- Mideast Gulf to USGC 280,000t
- Mideast Gulf to west coast India 130,000t
- Mideast Gulf to west coast India 270,000t
- Mideast Gulf to west coast India 80,000t

#### Arab Light

- Mideast Gulf to Asia Pacific 270,000t
- Mideast Gulf to northeast Asia 130,000t
- Mideast Gulf to Europe 280,000t
- Mideast Gulf to Med 140,000t
- Mideast Gulf to southeast Asia 130,000t
- Mideast Gulf to Singapore 270,000t
- Mideast Gulf to USGC 280,000t
- Mideast Gulf to west coast India 130,000t
- Mideast Gulf to west coast India 270,000t
- Mideast Gulf to west coast India 80,000t

#### Arab Light (Sidi K)

- Med to Med 80,000t
- Med to UKC 80,000t

#### Arab Medium

- Mideast Gulf to Asia Pacific 270,000t
- Mideast Gulf to northeast Asia 130,000t
- Mideast Gulf to Europe 280,000t
- Mideast Gulf to Med 140,000t
- Mideast Gulf to southeast Asia 130,000t
- Mideast Gulf to Singapore 270,000t
- Mideast Gulf to USGC 280,000t
- Mideast Gulf to west coast India 130,000t
- Mideast Gulf to west coast India 270,000t
- Mideast Gulf to west coast India 80,000t

#### Azeri Light (Supsa)

- Black Sea to Med 80,000t
- Black Sea to UKC 80,000t

#### Basrah Heavy

- Mideast Gulf to Asia Pacific 270,000t
- Mideast Gulf to northeast Asia 130,000t
- Mideast Gulf to Europe 280,000t
- Mideast Gulf to Med 140,000t
- Mideast Gulf to southeast Asia 130,000t
- Mideast Gulf to Singapore 270,000t
- Mideast Gulf to USGC 280,000t
- Mideast Gulf to USWC 280,000t
- Mideast Gulf to west coast India 130,000t
- Mideast Gulf to west coast India 270,000t
- Mideast Gulf to west coast India 80,000t

#### Basrah Medium

- Mideast Gulf to Asia Pacific 270,000t
- Mideast Gulf to Asia Pacific 270,000t futures month 1, 2, 3
- Mideast Gulf to northeast Asia 130,000t
- Mideast Gulf to Europe 280,000t
- Mideast Gulf to Med 140,000t
- Mideast Gulf to southeast Asia 130,000t
- Mideast Gulf to Singapore 270,000t
- Mideast Gulf to USGC 280,000t
- Mideast Gulf to USWC 280,000t
- Mideast Gulf to west coast India 130,000t
- Mideast Gulf to west coast India 270,000t
- Mideast Gulf to west coast India 80,000t

#### Bonny Light

- west Africa to China 260,000t
- west Africa to UKCM 130,000t
- west Africa to UKCM 130,000t futures month 1, 2, 3
- west Africa to east coast India 130,000t
- west Africa to east coast India 260,000t
- west Africa to west coast India 130,000t
- west Africa to west coast India 260,000t
- cross west Africa 130,000t

#### BTC

- Med to Med 135,000t
- Med to Med 80,000t
- Med to UKC 80,000t
- Med/Black Sea to east Asia 135,000t

#### Cabinda

- west Africa to China 260,000t
- west Africa to UKCM 130,000t
- west Africa to east coast India 130,000t
- west Africa to east coast India 260,000t
- west Africa to west coast India 130,000t
- west Africa to west coast India 260,000t
- cross west Africa 130,000t

#### Castilla

- Caribbean to China 270,000t
- Caribbean to west coast India 270,000t
- Caribbean to Panama 145,000t
- Caribbean to USGC 145,000t
- Caribbean to USGC 50,000t
- Caribbean to USGC 70,000t

#### Cold Lake

- Vancouver to USWC 80,000t
- Vancouver to west coast Panama 80,000t
- Vancouver to China 80,000t

#### CPC

- Black Sea to Med 135,000t
- Black Sea to UKC 135,000t
- Black Sea to USGC 135,000t
- Med/Black Sea to east Asia 135,000t
- Black Sea to Med 80,000t
- Black Sea to UKC 80,000t

**Dalia**

west Africa to China 260,000t

west Africa to UKCM 130,000t

west Africa to USGC 130,000t

west Africa to USGC 260,000t

west Africa to east coast India 130,000t

west Africa to east coast India 260,000t

west Africa to west coast India 130,000t

west Africa to west coast India 260,000t

cross west Africa 130,000t

**Djeno**

west Africa to China 260,000t

west Africa to UKCM 130,000t

west Africa to east coast India 130,000t

west Africa to east coast India 260,000t

west Africa to west coast India 130,000t

west Africa to west coast India 260,000t

cross west Africa 130,000t

**Egina**

west Africa to China 260,000t

west Africa to UKCM 130,000t

west Africa to east coast India 130,000t

west Africa to east coast India 260,000t

west Africa to west coast India 130,000t

west Africa to west coast India 260,000t

cross west Africa 130,000t

**Ekofisk**

North Sea to east Asia 270,000t

UKC to UKC 80,000t

UKC to Med 80,000t

UKC to USAC 80,000t

**Es Sider**

Med to Med 80,000t

Med to UKC 80,000t

Med to USGC 80,000t

Med to USGC 135,000t

Med/Black Sea to east Asia 135,000t

**Escravos**

west Africa to China 260,000t

west Africa to UKCM 130,000t

west Africa to east coast India 130,000t

west Africa to east coast India 260,000t

west Africa to west coast India 130,000t

west Africa to west coast India 260,000t

cross west Africa 130,000t

**ESPO**

Kozmino to north China 100,000t

Kozmino to Chiba 100,000t

Kozmino to Yeosu 100,000t

Kozmino to Singapore 100,000t

**Forcados**

west Africa to China 260,000t

west Africa to UKCM 130,000t

west Africa to east coast India 130,000t

west Africa to east coast India 260,000t

west Africa to west coast India 130,000t

west Africa to west coast India 260,000t

cross west Africa 130,000t

**Forties**

North Sea to east Asia 270,000t

UKC to UKC 80,000t

UKC to Med 80,000t

UKC to USAC 80,000t

**Girassol**

west Africa to China 260,000t

west Africa to UKCM 130,000t

west Africa to east coast India 130,000t

west Africa to east coast India 260,000t

west Africa to west coast India 130,000t

west Africa to west coast India 260,000t

cross west Africa 130,000t

**Hibernia**

East coast Canada to UKC 70,000t

East coast Canada to USAC 70,000t

East coast Canada to USGC 70,000t

**Isthmus**

east coast Mexico to USGC 50,000t

east coast Mexico to USGC 70,000t

**Johan Sverdrup**

North Sea to east Asia 270,000t

UKC to UKC 80,000t

UKC to Med 80,000t

UKC to USAC 80,000t

UKC to USGC 80,000t

**Kebco**

Black Sea to Med 140,000t

**Kuwait**

Mideast Gulf to Asia Pacific 270,000t

Mideast Gulf to northeast Asia 130,000t

Mideast Gulf to Europe 280,000t

Mideast Gulf to Med 140,000t

Mideast Gulf to southeast Asia 130,000t

Mideast Gulf to Singapore 270,000t

Mideast Gulf to USGC 280,000t

Mideast Gulf to west coast India 130,000t

Mideast Gulf to west coast India 270,000t

Mideast Gulf to west coast India 80,000t

**Liza**

Guyana to UKC 145,000t

**Mars**

USGC to China 130,000t

USGC to China 270,000t

USGC to China 270,000t (STS)

USGC to China 270,000t (STS) futures month 1, 2, 3

USGC to Europe 145,000t

USGC to Med 70,000t

USGC to Rotterdam 270,000t

USGC to Singapore 270,000t

USGC to South Korea/Japan 270,000t

USGC to UKC 70,000t

USGC to UKC 70,000t futures months 1, 2, 3

USGC to east coast Canada 70,000t

USGC to west coast India 270,000t

**Maya**

east coast Mexico to USGC 50,000t

east coast Mexico to USGC 70,000t

**Medanito**

Argentina to USWC 65,000t

Argentina to USWC 100,000t

Argentina to USWC 110,000t

Argentina to USAC 65,000t

**Merey**

Caribbean to China 270,000t

Caribbean to Singapore 270,000t

Caribbean to west coast India 270,000t

USGC/Caribbean to Singapore 130,000t

Caribbean to UKC 145,000t

Caribbean to Panama 145,000t

Caribbean to USGC 130,000t

Caribbean to UKC 70,000t

Caribbean to USGC 70,000t

Caribbean to USGC 50,000t

**Murban**

Mideast Gulf to Asia Pacific 270,000t

Mideast Gulf to Asia Pacific 270,000t futures months 1, 2, 3

Gulf of Oman to Asia Pacific 270,000t

Mideast Gulf to northeast Asia 130,000t

Mideast Gulf to Europe 280,000t

Mideast Gulf to Med 140,000t

Mideast Gulf to southeast Asia 130,000t

Mideast Gulf to Singapore 270,000t

Mideast Gulf to USGC 280,000t

Mideast Gulf to west coast India 130,000t

Mideast Gulf to west coast India 270,000t

Mideast Gulf to west coast India 80,000t

**Napo**

Esmeraldas to Houston 50,000t

Esmeraldas to Los Angeles 100,000t

**Oman**

|   |
|---|
| Mideast Gulf to Asia Pacific 270,000t     |
| Gulf of Oman to Asia Pacific 270,000t     |
| Mideast Gulf to northeast Asia 130,000t   |
| Mideast Gulf to Europe 280,000t           |
| Mideast Gulf to Med 140,000t              |
| Mideast Gulf to southeast Asia 130,000t   |
| Mideast Gulf to Singapore 270,000t        |
| Mideast Gulf to USGC 280,000t             |
| Mideast Gulf to west coast India 130,000t |
| Mideast Gulf to west coast India 270,000t |
| Mideast Gulf to west coast India 80,000t  |

**Oriente**

|                                    |
|------------------------------------|
| Ecuador to USWC 50,000t            |
| Ecuador to USWC 100,000t           |
| Esmeraldas to Houston 50,000t      |
| Esmeraldas to Los Angeles 100,000t |

**Payara Gold**

|                        |
|------------------------|
| Guyana to UKC 145,000t |
|------------------------|

**Peregrino**

|                         |
|-------------------------|
| Brazil to USGC 130,000t |
|-------------------------|

**Qua Iboe**

|  |
|--|
| west Africa to China 260,000t            |
| west Africa to UKCM 130,000t             |
| west Africa to USGC 130,000t             |
| west Africa to USGC 260,000t             |
| west Africa to east coast India 130,000t |
| west Africa to east coast India 260,000t |
| west Africa to west coast India 130,000t |
| west Africa to west coast India 260,000t |
| cross west Africa 130,000t               |

**Saharan**

|                                     |
|-------------------------------------|
| Med to Med 135,000t                 |
| Med to Med 80,000t                  |
| Med to UKC 80,000t                  |
| Med to USGC 80,000t                 |
| Med to USGC 135,000t                |
| Med/Black Sea to east Asia 135,000t |

**Tupi**

|                          |
|--------------------------|
| Brazil to China 260,000t |
| Brazil to USWC 260,000t  |
| Brazil to UKC 260,000t   |
| Brazil to UKC 130,000t   |
| Brazil to USGC 130,000t  |

**Unity Gold**

|                        |
|------------------------|
| Guyana to UKC 145,000t |
|------------------------|

**Urals**

|  |
|--|
| Novorossiysk to west coast India 80,000t           |
| Novorossiysk to north China 80,000t                |
| Novorossiysk to west coast India 140,000t          |
| Novorossiysk to north China 140,000t               |
| Baseline Novorossiysk to west coast India 80,000t  |
| Baseline Novorossiysk to north China 80,000t       |
| Baseline Novorossiysk to west coast India 140,000t |
| Baseline Novorossiysk to north China 140,000t      |
| Primorsk to west coast India 100,000t              |
| Primorsk to north China 100,000t                   |
| Baseline Primorsk to west coast India 100,000t     |
| Baseline Primorsk to north China 100,000t          |

**Varandey**

|  |
|--|
| Murmansk to west coast India 140,000t          |
| Murmansk to north China 140,000t               |
| Baseline Murmansk to west coast India 140,000t |
| Baseline Murmansk to north China 140,000t      |

**Vasconia**

|                              |
|------------------------------|
| Caribbean to Panama 145,000t |
| Panama to USWC 130,000t      |

**WCS**

|  |
|--|
| USGC to China 130,000t                             |
| USGC to China 270,000t                             |
| USGC to China 270,000t (STS)                       |
| USGC to China 270,000t (STS) futures month 1, 2, 3 |
| USGC to Europe 145,000t                            |
| USGC to Med 70,000t                                |
| USGC to Rotterdam 270,000t                         |
| USGC to Singapore 270,000t                         |

USGC to South Korea/Japan 270,000t

|  |
|--|
| USGC to UKC 70,000t                        |
| USGC to UKC 70,000t futures months 1, 2, 3 |
| USGC to west coast India 270,000t          |

**WTI**

|  |
|--|
| USGC to China 130,000t                             |
| USGC to China 270,000t                             |
| USGC to China 270,000t (STS)                       |
| USGC to China 270,000t (STS) futures month 1, 2, 3 |
| USGC to Europe 145,000t                            |
| USGC to Med 70,000t                                |
| USGC to Med 90,000t                                |
| USGC to Rotterdam 270,000t                         |
| USGC to Singapore 270,000t                         |
| USGC to South Korea/Japan 270,000t                 |
| USGC to UKC 70,000t                                |
| USGC to UKC 70,000t futures months 1, 2, 3         |
| USGC to UKC 90,000t                                |
| USGC to UKC 90,000t futures months 1, 2, 3         |
| USGC to east coast Canada 70,000t                  |
| USGC to west Africa 270,000t                       |
| USGC to west coast India 270,000t                  |

**Freight futures**

Prices are of freight forward agreements (FFA), which are financially settled futures contracts.

Prices are published for the prompt month and two forward months. The prompt month rolls on the first working day of the month. For example, Argus begins publishing the January contract as the prompt month from the first working day in January.

Assessments are made in Worldscale rates and converted to \$/t using the flat rate basket for the corresponding spot market assessment.

**Freight futures assessments**

| Route                                     | Size ('000t) | Timestamp |
|---|--------------|-----------|
| Dirty Mideast Gulf-East                   | 270          | UK, 5pm   |
| Dirty USGC-China (STS)*                   | 270          | NY, 5pm   |
| Dirty west Africa-UKC/Med <sup>†</sup>    | 130          | UK, 5pm   |
| Dirty USGC-UKC** <sup>†</sup>             | 90           | NY, 5pm   |
| Dirty USGC-UKC <sup>†</sup>               | 70           | NY, 5pm   |
| Clean Mideast Gulf-Japan                  | 55           | UK, 5pm   |
| Clean USGC/Caribbean-UKC/Med <sup>†</sup> | 38           | NY, 5pm   |
| Clean UKC-US Atlantic coast <sup>†</sup>  | 37           | UK, 5pm   |
| Clean Cross Med <sup>†</sup>              | 30           | UK, 5pm   |

\*lumpsum \*\*\$/t only - calculated as the dirty USGC-UKC 70kt implied lumpsum value/90,000t <sup>†</sup>includes EU ETS costs

## Carbon costs

Argus Tanker Freight publishes the cost of CO<sub>2</sub> emissions credits under the EU Emissions Trading System (EU ETS) for crude and products routes beginning and/or ending at EU ports. The cost is calculated for one-way and round-trip voyages using the following formula:

Carbon cost (\$) = voyage CO<sub>2</sub> emissions (t) x CO<sub>2</sub> emissions allowance price (\$/t)

CO<sub>2</sub> emissions costs are published as lumpsums and in \$/t for all routes, and in \$/bl for crude routes.

For routes beginning and ending at EU ports, all CO<sub>2</sub> emissions are assumed to require permits and are included in the calculation. For routes beginning or ending at EU ports, half of the CO<sub>2</sub> emissions are assumed to require permits and are included in the calculation.

### EU ETS phase in

Shipping's inclusion in the EU ETS was phased in over several years. Accordingly, Argus calculates costs for 40pc of voyage carbon emissions requiring permits to the end of 2024, 70pc in 2025 and 100pc thereafter.

### CO<sub>2</sub> emissions price

The CO<sub>2</sub> price is the Argus assessment of the December-delivery EU ETS allowance price converted to US dollars/t. See the [Argus Carbon methodology](#).

### Assumptions

Voyage CO<sub>2</sub> emissions are based on the type and amount of fuel consumed on each voyage, which varies depending on ship operation and whether at sea, within Emissions Control Areas (ECAs) or at port.

Vessel speeds, loading and unloading times, preferences for or against canal transits, and other components of the calculations are the same as those assumed in other calculated freight rates for

- Crude
- Products

Argus assumes the following CO<sub>2</sub> emissions per tonne of fuel burned:

- HSFO: 3.114t CO<sub>2</sub>/t fuel
- LSFO: 3.114t CO<sub>2</sub>/t fuel
- MGO: 3.206t CO<sub>2</sub>/t fuel

All assumptions are under continual review and are updated at least once a year.

## Routes covered

Note, dirty tanker \$/bl costs assume the vessel is carrying the named crude.

### Dirty

- Ras Tanura-Rotterdam (via Suez) 280kt VLCC (Arab Light)
- Bonny-Rotterdam 130kt Suezmax (Bonny Light)
- Houston-Rotterdam 70kt Aframax (WTI)

### Clean

- Ras Tanura-Rotterdam (via Suez) 65kt LR1
- Rotterdam-New York 37kt MR
- Houston-Rotterdam 38kt MR

## Weight of Freight

Argus publishes daily calculations of a freight rate's share of the cost of a commodity on the below routes using the calculation:

| Components                   |                                 |
|------------------------------|---------------------------------|
| Route                        | Commodity                       |
| USGC-China 270,000t          | WTI fob USGC                    |
| USGC-UKC 70,000t             | WTI fob USGC                    |
| Kozmino-north China 100,000t | ESPO blend fob Kozmino          |
| Mideast Gulf-East 270,000t   | Basrah Medium Iraq              |
| USGC-Chile 38,000t           | Diesel ULSD fob USGC waterborne |
| UKC-USAC 37,000t             | Gasoline 10ppm non-oxy NWE cif  |
| Mideast Gulf-Japan 55,000t   | Naphtha LR1 Mideast Gulf fob    |

Values are calculated as the named freight rate divided by the named commodity price \* 100.

See the [Argus Americas Crude](#), [Argus Crude](#), [Argus Asia-Pacific Products](#) and [Argus European Products](#) methodologies.

## Argus Crude Tanker Index (ACTI)

Argus publishes four daily \$/bl crude tanker freight indexes that are the weighted average of component daily rate assessments as described below.

### ACTI index components

| Name         | Route/Component                   | Crude grade | Weighting |
|--------------|-----------------------------------|-------------|-----------|
| VLCC ACTI    | Gulf of Oman-northeast Asia 270kt | Oman        | 20%       |
|              | USGC-South Korea/Japan 270kt      | WTI         | 20%       |
|              | Brazil-China 260kt                | Tupi        | 20%       |
|              | West Africa-China 260kt           | Qua Iboe    | 20%       |
|              | Yanbu-northeast Asia 270kt        | Arab Light  | 20%       |
| Suezmax ACTI | USGC-Europe 145kt                 | WTI         | 20%       |
|              | WAF-UKCM 130kt                    | Forcados    | 20%       |
|              | Guyana-UKC 145kt                  | Liza        | 20%       |
|              | Black Sea-Med 135kt               | CPC         | 20%       |
| Aframax ACTI | Russian Black Sea-WC India 135kt  | Urals       | 20%       |
|              | USGC-UKC 90kt                     | WTI         | 20%       |
|              | Cross Med 80kt                    | Es Sider    | 20%       |
|              | Russian Baltic-WC India 100kt     | Urals       | 20%       |
|              | Vancouver-China 80kt              | AWB*        | 20%       |
| ACTI         | Caribbean-USGC 70kt               | Castilla    | 20%       |
|              | VLCC ACTI                         | -           | 50%       |
|              | Suezmax ACTI                      | -           | 25%       |
|              | Aframax ACTI                      | -           | 25%       |

*\*Note: Argus does not publish a Vancouver-China 80,000t AWB-specific assessment but calculates the value in the same way as the other crude-specific freight rates described above*

### ACTI index composition changes

| Date            | Change   |
|-----------------|--|
| 5 June 2026     | Replaced Mideast Gulf-Asia Pacific 270kt (Oman) with Gulf of Oman-northeast Asia 270kt (Oman), and replaced Mideast Gulf-Europe 280kt (Basrah Medium) with Yanbu-northeast Europe 270kt (Arab Light) |
| 5 July 2023     | Replaced west Africa-USGC 130kt (Qua Iboe) with Guyana-UKC 145kt (Liza)  |
| 21 April 2023   | Replaced Indonesia-Japan 80kt (Minas) with Vancouver-China 80kt (AWB)  |
| 2 October 2023  | Replaced Med/Black Sea-East 135kt (CPC) with Black Sea-WC India 135kt (Urals), and replaced Baltic-northwest Europe 100kt (Urals) with Baltic-India 100kt (Urals)                                    |
| 18 January 2019 | Replaced Mideast Gulf-USGC 280kt (Arab Light) with USGC-South Korea/Japan 270kt (WTI)  |
| 21 March 2018   | Replaced UKC-USAC 80kt (Ekofisk) with USGC-UKC 90kt (WTI)  |
| 9 March 2018    | Replaced Med-USGC 135kt (Saharan Blend) with USGC-Europe 145kt (WTI)   |
| 8 May 2014      | Replaced West Africa-USGC 260kt (Qua Iboe) with Brazil-China 260kt (Tupi)  |

The component assessments are under continuous review and are changed based on their relevance to the global crude trade. For example, the USGC-UKC 90kt (WTI) rate replaced the UKC-USAC 80kt (Ekofisk) rate in 2018 because of increased exports of WTI to European refiners and lowered shipments of crude to the US, including deliveries of Ekofisk from the North Sea.

A full list of changes to the ACTI and its three vessel-specific indexes is below. Changes are consulted on with subscribers.

On days when a component rate is not assessed, the latest available value is used.

| Dirty freight rate specifications  |              |   |   |            |             |
|--|--------------|---|---|------------|-------------|
| Assessment   | Size ('000t) | Origin  | Destination   | Timing     | Time        |
| <b>Middle East/East Asia</b>   |              |   |   |            |             |
| Mideast Gulf-UKC/Med   | 280          | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | Northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports; Mediterranean from Gibraltar to Canakkale/Dardanelles | 15-30 days | UK, 5pm     |
| Mideast Gulf-USGC  | 280          | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | Gulf of Mexico centred on the Loop crude discharge terminal   | 15-30 days | UK, 5pm     |
| Mideast Gulf-USWC  | 280          | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | US west coast   | 15-30 days | UK, 5pm     |
| Mideast Gulf-East  | 270          | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | China (including Hong Kong), South Korea, Taiwan and Japan  | 15-30 days | UK, 5pm     |
| Mideast Gulf-Singapore   | 270          | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | Singapore   | 15-30 days | UK, 5pm     |
| Mideast Gulf-west coast India  | 270          | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | west coast India  | 15-30 days | UK, 5pm     |
| Gulf of Oman-northeast Asia  | 270          | all ports in the Gulf of Oman east of Quoin Island (strait of Hormuz) to Sur  | China (including Hong Kong), South Korea, Taiwan and Japan  | 15-30 days | UK, 5pm     |
| Yanbu-northeast Asia   | 270          | Yanbu, Saudi Arabia   | China (including Hong Kong), South Korea, Taiwan and Japan  | 15-30 days | UK, 5pm     |
| Mideast Gulf-Med   | 140          | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | Mediterranean from Gibraltar to Canakkale/Dardanelles   | 15-30 days | UK, 5pm     |
| Mideast Gulf-northeast Asia  | 130          | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | China (including Hong Kong), South Korea, Taiwan and Japan  | 15-30 days | SGP, 4.30pm |
| Mideast Gulf-southeast Asia  | 130          | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | Singapore, Malaysia, Thailand, Vietnam and Brunei   | 15-30 days | SGP, 4.30pm |
| Mideast Gulf-west coast India  | 130          | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | west coast India  | 10-20 days | SGP, 4.30pm |
| Yanbu-northeast Asia   | 130          | Yanbu, Saudi Arabia   | China (including Hong Kong), South Korea, Taiwan and Japan  | 15-30 days | SGP, 4.30pm |
| Yanbu-southeast Asia   | 130          | Yanbu, Saudi Arabia   | Singapore, Malaysia, Thailand, Vietnam and Brunei   | 15-30 days | SGP, 4.30pm |
| Yanbu-west coast India   | 130          | Yanbu, Saudi Arabia   | west coast India  | 15-30 days | SGP, 4.30pm |
| Mideast Gulf-northeast Asia  | 80           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | China (including Hong Kong), South Korea, Taiwan and Japan  | 15-30 days | SGP, 4.30pm |
| Mideast Gulf-southeast Asia  | 80           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | Singapore, Malaysia, Thailand, Vietnam and Brunei   | 15-30 days | SGP, 4.30pm |
| Mideast Gulf-west coast India  | 80           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | west coast India  | 15-30 days | SGP, 4.30pm |
| Red Sea-China (heated cargo)   | 80           | Red Sea   | China   | 15-30 days | SGP, 4.30pm |
| Yanbu-northeast Asia   | 80           | Yanbu, Saudi Arabia   | China (including Hong Kong), South Korea, Taiwan and Japan  | 15-30 days | SGP, 4.30pm |
| Yanbu-southeast Asia   | 80           | Yanbu, Saudi Arabia   | Singapore, Malaysia, Thailand, Vietnam and Brunei   | 15-30 days | SGP, 4.30pm |
| Yanbu-west coast India   | 80           | Yanbu, Saudi Arabia   | west coast India  | 15-30 days | SGP, 4.30pm |
| <b>Northern Europe</b>   |              |   |   |            |             |
| North Sea-northeast Asia*  | 270          | loading locations of Hound Point, Scapa Flow Southwold, and Skaw  | China, South Korea and Japan  | 30-40 days | UK, 5pm     |
| <i>Note: VLCC fuel oil shipments from ARA (Amsterdam-Rotterdam-Antwerp) to Singapore will not contribute to this assessment.</i> |              |   |   |            |             |
| Murmansk-north China   | 140          | Murmansk (Russian-origin)   | Yingkou in Liaoning province to Rizhao in Shandong province   | 7-20 days  | UK, 5pm     |
| Murmansk-west coast India  | 140          | Murmansk (Russian-origin)   | west coast India  | 7-20 days  | UK, 5pm     |
| Baltic-Med   | 100          | ports in Finland, Estonia, Latvia, Lithuania, Poland, Baltic Germany and Baltic Sweden  | Gibraltar to Canakkale/Dardanelles  | 7-20 days  | UK, 5pm     |
| Baltic-UKC   | 100          | ports in Finland, Estonia, Latvia, Lithuania, Poland, Baltic Germany and Baltic Sweden  | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports  | 10-20 days | UK, 5pm     |
| Primorsk-north China   | 100          | Primorsk (Russian-origin)   | Yingkou in Liaoning province to Rizhao in Shandong province   | 7-20 days  | UK, 5pm     |
| Primorsk-west coast India  | 100          | Primorsk (Russian-origin)   | west coast India  | 7-20 days  | UK, 5pm     |
| Cross UKC  | 80           | from one port to another port in northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports |   | 7-20 days  | UK, 5pm     |
| Cross UKC - weighted average**   | 80           | from one port to another port in northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports |   | 7-20 days  | UK, 5pm     |

| Dirty freight rate specifications  |              |  |  |            |         |
|--|--------------|--|--|------------|---------|
| Assessment   | Size ('000t) | Origin   | Destination  | Timing     | Time    |
| UKC-Med  | 80           | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | Gibraltar to Canakkale/Dardanelles   | 7-20 days  | UK, 5pm |
| UKC-US Atlantic coast  | 80           | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | US Atlantic coast north of Cape Hatteras to Portland, Maine centred on Philadelphia, New York and Boston         | 7-20 days  | UK, 5pm |
| UKC-USGC   | 80           | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | Gulf of Mexico centred on the Loop crude discharge terminal  | 7-20 days  | UK, 5pm |
| UKC-USGC, fuel oil   | 55           | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | Gulf of Mexico centred on the Loop crude discharge terminal  | 7-10 days  | UK, 5pm |
| ARA-Azores, fuel oil   | 30           | Amsterdam-Rotterdam-Antwerp  | Ponta Delgada  | 5-14 days  | UK, 5pm |
| <i>*lumpsum **weighted by previous year's loading programmes, for use in North Sea crude pricing</i> |              |  |  |            |         |
| Black Sea and Mediterranean  |              |  |  |            |         |
| Black Sea-east Asia*   | 135          | Black Sea ports north and east of the Bosphorus (non-Russian cargo)**  | Singapore, China (including Hong Kong), South Korea, Taiwan and Japan  | 10-14 days | UK, 5pm |
| Novorossiysk-north China   | 140          | Novorossiysk (Russian-origin)  | Yingkou in Liaoning province to Rizhao in Shandong province  | 10-14 days | UK, 5pm |
| Novorossiysk-west coast India  | 140          | Novorossiysk (Russian-origin)  | west coast India   | 10-14 days | UK, 5pm |
| Black Sea-Med  | 140          | Black Sea ports north and east of the Bosphorus (non-Russian cargo)**  | Gibraltar to Canakkale/Dardanelles   | 15-20 days | UK, 5pm |
| Black Sea-Med  | 135          | Black Sea ports north and east of the Bosphorus (non-Russian cargo)**  | Gibraltar to Canakkale/Dardanelles   | 15-20 days | UK, 5pm |
| Black Sea-Singapore*   | 135          | Black Sea ports north and east of the Bosphorus (non-Russian cargo)**  | Singapore  | 10-14 days | UK, 5pm |
| Black Sea-UKC  | 135          | Black Sea ports north and east of the Bosphorus (non-Russian cargo)**  | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 15-20 days | UK, 5pm |
| Black Sea-west coast India   | 135          | Black Sea ports north and east of the Bosphorus (non-Russian cargo)**  | west coast India   | 10-14 days | UK, 5pm |
| Cross Med  | 135          | from one port to another port in the Mediterranean from Gibraltar to Canakkale/Dardanelles                       |  | 10-14 days | UK, 5pm |
| Med/Black Sea-east Asia*   | 135          | An average of the Med-East 135,000t and Black Sea-East 135,000t dirty tanker rates                               |  |            |         |
| Med-USGC*  | 135          | Gibraltar to Canakkale/Dardanelles   | Gulf of Mexico centred on the Loop crude discharge terminal  | 10-14 days | UK, 5pm |
| Med-east Asia*   | 135          | Gibraltar to Canakkale/Dardanelles   | Singapore, China (including Hong Kong), South Korea, Taiwan and Japan  | 10-14 days | UK, 5pm |
| Med-Singapore*   | 135          | Gibraltar to Canakkale/Dardanelles   | Singapore  | 10-14 days | UK, 5pm |
| Black Sea-Med  | 80           | Black Sea ports north and east of the Bosphorus (non-Russian cargo)**  | Gibraltar to Canakkale/Dardanelles   | 15-20 days | UK, 5pm |
| Novorossiysk-north China   | 80           | Novorossiysk (Russian-origin)  | Yingkou in Liaoning province to Rizhao in Shandong province  | 10-14 days | UK, 5pm |
| Novorossiysk-west coast India  | 80           | Novorossiysk (Russian-origin)  | west coast India   | 10-14 days | UK, 5pm |
| Black Sea-UKC  | 80           | Black Sea ports north and east of the Bosphorus (non-Russian cargo)**  | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 15-20 days | UK, 5pm |
| Cross Med  | 80           | from one port to another port in the Mediterranean from Gibraltar to Canakkale/Dardanelles                       |  | 10-14 days | UK, 5pm |
| Med-USGC*  | 80           | Gibraltar to Canakkale/Dardanelles   | Gulf of Mexico centred on the Loop crude discharge terminal  | 10-25 days | UK, 5pm |
| Med-UKC  | 80           | Gibraltar to Canakkale/Dardanelles   | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 5-14 days  | UK, 5pm |
| Med-USGC, fuel oil   | 55           | Gibraltar to Canakkale/Dardanelles   | Gulf of Mexico centred on the Loop crude discharge terminal  | 10-14 days | UK, 5pm |
| Cross Med, fuel oil  | 30           | from one port to another port in the Mediterranean from Gibraltar to Canakkale/Dardanelles                       |  | 10-14 days | UK, 5pm |
| Med-Madeira, fuel oil  | 30           | Gibraltar to Canakkale/Dardanelles   | Funchal  | 5-14 days  | UK, 5pm |

*\*lumpsum \*\*non-Russian cargoes are those not produced in the Russian Federation, not blended with anything produced in the Russian Federation and not exported from the Russian Federation*

| Dirty freight rate specifications |              |   |   |            |         |
|-----------------------------------|--------------|---|---|------------|---------|
| Assessment                        | Size ('000t) | Origin  | Destination   | Timing     | Time    |
| <b>West Africa</b>                |              |   |   |            |         |
| West Africa-China                 | 260          | Gulf of Guinea, centred on the crude loading terminals located in the Bight of Bonny and Bight of Benin   | China   | 30-40 days | UK, 5pm |
| West Africa-east coast India*     | 260          | Gulf of Guinea, centred on the crude loading terminals located in the Bight of Bonny and Bight of Benin   | east coast India  | 30-40 days | UK, 5pm |
| West Africa-Singapore             | 260          | Gulf of Guinea, centred on the crude loading terminals located in the Bight of Bonny and Bight of Benin   | Singapore   | 30-40 days | UK, 5pm |
| West Africa-USGC                  | 260          | Gulf of Guinea, centred on the crude loading terminals located in the Bight of Bonny and Bight of Benin   | Gulf of Mexico centred on the Loop crude discharge terminal   | 30-40 days | UK, 5pm |
| West Africa-west coast India*     | 260          | Gulf of Guinea, centred on the crude loading terminals located in the Bight of Bonny and Bight of Benin   | west coast India  | 30-40 days | UK, 5pm |
| West Africa-east coast India*     | 130          | Gulf of Guinea, centred on the crude loading terminals located in the Bight of Bonny and Bight of Benin - includes port fees, assuming loading in Nigeria | east coast India  | 15-30 days | UK, 5pm |
| West Africa-India*                | 130          | Calculated as the average of the 130,000t West Africa-east coast India and West Africa-west coast India rates   |   | 15-30 days | UK, 5pm |
| West Africa-UKC/Med               | 130          | Gulf of Guinea, centred on the crude loading terminals located in the Bight of Bonny and Bight of Benin   | Northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports; Mediterranean from Gibraltar to Canakkale/Dardanelles | 15-30 days | UK, 5pm |
| West Africa-USGC                  | 130          | Gulf of Guinea, centred on the crude loading terminals located in the Bight of Bonny and Bight of Benin - includes port fees, assuming loading in Nigeria | Gulf of Mexico centred on the Loop crude discharge terminal   | 15-30 days | UK, 5pm |
| West Africa-west coast India*     | 130          | Gulf of Guinea, centred on the crude loading terminals located in the Bight of Bonny and Bight of Benin - includes port fees, assuming loading in Nigeria | west coast India  | 15-30 days | UK, 5pm |
| Cross west Africa*                | 130          | Nigerian offshore oil ports   | Abidjan, Côte d'Ivoire  | 7-20 days  | UK, 5pm |
| *lumpsum                          |              |   |   |            |         |
| <b>Americas</b>                   |              |   |   |            |         |
| Caribbean-China*                  | 270          | Venezuela, Colombian Atlantic coast, and Caribbean islands  | Chinese coast from Hong Kong to Ningbo  | 20-50 days | NY, 5pm |
| Caribbean-Singapore*              | 270          | Venezuela, Colombian Atlantic coast, and Caribbean islands  | Singapore   | 20-50 days | NY, 5pm |
| Caribbean-west coast India*       | 270          | Venezuela, Colombian Atlantic coast, and Caribbean islands  | west coast India  | 20-50 days | NY, 5pm |
| USGC-China**                      | 270          | US Gulf coast from Texas to Alabama, including US offshore ports  | Chinese coast from Hong Kong to Ningbo  | 20-50 days | NY, 5pm |
| USGC-China (STS)**                | 270          | US Gulf coast loading via ship-to-ship transfer   | Chinese coast from Hong Kong to Ningbo  | 20-60 days | NY, 5pm |
| USGC-Rotterdam**                  | 270          | US Gulf coast from Texas to Alabama, including US offshore ports  | Rotterdam   | 20-50 days | NY, 5pm |
| USGC-Singapore**                  | 270          | US Gulf coast from Texas to Alabama, including US offshore ports  | Singapore   | 20-50 days | NY, 5pm |
| USGC-South Korea/Japan**          | 270          | US Gulf coast from Texas to Alabama, including US offshore ports  | South Korea/Japan   | 20-50 days | NY, 5pm |
| USGC-west Africa**                | 270          | US Gulf coast from Texas to Alabama, including US offshore ports  | Lekki, Nigeria  | 20-50 days | NY, 5pm |
| USGC-west coast India**           | 270          | US Gulf coast from Texas to Alabama, including US offshore ports  | west coast India  | 20-50 days | NY, 5pm |
| USWC-China                        | 270          | Pacific Area Lightering zone on the California coast  | Chinese coast from Hong Kong to Ningbo  | 20-50 days | NY, 5pm |
| West coast Panama-China           | 270          | Panamanian Pacific coast  | Chinese coast from Hong Kong to Ningbo  | 20-50 days | NY, 5pm |
| Brazil-China                      | 260          | Brazil  | Chinese coast from Hong Kong to Ningbo  | 20-40 days | NY, 5pm |
| Brazil-USWC                       | 260          | Brazil  | US west coast from Los Angeles to San Francisco   | 20-40 days | NY, 5pm |

| Dirty freight rate specifications      |              |  |  |            |         |
|--|--------------|--|--|------------|---------|
| Assessment                             | Size ('000t) | Origin   | Destination  | Timing     | Time    |
| Brazil-UKC                             | 260          | Brazil   | Gibraltar to Hamburg, includes United Kingdom and the North Sea ports  | 20-40 days | NY, 5pm |
| Caribbean-UKC                          | 145          | Venezuela, Colombian Atlantic coast, and Caribbean islands   | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports                                 | 7-25 days  | NY, 5pm |
| USGC-Europe                            | 145          | US Gulf coast from Texas to Alabama, including US offshore ports   | Europe is from Hamburg, through Gibraltar to Canakkale/Dardanelles on the Mediterranean, and includes the United Kingdom and the North Sea ports | 7-25 days  | NY, 5pm |
| Caribbean-Panama                       | 145          | Venezuela, Colombian Atlantic coast, and Caribbean islands   | Panamanian Atlantic coast  | 7-25 days  | NY, 5pm |
| Caribbean-USGC                         | 145          | Venezuela, Colombian Atlantic coast, and Caribbean islands   | US Gulf coast from Texas to Alabama, including US offshore ports   | 7-25 days  | NY, 5pm |
| Guyana-Panama                          | 145          | Guyana   | Panamanian Atlantic coast  | 7-25 days  | NY, 5pm |
| Guyana-UKC                             | 145          | Guyana   | Gibraltar to Hamburg, includes United Kingdom and the North Sea ports. The \$/t rate is normalised to Rotterdam discharge                        | 7-25 days  | NY, 5pm |
| Brazil-UKC                             | 130          | Brazil   | Gibraltar to Hamburg, includes United Kingdom and the North Sea ports  | 7-25 days  | NY, 5pm |
| Brazil-USGC                            | 130          | Brazil   | US Gulf coast from Texas to Alabama, including US offshore ports   | 15-30 days | NY, 5pm |
| Panama-USWC                            | 130          | Panamanian Pacific coast   | US west coast from Los Angeles to San Francisco  | 10-25 days | NY, 5pm |
| USGC/Caribbean-Singapore*              | 130          | US Gulf coast from Texas to Alabama, including US offshore ports, and Venezuela, Colombian Atlantic coast, and Caribbean islands | Singapore  | 7-25 days  | NY, 5pm |
| USGC-China*                            | 130          | US Gulf coast from Texas to Alabama, including US offshore ports   | Chinese coast from Hong Kong to Ningbo   | 7-25 days  | NY, 5pm |
| Argentina-US west coast <sup>†††</sup> | 130          | Puerto Rosales   | US west coast from Los Angeles to Anacortes  | 7-25 days  | NY, 5pm |
| Argentina-US west coast <sup>†</sup>   | 110          | Puerto Rosales   | US west coast from Los Angeles to Anacortes  | 7-25 days  | NY, 5pm |
| Argentina-US west coast <sup>††</sup>  | 100          | Puerto Rosales   | US west coast from Los Angeles to Anacortes  | 15-45 days | NY, 5pm |
| Ecuador-USWC                           | 100          | Ecuador  | US west coast from Los Angeles to San Francisco  | 5-15 days  | NY, 5pm |
| Esmeraldas-Los Angeles                 | 100          | See the oil and products TCE assessments section above   |  |            |         |
| Argentina-US west coast <sup>†††</sup> | 80           | Puerto Rosales   | US west coast from Los Angeles to San Francisco  | 15-45 days | NY, 5pm |
| Vancouver-China                        | 80           | Vancouver, British Columbia  | Chinese coast from Hong Kong to Ningbo   | 5-22 days  | NY, 5pm |
| Vancouver-Panama                       | 80           | Vancouver, British Columbia  | Panamanian Pacific coast   | 5-22 days  | NY, 5pm |
| Vancouver-US west coast                | 80           | Vancouver, British Columbia  | US west coast from Los Angeles to San Francisco  | 5-22 days  | NY, 5pm |
| Caribbean-UKC                          | 70           | Venezuela, Colombian Atlantic coast, and Caribbean islands   | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports                                 | 5-22 days  | NY, 5pm |
| Caribbean-USGC                         | 50           | Venezuela, Colombian Atlantic coast, and Caribbean islands   | US Gulf coast from Texas to Alabama, including US offshore ports   | 5-15 days  | NY, 5pm |
| East coast Mexico-USGC                 | 50           | Mexican Atlantic coast   | US Gulf coast from Texas to Alabama, including US offshore ports   | 5-15 days  | NY, 5pm |
| USGC-east coast Canada                 | 70           | US Gulf coast from Texas to Alabama, including US offshore ports   | Canadian coast from New Brunswick to Newfoundland  | 5-22 days  | NY, 5pm |
| USGC-Med <sup>††</sup>                 | 90           | US Gulf coast from Texas to Alabama, including US offshore ports   | Mediterranean from Gibraltar to Canakkale/Dardanelles. The \$/t rate is normalised to Trieste discharge  | 5-22 days  | NY, 5pm |
| USGC-Med                               | 70           | US Gulf coast from Texas to Alabama, including US offshore ports   | Mediterranean from Gibraltar to Canakkale/Dardanelles. The \$/t rate is normalised to Trieste discharge  | 5-22 days  | NY, 5pm |
| USGC-UKC <sup>††</sup>                 | 90           | US Gulf coast from Texas to Alabama, including US offshore ports   | Gibraltar to Hamburg, includes United Kingdom and the North Sea ports. The \$/t rate is normalised to Rotterdam discharge                        | 5-22 days  | NY, 5pm |
| USGC-UKC                               | 70           | US Gulf coast from Texas to Alabama, including US offshore ports   | Gibraltar to Hamburg, includes United Kingdom and the North Sea ports. The \$/t rate is normalised to Rotterdam discharge                        | 5-22 days  | NY, 5pm |

| Dirty freight rate specifications   |              |  |  |            |                 |
|---|--------------|--|--|------------|-----------------|
| Assessment  | Size ('000t) | Origin   | Destination  | Timing     | Time            |
| Caribbean-USGC  | 70           | Venezuela, Colombian Atlantic coast, and Caribbean islands   | Gulf of Mexico centred on the Loop crude discharge terminal  | 7-10 days  | NY, 5pm         |
| East coast Mexico-USGC  | 70           | Mexican Atlantic coast   | US Gulf coast from Texas to Alabama, including US offshore ports   | 5-22 days  | NY, 5pm         |
| East coast Canada-UKC   | 70           | Canadian coast from New Brunswick to Newfoundland  | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 5-22 days  | NY, 5pm         |
| East coast Canada-US Atlantic coast   | 70           | Canadian coast from New Brunswick to Newfoundland  | US Atlantic coast north of Cape Hatteras to Portland, Maine centred on Philadelphia and New York                 | 5-22 days  | NY, 5pm         |
| East coast Canada-USGC  | 70           | Canadian coast from New Brunswick to Newfoundland  | US Gulf coast from Texas to Alabama, including US offshore ports   | 5-22 days  | NY, 5pm         |
| Argentina-US west coast***  | 65           | Puerto Rosales   | US west coast from Los Angeles to Anacortes  | 18-45 days | NY, 5pm         |
| Argentina-US Atlantic coast***  | 65           | Puerto Rosales   | US Atlantic coast from Delaware City to Marcus Hook  | 18-45 days | NY, 5pm         |
| Argentina-US west coast***  | 50           | Puerto Rosales   | US west coast from Los Angeles to Anacortes  | 18-45 days | NY, 5pm         |
| Argentina-US Atlantic coast***  | 50           | Puerto Rosales   | US Atlantic coast from Delaware City to Marcus Hook  | 18-45 days | NY, 5pm         |
| Ecuador-US west coast   | 50           | Ecuador  | US west coast from Los Angeles to San Francisco  | 5-15 days  | NY, 5pm         |
| Esmeraldas-Houston  | 50           | See the oil and products TCE assessments section above   |  |            |                 |
| US Gulf coast Aframax reverse lightering*   |              | Daily assessment of the lumpsum cost to charter one Aframax tanker for a three-day period to reverse lighter, or deliver crude via ship-to-ship transfer (STS) onto a larger tanker in the US Gulf from a US load port. US Gulf coast load ports range from Texas to Alabama, including Corpus Christi, Houston, and Beaumont/Nederland. Ports on the Mississippi river are excluded |  | 2-14 days  | NY, 5pm         |
| US west coast STS cost  |              | Daily assessment of the lumpsum cost for a ship-to-ship transfer (STS) operation between two dirty tankers sized Aframax or larger, including the workboat, mooring master, mooring master assistant, hose and fenders   |  |            | NY, 5pm         |
| West coast Panama STS cost  |              | Daily assessment of the lumpsum cost for a ship-to-ship transfer (STS) operation between two dirty tankers sized Aframax or larger, including the workboat, mooring master, mooring master assistant, hose and fenders   |  |            | NY, 5pm         |
| <i>*lumpsum, **includes port fees associated with partial VLCC loadings in the US Gulf coast, *\$/t only - calculated as the dirty Argentina-USWC 130kt implied lumpsum value/110,000t, **assessed as a differential to the USGC-China 270,000t (lumpsum) rate, ***\$/t only - calculated as the dirty USGC-UKC or USGC-Med 70kt implied lumpsum value/90,000t, **\$/t only - calculated as the dirty Argentina-USWC 80kt implied lumpsum value * 1.125/100,000t, assuming overage charged at half price, ***\$/t only - calculated as the dirty Argentina-USWC or Argentina-USAC 50kt implied lumpsum value * 1.15/65,000t, assuming overage charged at half price, *** published in Worldscale only</i> |              |  |  |            |                 |
| Asia-Pacific  |              |  |  |            |                 |
| De-Kastri-Nakhodka*   | 100          | De-Kastri, Russia  | Nakhodka, Russia   | 5-15 days  | SGP, 4.30pm     |
| Kozmino-Chiba*  | 100          | the Russian far east port of Kozmino on the Sea of Japan   | Chiba, Japan   | 15-30 days | UK, 5pm Fridays |
| Kozmino-north China*  | 100          | the Russian far east port of Kozmino on the Sea of Japan   | ports located from Yingkou in Liaoning province to Qingdao in Shandong province on the east coast of China       | 15-30 days | UK, 5pm Fridays |
| Kozmino-south China*  | 100          | the Russian far east port of Kozmino on the Sea of Japan   | Chinese coast from Quanzhou to the Vietnamese border, including Yangpu in Hainan province                        | 15-30 days | UK, 5pm Fridays |
| Kozmino-Yeosu*  | 100          | the Russian far east port of Kozmino on the Sea of Japan   | Yeosu, South Korea   | 15-30 days | UK, 5pm Fridays |
| Yeosu STS to Paradip  | 100          | Yeosu, South Korea   | Paradip, India   | 7-25 days  | SGP, 4.30pm     |
| Yeosu STS to Vadinar  | 100          | Yeosu, South Korea   | Vadinar, India   | 7-25 days  | SGP, 4.30pm     |
| Yeosu STS to Mundra   | 100          | Yeosu, South Korea   | Mundra, India  | 7-25 days  | SGP, 4.30pm     |
| Yeosu STS to Chennai  | 100          | Yeosu, South Korea   | Chennai, India   | 7-25 days  | SGP, 4.30pm     |
| Indonesia-Japan   | 80           | Indonesia  | Japan  | 15-30 days | SGP, 4.30pm     |
| SE Asia-east coast Australia  | 80           | ports in the region around Indonesia and Malaysia, including Singapore   | east coast Australia   | 15-30 days | SGP, 4.30pm     |
| *lumpsum  |              |  |  |            |                 |

| Clean freight rate specifications                    |              |   |  |            |             |
|--|--------------|---|--|------------|-------------|
| Assessment   | Size ('000t) | Origin  | Destination  | Timing     | Time        |
| <b>Middle East/East Asia</b>                         |              |   |  |            |             |
| Mideast Gulf-UKC*                                    | 90           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 15-30 days | UK, 5pm     |
| Red Sea-Mediterranean*                               | 90           | Red Sea   | Gibraltar to Canakkale/Dardanelles   | 10-25 days | UK, 5pm     |
| Red Sea-UKC*   | 90           | Red Sea   | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 10-25 days | UK, 5pm     |
| Mideast Gulf-South Korea                             | 75           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | South Korea  | 15-30 days | SGP, 4.30pm |
| Mideast Gulf-Japan                                   | 75           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | Japan  | 15-30 days | SGP, 4.30pm |
| Mideast Gulf-UKC*                                    | 65           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 15-30 days | UK, 5pm     |
| Red Sea-Mediterranean*                               | 65           | Red Sea   | Gibraltar to Canakkale/Dardanelles   | 10-25 days | UK, 5pm     |
| Red Sea-UKC*   | 65           | Red Sea   | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 10-25 days | UK, 5pm     |
| Mideast Gulf-South Korea                             | 55           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | South Korea  | 15-30 days | SGP, 4.30pm |
| Mideast Gulf-Japan                                   | 55           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | Japan  | 15-30 days | SGP, 4.30pm |
| Mideast Gulf-Singapore, gasoil                       | 55           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | Singapore  | 15-30 days | SGP, 4.30pm |
| Mideast Gulf-UKC*                                    | 40           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 5-15 days  | UK, 5pm     |
| Mideast Gulf-Brazil*                                 | 40           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | Brazil   | 5-15 days  | UK, 5pm     |
| Mideast Gulf-Durban                                  | 35           | Mideast Gulf to Durban is calculated by applying the Mideast Gulf to east Africa 35,000t daily Worldscale spot rate assessment, minus a differential to reflect the longer voyage, to a basket of typical Worldscale flat rates for Mideast Gulf ports to Durban. Mideast Gulf refers to all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz). Assessments are made in \$/t.                             |  |            |             |
| Mideast Gulf-Durban (including anti-piracy fee)      | 35           | Mideast Gulf to Durban is calculated by applying the Mideast Gulf to east Africa (including anti-piracy fee) 35,000t daily Worldscale spot rate assessment, minus a differential to reflect the longer voyage, to a basket of typical Worldscale flat rates for Mideast Gulf ports to Durban. Mideast Gulf refers to all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz). Assessments are made in \$/t. |  |            |             |
| Mideast Gulf-east Africa                             | 35           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | a range of ports from Mombasa to Dar es Salaam   | 5-15 days  | SGP, 4.30pm |
| Mideast Gulf-east Africa (including anti-piracy fee) | 35           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | a range of ports from Mombasa to Dar es Salaam   | 5-15 days  | SGP, 4.30pm |
| Mideast Gulf-east coast India**                      | 35           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | east coast India   | 5-20 days  | SGP, 4.30pm |
| Mideast Gulf-Japan                                   | 35           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | Japan  | 15-30 days | SGP, 4.30pm |
| Mideast Gulf-Singapore                               | 35           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | Singapore  | 15-30 days | SGP, 4.30pm |
| Mideast Gulf-Walvis Bay                              | 35           | Mideast Gulf to Walvis Bay is calculated by multiplying the percentage of the Mideast Gulf to east Africa 35,000t daily Worldscale spot rate assessments to a basket of typical Worldscale flat rates for Mideast Gulf ports to Walvis Bay. Mideast Gulf refers to all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz). Assessments are made in \$/t.   |  |            |             |
| Mideast Gulf-Walvis Bay (including anti-piracy fee)  | 35           | Mideast Gulf to Walvis Bay is calculated by multiplying the percentage of the Mideast Gulf to east Africa (including anti-piracy fee) 35,000t daily Worldscale spot rate assessments to a basket of typical Worldscale flat rates for Mideast Gulf ports to Walvis Bay. Mideast Gulf refers to all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz). Assessments are made in \$/t.                       |  |            |             |
| Mideast Gulf-west coast India**                      | 35           | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)   | west coast India   | 5-20 days  | SGP, 4.30pm |

**Clean freight rate specifications**

| Assessment   | Size ('000t) | Origin   | Destination  | Timing    | Time        |
|--|--------------|--|--|-----------|-------------|
| Cross Mideast Gulf (excl Hormuz transit)***  | 35           | from one port to another in the Arab Gulf/Persian Gulf up to Duqm. Excludes voyages that pass from one side of Quoin Island (strait of Hormuz) to the other  |  | 5-15 days | SGP, 4.30pm |
| Cross Mideast Gulf (Hormuz transit)***   | 35           | from one port to another in the Arab Gulf/Persian Gulf up to Duqm. Only for voyages that pass from one side of Quoin Island (strait of Hormuz) to the other  |  | 5-15 days | SGP, 4.30pm |
| northwest India- Mideast Gulf (excl Hormuz transit)***   | 35           | Indian west coast north of and including Hazira  | Gulf of Oman from Quoin Island to Duqm, primarily Fujairah and So-har  | 5-15 days | SGP, 4.30pm |
| northwest India- Mideast Gulf (Hormuz transit)***  | 35           | Indian west coast north of and including Hazira  | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz) primarily Jebel Ali                | 5-15 days | SGP, 4.30pm |
| <i>*lumpsum, **assessed and published as lumpsums and are also converted to Worldscale and \$/t values for publication *** lumpsum and Worldscale only</i> |              |  |  |           |             |
| <b>Northern Europe</b>   |              |  |  |           |             |
| UKC-west Africa  | 60           | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports   | range of ports centred on Bonny and Lagos  | 7-20 days | UK, 5pm     |
| ARA-Durban   | 37           | ARA to Durban is calculated by multiplying the percentage of the UKC to west Africa 37,000t daily Worldscale spot rate assessments to a basket of typical Worldscale flat rates for ARA ports to Durban. ARA refers to the Antwerp/Rotterdam/Amsterdam range of ports. Assessments are made in \$/t.         |  |           |             |
| ARA-Walvis Bay   | 37           | ARA to Walvis Bay is calculated by multiplying the percentage of the UKC to west Africa 37,000t daily Worldscale spot rate assessments to a basket of typical Worldscale flat rates for ARA ports to Walvis Bay. ARA refers to the Antwerp/Rotterdam/Amsterdam range of ports. Assessments are made in \$/t. |  |           |             |
| UKC-east coast Mexico  | 37           | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports   | ports of Tuxpan, Tampico, Pajaritos and Ciudad Madero  | 5-14 days | UK, 5pm     |
| UKC-South America  | 37           | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports   | Atlantic coast ports ranging from northern Brazil to northern Argentina  | 5-14 days | UK, 5pm     |
| UKC-US Atlantic coast  | 37           | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports   | US Atlantic coast north of Cape Hatteras to Portland, Maine centred on Philadelphia, New York and Boston         | 7-10 days | UK, 5pm     |
| UKC-west Africa  | 37           | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports   | range of ports centred on Bonny and Lagos  | 5-14 days | UK, 5pm     |
| Russian Baltic-west Africa   | 37           | Russian Baltic ports   | range of ports centred on Bonny and Lagos  | 5-20 days | UK, 5pm     |
| Russian Baltic-Mediterranean   | 37           | Russian Baltic ports   | Gibraltar to Canakkale/Dardanelles   | 5-20 days | UK, 5pm     |
| Russian Baltic-Brazil  | 37           | Russian Baltic ports   | Brazil   | 5-20 days | UK, 5pm     |
| Russian Baltic-Caribbean   | 37           | Russian Baltic ports   | Venezuela, Colombian Atlantic coast, Panamanian Atlantic coast, and Caribbean islands                            | 5-20 days | UK, 5pm     |
| Russian Baltic-Mideast Gulf*   | 37           | Russian Baltic ports   | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)                                    | 5-20 days | UK, 5pm     |
| Russian Baltic-Singapore*  | 37           | Russian Baltic ports   | Singapore  | 5-20 days | UK, 5pm     |
| Russian Baltic-west coast India*   | 37           | Russian Baltic ports   | west coast India   | 5-20 days | UK, 5pm     |
| Baltic-UKC   | 30           | ports in Finland, Estonia, Latvia, Lithuania, Poland, Baltic Germany and Baltic Sweden   | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 7-10 days | UK, 5pm     |
| Cross UKC  | 30           | from one port to another port in northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports  |  | 5-14 days | UK, 5pm     |
| UKC-Portugal**   | 30           | northwest Europe from Le Havre to Hamburg  | Lisbon   | 5-14 days | UK, 5pm     |
| Cross UKC  | 22           | from one port to another port in northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports  |  | 5-14 days | UK, 5pm     |

**Clean freight rate specifications**

| Assessment   | Size ('000t) | Origin   | Destination  | Timing     | Time                 |
|--|--------------|--|--|------------|----------------------|
| <b>Black Sea and Mediterranean</b>   |              |  |  |            |                      |
| Med-Japan <sup>†</sup>   | 80           | Gibraltar to Canakkale/Dardanelles   | Japan  | 15-30 days | UK, 5pm              |
| Med-Japan <sup>†</sup>   | 60           | Gibraltar to Canakkale/Dardanelles   | Japan  | 15-30 days | UK, 5pm              |
| Med-US Atlantic coast  | 37           | Gibraltar to Canakkale/Dardanelles   | north of Cape Hatteras to Portland, Maine centred on Philadelphia, New York and Boston                           | 5-14 days  | UK, 5pm              |
| Cross Med  | 37           | from one port to another port in the Mediterranean from Gibraltar to Canakkale/Dardanelles |  | 5-14 days  | UK, 5pm              |
| Russian Black Sea-west Africa  | 37           | Russian Black Sea ports  | range of ports centred on Bonny and Lagos  | 10-20 days | UK, 5pm              |
| Russian Black Sea-Mideast Gulf <sup>†</sup>  | 37           | Russian Black Sea ports  | all ports in the Arab Gulf/Persian Gulf up to Quoin Island (strait of Hormuz)                                    | 10-20 days | UK, 5pm              |
| Russian Black Sea-Mediterranean  | 33           | Russian Black Sea ports  | Gibraltar to Canakkale/Dardanelles   | 10-20 days | UK, 5pm              |
| Black Sea-Med  | 30           | Black Sea ports north and east of the Bosphorus (non-Russian cargo) <sup>†</sup>           | Gibraltar to Canakkale/Dardanelles   | 5-14 days  | UK, 5pm              |
| Cross Med  | 30           | from one port to another port in the Mediterranean from Gibraltar to Canakkale/Dardanelles |  | 5-14 days  | UK, 5pm              |
| Cross Med gasoline (inc gasoline premium)  | 30           | from one port to another port in the Mediterranean from Gibraltar to Canakkale/Dardanelles |  | 5-14 days  | UK, 5pm              |
| Cross Med jet (inc jet premium)  | 30           | from one port to another port in the Mediterranean from Gibraltar to Canakkale/Dardanelles |  | 5-14 days  | UK, 5pm              |
| Cross Med naphtha (inc naphtha premium)  | 30           | from one port to another port in the Mediterranean from Gibraltar to Canakkale/Dardanelles |  | 5-14 days  | UK, 5pm              |
| Med gasoline premium <sup>**</sup>   | 30           | Gibraltar to Canakkale/Dardanelles   |  | 5-14 days  | UK, 5pm              |
| Med jet premium <sup>**</sup>  | 30           | Gibraltar to Canakkale/Dardanelles   |  | 5-14 days  | UK, 5pm              |
| Med naphtha premium <sup>**</sup>  | 30           | Gibraltar to Canakkale/Dardanelles   |  | 5-14 days  | UK, 5pm              |
| Med-UKC  | 30           | Gibraltar to Canakkale/Dardanelles   | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 5-14 days  | UK, 5pm              |
| Med-UKC gasoline   | 30           | Gibraltar to Canakkale/Dardanelles   | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 5-14 days  | UK, 5pm              |
| Med-UKC jet  | 30           | Gibraltar to Canakkale/Dardanelles   | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 5-14 days  | UK, 5pm              |
| Med-UKC naphtha  | 30           | Gibraltar to Canakkale/Dardanelles   | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 5-14 days  | UK, 5pm              |
| East Med-Ukraine <sup>††</sup>   | 5-6          | Greece and Turkey  | Ukraine  | 7-21 days  | UK, 5pm<br>Wednesday |
| <i>*Lumpsum, **Premiums are as currently available in the market for the relevant commodity expressed in Worldscale spot rates points † non-Russian cargoes are those not produced in the Russian Federation, not blended with anything produced in the Russian Federation and not exported from the Russian Federation †† \$/t only</i> |              |  |  |            |                      |
| <b>Americas</b>  |              |  |  |            |                      |
| <b>Worldscale</b>  |              |  |  |            |                      |
| USGC-Brazil  | 60           | centred on the export ports around the Gulf of Mexico                                      | Brazil   | 5-21 days  | NY, 5pm              |
| USGC-north Brazil <sup>†</sup>   | 60           | centred on the export ports around the Gulf of Mexico                                      | Brazilian ports to the north of and including Suape  | 5-21 days  | NY, 5pm              |
| USGC-south Brazil <sup>†</sup>   | 60           | centred on the export ports around the Gulf of Mexico                                      | Brazilian ports to the south of and excluding Suape  | 5-21 days  | NY, 5pm              |

| Clean freight rate specifications              |              |  |   |           |         |
|--|--------------|--|---|-----------|---------|
| Assessment                                     | Size ('000t) | Origin   | Destination   | Timing    | Time    |
| USGC-UKC                                       | 60           | centred on the export ports around the Gulf of Mexico  | Gibraltar to Hamburg, includes United Kingdom and the North Sea ports, centred on ARA (Amsterdam-Rotterdam-Antwerp)   | 5-21 days | NY, 5pm |
| Caribbean-USAC                                 | 38           | centred on the export ports in and around northern Venezuela   | US Atlantic coast north of Cape Hatteras to Portland, Maine centred on Philadelphia, New York and Boston  | 3-10 days | NY, 5pm |
| USAC-UKC                                       | 38           | US Atlantic coast north of Cape Hatteras to Portland, Maine centred on Philadelphia, New York and Boston                                 | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports  | 3-10 days | NY, 5pm |
| USGC/Caribbean-UKCM                            | 38           | USGC is centred on the export ports around the Gulf of Mexico, Caribbean is centred on the export ports in and around northern Venezuela | Northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports; Mediterranean from Gibraltar to Canakkale/Dardanelles | 3-10 days | NY, 5pm |
| USGC-Argentina/Uruguay*                        | 38           | centred on the export ports around the Gulf of Mexico  | Argentina and Uruguay   | 3-10 days | NY, 5pm |
| USGC-east coast Canada                         | 38           | centred on the export ports around the Gulf of Mexico  | Canadian east coast from New Brunswick to Newfoundland  | 3-10 days | NY, 5pm |
| USGC-east coast South America                  | 38           | centred on the export ports around the Gulf of Mexico  | Brazil, Argentina, and Uruguay  | 3-10 days | NY, 5pm |
| USGC-north Brazil*                             | 38           | centred on the export ports around the Gulf of Mexico  | Brazilian ports to the north of and including Suape   | 3-10 days | NY, 5pm |
| USGC-south Brazil*                             | 38           | centred on the export ports around the Gulf of Mexico  | Brazilian ports to the south of and excluding Suape   | 3-10 days | NY, 5pm |
| <i>*Published in \$/t only</i>                 |              |  |   |           |         |
| Lumpsum  |              |  |   |           |         |
| USGC-Japan                                     | 60           | centred on the export ports around the Gulf of Mexico  | Japan   | 5-21 days | NY, 5pm |
| East coast Canada-USAC                         | 38           | centred on Quebec City, Quebec   | US Atlantic coast north of Cape Hatteras to Portland, Maine centred on Philadelphia, New York and Boston  | 3-10 days | NY, 5pm |
| USGC-Chile                                     | 38           | centred on the export ports around the Gulf of Mexico  | Chilean coast from Coronel to but excluding Quintero  | 3-10 days | NY, 5pm |
| USGC-Calbuco diff to USGC-Chile                | 38           | centred on the export ports around the Gulf of Mexico  | Chilean coast from Calbuco to but excluding Coronel   | 3-10 days | NY, 5pm |
| USGC-Caldera diff to USGC-Chile                | 38           | centred on the export ports around the Gulf of Mexico  | Chilean coast from Caldera to but excluding Mejillones/Antofagasta  | 3-10 days | NY, 5pm |
| USGC-Mejillones/Antofagasta diff to USGC-Chile | 38           | centred on the export ports around the Gulf of Mexico  | Chilean coast north of and including Mejillones/Antofagasta   | 3-10 days | NY, 5pm |
| USGC-Quintero diff to USGC-Chile               | 38           | centred on the export ports around the Gulf of Mexico  | Chilean coast from Quintero to but excluding Caldera  | 3-10 days | NY, 5pm |
| USGC-Dominican Republic                        | 38           | centred on the export ports around the Gulf of Mexico  | Dominican Republic  | 3-10 days | NY, 5pm |
| USGC-east coast of Mexico                      | 38           | centred on the export ports around the Gulf of Mexico  | ports of Tuxpan, Tampico, Pajaritos and Ciudad Madero   | 3-10 days | NY, 5pm |
| USGC-Ecuador                                   | 38           | centred on the export ports around the Gulf of Mexico  | Ecuador   | 3-10 days | NY, 5pm |
| USGC-Japan                                     | 38           | centred on the export ports around the Gulf of Mexico  | ports of Mizushima, Chiba and Kashima   | 3-10 days | NY, 5pm |
| USGC-Las Minas                                 | 38           | centred on the export ports around the Gulf of Mexico  | Las Minas on the Atlantic coast of Panama   | 3-10 days | NY, 5pm |
| USGC-Lazaro Cardenas                           | 38           | centred on the export ports around the Gulf of Mexico  | Mexican west coast south of and including Lazaro Cardenas   | 3-10 days | NY, 5pm |
| USGC-Peru                                      | 38           | centred on the export ports around the Gulf of Mexico  | Peruvian coast south of and excluding Callao and Conchan  | 3-10 days | NY, 5pm |
| USGC-Callao/Conchan diff to USGC-Peru          | 38           | centred on the export ports around the Gulf of Mexico  | Peruvian coast north of and including ports of Callao and Conchan   | 3-10 days | NY, 5pm |
| USGC-Pozos                                     | 38           | centred on the export ports around the Gulf of Mexico  | Pozos, Colorados in Colombia  | 3-10 days | NY, 5pm |

| Clean freight rate specifications  |              |   |  |            |             |
|--|--------------|---|--|------------|-------------|
| Assessment   | Size ('000t) | Origin  | Destination  | Timing     | Time        |
| USGC-Barranquilla diff to USGC-Pozos   | 38           | centred on the export ports around the Gulf of Mexico                         | Barranquilla, Colombia   | 3-10 days  | NY, 5pm     |
| USGC-Bolivar diff to USGC-Pozos  | 38           | centred on the export ports around the Gulf of Mexico                         | Bolivar, Colombia  | 3-10 days  | NY, 5pm     |
| USGC-Cartagena diff to USGC-Pozos  | 38           | centred on the export ports around the Gulf of Mexico                         | Cartagena, Colombia  | 3-10 days  | NY, 5pm     |
| USGC-Rosarito  | 38           | centred on the export ports around the Gulf of Mexico                         | Rosarito, on the Pacific coast of northern Mexico  | 3-10 days  | NY, 5pm     |
| USGC-west coast Central America  | 38           | centred on the export ports around the Gulf of Mexico                         | west coast Central America from Costa Rica to Guatemala  | 3-10 days  | NY, 5pm     |
| USGC-Vancouver   | 38           | centred on the export ports around the Gulf of Mexico                         | Vancouver, British Columbia  | 3-10 days  | NY, 5pm     |
| USWC-Chile   | 38           | US west coast from San Francisco to Los Angeles                               | Chilean coast from Coronel to but excluding Quintero   | 7-15 days  | NY, 5pm     |
| USWC-Calbuco diff to USWC-Chile  | 38           | US west coast from San Francisco to Los Angeles                               | Chilean coast from Calbuco to but excluding Coronel  | 7-15 days  | NY, 5pm     |
| USWC-Caldera diff to USWC-Chile  | 38           | US west coast from San Francisco to Los Angeles                               | Chilean coast from Caldera to but excluding Mejillones/Antofagasta   | 7-15 days  | NY, 5pm     |
| USWC-Mejillones/Antofagasta diff to USWC-Chile   | 38           | US west coast from San Francisco to Los Angeles                               | Chilean coast north of and including Mejillones/Antofagasta  | 7-15 days  | NY, 5pm     |
| USWC-Quintero diff to USWC-Chile   | 38           | US west coast from San Francisco to Los Angeles                               | Chilean coast from Quintero to but excluding Caldera   | 7-15 days  | NY, 5pm     |
| USWC-Lazaro Cardenas   | 38           | US west coast from San Francisco to Los Angeles                               | Mexican west coast south of and including Lazaro Cardenas  | 7-15 days  | NY, 5pm     |
| USWC-Rosarito  | 38           | US west coast from San Francisco to Los Angeles                               | Mexican west coast from Rosarito to but excluding Lazaro Cardenas  | 7-15 days  | NY, 5pm     |
| Vancouver-Rosarito   | 38           | Americas west coast from Vancouver, British Columbia to Anacortes, Washington | Rosarito, on the Pacific coast of northern Mexico  | 7-15 days  | NY, 5pm     |
| Vancouver-west coast Central America   | 38           | Americas west coast from Vancouver, British Columbia to Anacortes, Washington | west coast Central America from Costa Rica to Guatemala  | 7-15 days  | NY, 5pm     |
| Vancouver-Peru   | 38           | Americas west coast from Vancouver, British Columbia to Anacortes, Washington | Peruvian coast south of and excluding Callao and Conchan   | 7-15 days  | NY, 5pm     |
| Vancouver-Chile (not south of Coronel)   | 38           | Americas west coast from Vancouver, British Columbia to Anacortes, Washington | Chilean coast from Coronel to but excluding Quintero   | 7-15 days  | NY, 5pm     |
| USWC-Topolobampo*  | 19           | US west coast from San Francisco to Los Angeles                               | Topolobampo  | 7-15 days  | NY, 5pm     |
| USGC-Guaymas*  | 12           | centered on the export ports around the Gulf of Mexico                        | Guaymas  | 3-10 days  | NY, 5pm     |
| USWC-Guaymas*  | 12           | US west coast from San Francisco to Los Angeles                               | Guaymas  | 7-15 days  | NY, 5pm     |
| *Assessed in \$/t, medium range (MR) vessels, assumes partial discharge of the stated cargo size |              |   |  |            |             |
| Asia-Pacific   |              |   |  |            |             |
| west coast India-south Brazil*   | 90           | west coast India  | Brazilian ports to the south of and including Suape  | 10-25 days | UK, 5pm     |
| west coast India-UKC*  | 90           | west coast India  | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 10-25 days | UK, 5pm     |
| west coast India-south Brazil*   | 65           | west coast India  | Brazilian ports to the south of and including Suape  | 10-25 days | UK, 5pm     |
| west coast India-UKC*  | 65           | west coast India  | northwest Europe from Le Havre to Hamburg, centred on ARA (Amsterdam-Rotterdam-Antwerp), and the North Sea ports | 10-25 days | UK, 5pm     |
| Singapore-ARA*   | 40           | Singapore   | Amsterdam-Rotterdam-Antwerp  | 15-30 days | SGP, 4.30pm |

| Clean freight rate specifications   |              |  |  |            |             |
|-------------------------------------|--------------|--|--|------------|-------------|
| Assessment                          | Size ('000t) | Origin   | Destination  | Timing     | Time        |
| west coast India-south Brazil*      | 40           | west coast India   | Brazilian ports to the south of and excluding Suape  | 5-15 days  | UK, 5pm     |
| SE Asia-east coast Australia        | 35           | ports in the region around Indonesia and Malaysia, including Singapore | east coast Australia                                 | 15-30 days | SGP, 4.30pm |
| South Korea-Australia/New Zealand   | 35           | South Korea  | east coast Australia and New Zealand                 | 15-30 days | SGP, 4.30pm |
| South Korea-Chile*                  | 35           | South Korea  | Chilean coast from Coronel to but excluding Quintero | 10-25 days | SGP, 4.30pm |
| South Korea-east coast Australia**  | 35           | South Korea  | east coast Australia                                 | 15-30 days | SGP, 4.30pm |
| South Korea-New Zealand**           | 35           | South Korea  | New Zealand  | 15-30 days | SGP, 4.30pm |
| South Korea-Singapore*              | 35           | South Korea  | Singapore  | 15-30 days | SGP, 4.30pm |
| South Korea-US west coast*          | 35           | South Korea  | US west coast  | 15-30 days | SGP, 4.30pm |
| north China to east coast Australia | 35           | Yingkou in Liaoning province to Rizhao in Shandong province            | east coast Australia                                 | 10-25 days | SGP, 4.30pm |
| north China to west coast Australia | 35           | Yingkou in Liaoning province to Rizhao in Shandong province            | west coast Australia                                 | 10-25 days | SGP, 4.30pm |
| SE Asia-east coast Australia        | 30           | ports in the region around Indonesia and Malaysia, including Singapore | east coast Australia                                 | 15-30 days | SGP, 4.30pm |
| Singapore-Japan                     | 30           | Singapore  | Japan  | 15-30 days | SGP, 4.30pm |

\*lumpsum, \*\*\$/t only