

## Document number 100

# Methodology barge freight rates

Version 3.13

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## 1 Introduction

This document reflects the methodology applied by INSIGHTS GLOBAL to determine the INSIGHTS GLOBAL ARA and Rhine barge freight rates to transport clean oil products and biofuels in Northwest Europe over the inland waterways. The methodology aims to produce daily and weekly freight rate ranges free from distortions and which represent market values. The aim is to provide market transparency for the barge market and to give the best, most reliable and accurate freight rate information that is practically possible.

This purpose is achieved best by a transaction-based pricing methodology. In both ARA and Rhine barge transport markets, freight rates are negotiated freely and thus represent market value in the most reliable and accurate way. Furthermore transaction data, including bids and offers (if necessary) are often sufficiently available for this purpose. A transaction-based pricing methodology is therefore best suited for our freight rate reporting services. When needed, judgements and assumptions are made when there is a lack of sufficient information for certain routes and/or reports. This could mean e.g. including bids and offers for certain routes, extrapolate data for certain routes in line with other routes or keeping the published rate unchanged in case of proper directions. Other pricing methodologies (e.g. 'spread-based') are less common and therefore not used. In case of insufficient information, decisions can be based on 'extrapolated' data which is stated in the low liquidity procedure if needed.

Since the transaction-based data is available throughout the day, but transactions are often finalized before nominating-deadline at 15:00hrs CE(D)T, INSIGHTS GLOBAL will gather data during the afternoon. Data received after publication of our freight rate report, will be taken into account during the next publication moment.

The following parts of this document describe the survey process in more detail. In chapter 'General Methodology' the general process and principles are described that apply to both ARA and Rhine barge freight rates. In the subsequent chapters specifics of either ARA barge freight rates or Rhine barge freight rates are described.

## 2 General methodology

INSIGHTS GLOBAL freight assessments are based upon information received from a wide cross section of market participants. INSIGHTS GLOBAL engages with the industry by proactively surveying participants for market data. INSIGHTS GLOBAL encourages all market players to be a panel member and submit all market data to which they are a party that falls within stated methodological criteria for the relevant assessments. Insights Global will do its utmost best to determine the freight rates for the given day using the received information and internal judgement of reporters.

Data submitted before publication time will be incorporated in analysis and the report. Publication of ARA CPP and Rhine CPP freight rate reports is done daily (unless otherwise communicated by INSIGHTS GLOBAL) between 15:00hrs and 17:30hrs CE(D)T with data collection done from 14:00 until 16:30 CE(D)T. Daily barge transport nomination procedures end at 15:00hrs CE(D)T so most transactions are likely to be finalized before publication of the freight rate reports. Data submitted after publication time will be incorporated in next day's analysis and report. Data gathering for the weekly ARA DPP freight rate report will be done on Friday's from 13:00 until 15:00 CE(D)T and will cover all deals from that week. All data gathered by INSIGHTS GLOBAL relevant for the market data analysis will be documented for a minimum of five years.

The general process in which INSIGHTS GLOBAL determines its freight rate indexes consists of four steps:

- A. Collect market data
- B. Verify transaction data
- C. Analyze market data

## D. Determine freight rates

### 2.1 Collect market data

INSIGHTS GLOBAL International uses the methodological approach deemed to be the most reliable and representative for that market. INSIGHTS GLOBAL uses a high degree of care in gathering and validating all market data used in determining freight assessments.

The information used to form an assessment<sup>1</sup> could include information coming from majors\*/importers\*, oil traders\* (=shipper), charterers/ship-owner(s), barge brokers / operators (=panel members). Panel members need to comply to INSIGHTS GLOBAL's panel member criteria<sup>2</sup>. With these panel members current market circumstances are discussed. Most importantly these panel members provide INSIGHTS GLOBAL with market data concerning their fixed deals and bids/offers for that specific day (transaction data). Per deal specific details are noted and assessed. This transaction data is treated strictly confidential and is never shared with market players and with colleagues outside of the Operations department. All specific transaction data, except information needed for the published reports<sup>3</sup>, will at most only be shared among involved parties (shipper, charterer/ship-owner or broker of the deal) in order to verify circumstances, terms and conditions, when asked for.

The data gathered could be used for several reasons. First, deal specific information is the core of the freight rate analysis. Closed deals would therefore form the first indication of a freight rate for a specific route. Also, this can be used as indication for other routes. This is the case for related routes, which is explained in the chapters concerning the different reports and the different corresponding internal procedures. Next, bids/offers are taken into account to show the direction and possible minimum or maximum freight rates for a specific route. However, when sufficient deal information is available, the bids/offers are left out of the freight rate determination. Besides this information, another aspect of the market is used to see the direction of the market for Rhine freight rates; due to the fluctuating nature of the water levels up the Rhine, and therefore the intake of barges, sudden differences in loading capacities could lead to sharp increase of decrease of revenues. This could have an effect on freight rates (which are measured in €/mton or CHF/mton) for the entire market. All in all, the following could be used on relative importance of data for the report:

- 1) Actual deals closed in market, confirmed by both parties
- 2) Actual deals closed in market, confirmed by one side of the deal
- 3) Bids of charterers and offers from ship owners, still in negotiation but providing guidance on direction the market is heading (minimum/maximum prices)
- 4) Other (related) routes changes seen, which could provide support for judgement made by analyst.
- 5) Additional qualitative information, e.g. water level changes, market circumstances, etc.

The sources selected for data gathering should be eligible to submit relevant transaction data and be informed about the ways INSIGHTS GLOBAL International contacts the sources. INSIGHTS GLOBAL International could store their name, job function, employer and contact information so INSIGHTS GLOBAL International can retrieve the data in case there are inconsistencies to check. He/she should be willing to cooperate for INSIGHTS GLOBAL to receive all deal information, which is used in the freight rate assessments.

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<sup>1</sup> Information collection is based on a specific set of questions (freight rate questionnaire)

<sup>2</sup> These criteria are documented and communicated to panel members

<sup>3</sup> Information needed for the reports is limited to freight rates and corresponding volumes

The relationship between panel members and INSIGHTS GLOBAL is only intended to provide INSIGHTS GLOBAL with objective input. Panel members are not allowed to influence INSIGHTS GLOBAL's judgement of market rates in ways that are not appropriate. In cases where panel members do resort to inappropriate ways of influencing INSIGHTS GLOBAL's judgement, the incident will be escalated by the applicable INSIGHTS GLOBAL researcher by contacting the INSIGHTS GLOBAL supervising editor. The incident will be documented in the escalation log and the supervising editor will contact the panel member in order to make clear that such behavior is not allowed. If such incidents continue, INSIGHTS GLOBAL will stop contacting that player and its deals will no longer be incorporated in the freight rate assessment process.

## 2.2 *Verify transaction data*

INSIGHTS GLOBAL carefully analyses all data submitted to the freight assessment process. INSIGHTS GLOBAL International encourages entities to submit all market data that could be relevant for the assessment being made. This data includes transaction prices, bids, offers and deal specific information like cargo, volume, counterparties, loading- and discharge ports and any other information that contributes materially to the determination of freight(s).

Deals (and bids/offers) need to be verified in order to produce reliable freight rate indexes that capture the true current market value of barge capacity in the specific covered markets.

Freight rates can be verified by INSIGHTS GLOBAL's researchers in different ways:

- I. Verify by confirmation of the deal by charterer/ship-owner, broker and shipper
- II. Verify by receiving a copy of the charter party document
- III. Verify by assessing if the deal is 'market-oriented' according to other market players and if it fits within current market circumstances

### 2.2.1 Credibility of market data

These verification methods are ordered in decreasing credibility. The most credible verification method is (I), either in combination with (II) or just (I) alone. Verification method (II) alone is less credible than (I) because the charter party has not been confirmed by both parties. This can be the case when the respective counterparty is not available at the specific moment when the verification process takes place. However, at a later stage the document can be verified with the counterparty in order to determine if the charter party represents a real deal or not. Verification method (III) is used when the market data cannot or is not verified by the counterparty and when a charter party document has not been submitted. The only way to verify such data is to look at how it fits with what other market players are saying and with the fundamental market situation. This method (III) results in less credible market data than when method (II) and method (I) has been used. If none of these methods (I, II, III) can be applied than the data is classified as least credible.

### 2.2.2 Primary tests applied by INSIGHTS GLOBAL

Specific to transactions, bids and offers INSIGHTS GLOBAL seeks to determine the credibility of the freight levels and deal specific information. Several tests are applied by INSIGHTS GLOBAL to transactional data. If a transaction has been identified as failing such a test, it will receive further scrutiny. INSIGHTS GLOBAL has established internal procedures that involve escalation of inquiry. Should this process determine that a transaction needs to be excluded from the freight assessment process the supervising editor will initiate approval and, if necessary, document procedures.

The primary tests applied by INSIGHTS GLOBAL are:

- Transaction freights that deviate significantly from the mean of all transactions submitted for that day.
- Transaction freights that fall outside of the generally observed lows and highs that operated throughout the day.
- Transactions that are suspected to be a leg of another transaction in some way contingent of an unknown transaction.
- Transaction details that are identified by other market participants as being for any reason potentially anomalous and perceived by INSIGHTS GLOBAL to be as such.
- Transaction details that are reported by one counterparty differently that the other counterparty.
- Any transaction details that appear to INSIGHTS GLOBAL to be illogical or to stray from the norm of market behavior. This could include but is not limited to unusual loading and -discharge ports and counterparties not typically seen.

### 2.2.3 Escalation procedure

If during the verification process it becomes clear that a transaction has been identified as failing primary tests this specific deal is escalated by INSIGHTS GLOBAL's researcher. In this escalation procedure the supervising editor is alerted by the researcher and the editor will study the deal and circumstances and may contact both related parties of the deal in order to form an opinion of the situation. Ultimately the editor will decide if this deal will be incorporated in the freight rate indexing process and, if it will be incorporated, what freight rate level will be used.

The escalation procedure will be documented and the involved parties are noted on a list. If a certain organization has been regularly and repeatedly involved in such escalation procedures and it is suspected that the organization is trying to manipulate or undermine the INSIGHTS GLOBAL freight rate indexing process INSIGHTS GLOBAL will contact that organization and communicate this issue to their management. If, after repeated communication, no significant improvement in the behavior of the organization has been noticed INSIGHTS GLOBAL will stop contacting that player and its deals will no longer be incorporated in the freight rate assessment process.

## 2.3 *Analyze market data*

The result of the verification process is a list of verified deals (and bids/offers) on a specific date. This list is the input for the freight rate indexing process. The deals are ordered and analyzed per route.

### 2.3.1 Distribution, statistics and outliers

First based on the verified deals the mean per route and the overall<sup>4</sup> standard deviation is calculated. The distribution of deals per route is examined to see if outliers are present in the market data. The standard procedure to identify outliers is to compare the individual freight rate with the mean freight rate for the specific route. A deal is considered an outlier if the absolute difference between the individual freight rate and the respective mean is larger than two times the overall standard deviation. If outliers are present they will be examined to see if terms and conditions or special circumstances are the cause of the deviation. If this is the case than the researcher will try to translate these different terms and conditions and special circumstances into a corrected freight rate level for that specific deal. After this correction process the distribution is analyzed again and outliers that are still present are identified and removed from the calculation.

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<sup>4</sup> The overall standard deviation is the square root of the overall variance. The overall variance is calculated by summing all the squared differences between individual freight rates and the mean per route and dividing this sum by the total number of deals minus one. The overall standard deviation is for ARA freight rates calculated over deals received in one day, while standard deviation for Rhine freight rates is calculated over deals received in five days in order to provide a sufficient amount of transaction data.

The mean per route and overall standard deviation are both calculated excluding outliers. These statistics are input for the freight researcher to determine the freight rate indexes. All found outliers and relevant data belonging to this freight rate are internally stored for reviewing purposes.

### 2.3.2 Non-standard routes

Transaction data from deals for 'routes other than the ones specifically mentioned in the published ARA or Rhine barge freight rate reports' (=non-standard routes) will need to be incorporated in the freight rate index determination process as much as possible in order to enlarge the sample size. The procedure to incorporate non-standard route transaction data is based on a correction method: rates are related to a specific standard route and the freight rate is corrected in order to make it comparable. The standard route used for this purpose is the one that mostly resembles the non-standard route. The non-standard freight rate is transformed into a standard freight rate by adding the correction factor. The correction factor is determined based on an analysis of how the route compares to the specific standard route in terms of the length/duration of the voyage, maximum loading capacity due to constraints along the route or low water levels and other route specific costs such as canal and harbor dues. The standardized freight rates are incorporated in the procedure to determine freight rate statistics as described in 2.3.1.

### 2.3.3 Non-standard volumes

INSIGHTS GLOBAL freight rate indexes are based upon specific transport lot size ranges for the applicable standard routes. These lot sizes are indicated in the published reports. If a deal is reported that falls outside this range the corresponding freight rate could be corrected in order to be incorporated into the freight rate indexing process. Correction is needed because of the 'economies-of-scale' effect that is present in the barge market: the larger the volume, the lower the costs per ton cargo and the lower the freight rate. Correction is done by applying a premium (large volume deal) / discount (small volume deal) to the freight rate. The applied premium/discount should be market based. If information at such time is not available to determine a suitable premium/discount the non-standard rate may be excluded from the assessment.

### 2.3.4 Other standardization issues

Apart from deviations in route and volume other issues that influence rate levels are (amongst others) (i) non-standard products like light-chemicals, (ii) voyages that include lighting and/or have more than one loading/discharging location and (iii) lump sum deals. The influence of each of these items, if applicable, will need to be assessed and freight rates can be corrected if needed.

## 2.4 *Determine freight rate index*

From analyzing freight rate data a list of verified and corrected/standardized deals with corresponding statistics results. Based upon this data and considering current market fundamentals the INSIGHTS GLOBAL freight rate indexes are determined. Below we will distinguish between the standard procedure and the low-liquidity procedure to determine freight rate indexes.

### 2.4.1 Standard procedure

The standard procedure is to fix the freight rate indices based upon the statistics as determined by the procedure stated in 2.3.1. Ultimately the freight researcher will, based upon these statistics and any other relevant information available, set the freight rate indexes at levels that best resemble<sup>5</sup> the current market situation. Rates are rounded to the nearest €0.01 increment.

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<sup>5</sup> The rate level that most likely would have been negotiated between parties for near prompt loading and standard T&C on that specific day is considered the rate that best resembles the current market situation.

#### 2.4.2 Low liquidity procedure

In general, a minimum of three deals/offers need to be provided per route in order to get an accurate freight rate. In certain circumstances liquidity can be too low which results in a too little number of deals. In order to fill 'blank spots' INSIGHTS GLOBAL applies a method that relates freight rates of the standard routes by comparing the length/duration of the voyage, maximum loading capacity due to constraints along the route or low water levels and other route specific costs such as canal dues and harbor costs.

When insufficient, inadequate, or no transaction information exists or when INSIGHTS GLOBAL concludes that a transaction methodology will not produce representative freight rate indexes INSIGHTS GLOBAL will make an assessment of market value by applying intelligent judgment based on a broad array of factual market information<sup>6</sup>. INSIGHTS GLOBAL must use a high degree of care in gathering and validating all market data used in determining freight rate indexes, a degree of care equal to that applied to gathering and validating transactions.

However even with sufficient transaction information, a low liquidity procedure can still be applied when setting daily freight rates; there is a threshold of the amount of information sources used for certain routes and/or overall market. There should be an input of a minimum of three market participants available per route, while a minimum of five participants is necessary for the entire report. Market participants include shippers, charterers/barge-owners and ship brokers/operators.

It could be possible that a certain source provides the majority of input for a given day without the counter party verifying or not able to verify. Reasons for this include regional/national holidays, lack of trading activity, low demand or low supply of barges and others. This could lead to a diversion of the normal path of assessing the freight rate and should include more market information to get to a proper outcome. A low liquidity procedure will be in place which provides the analyst tools to deviate from the standard procedure and provide his/her own judgement is setting the rates. In case there will be multiple consecutive days of reliance on one source for input, low liquidity procedure remains in charge.

The assessment process employing judgment is rigorous, replicable and uses widely accepted valuation metrics. This valuation metric mirrors the process used by market-players 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 of where freight rates can be assessed and greatly increases the accuracy and consistency of the freight rate indexes.

#### 2.5 *Data quality and data submission*

The objective of INSIGHTS GLOBAL is to ensure that all submitted data used as input in the assessments and the freight rate reports is of the highest quality. INSIGHTS GLOBAL encourages all parties involved to submit all their market data which could be relevant for the price assessments. Parties involved are currently, but not limited to, shippers, barge brokers, ship owners and importers.

INSIGHTS GLOBAL aims to review the parties participating in the daily market reports in order to maintain the transparency, quality-level and integrity of not only the reports, but also of INSIGHTS GLOBAL and its sources for submitting data. The reviews are not designed to obstruct the organization's ability to engage in market transactions; the objective is to ensure the integrity of the published freight rate reports at all times. INSIGHTS GLOBAL does not disclose the reviews or methodology of reviews of the participants.

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<sup>6</sup> Such as (ordered in decreasing relative importance): shipping conditions (water levels, congestion, etc.), weather forecasts, free barge capacity and transport demand, other relevant factors.

## 2.6 *Storage of data and audit trail*

INSIGHTS GLOBAL will store all relevant data, like the deal information, sources contacted and signed off documents, for a minimum period of five (5) years. This will be necessary to provide documentary evidence of the activities and choices made that have affected assessment of the INSIGHTS GLOBAL Barge freight rate reports. Data is stored using various trails, including MS Access Databases, MS Excel lists and paper trails with signoffs of the deals/offers registered and assessments made.



### 3 ARA barge CPP freight rates

In this chapter the specifics of the ARA barge freight rate assessment and reporting methodology are set out. First the assessed routes are defined. Second, the standard commercial terms and conditions on which the freight rates are based are defined. In the third section the rate reporting methodology is highlighted.

#### 3.1 ARA routes

The ARA report incorporates seven standard routes:

1. ARA cross harbor
2. Rotterdam – Amsterdam
3. Rotterdam – Antwerp
4. Antwerp – Amsterdam
5. Flushing – Antwerp
6. Flushing – Rotterdam
7. Flushing – Amsterdam

And since July 2024:

8. Flushing – Ghent
9. Ghent – Antwerp
10. Ghent – Rotterdam
11. Ghent - Amsterdam

The route 'ARA cross harbor' relates to voyages within the harbors of Rotterdam, Amsterdam, Antwerp, Flushing/Terneuzen or Ghent. The other routes are made up of two different harbors. The freight rates also apply for the reverse route. For example the freight rate for the route Rotterdam – Amsterdam is equal to the freight rate of the route Amsterdam – Rotterdam.

#### 3.2 Standard commercial terms and conditions

ARA barge freight rates as reported by INSIGHTS GLOBAL are based on transactions with 'standard' commercial terms and conditions regarding volume, demurrage, etc. Below some of these standard T&C are specified:

- Rates are for relatively prompt loadings
- Rates include pilotage, harbor- and canal dues
- Rates include fuel costs
- Standard volume: over 2000 tons (basis July 2024). Parcels below 2000 tons are not taken into account for the calculation of the freight rates
- Cargo: clean petroleum products and its bioblenning components. There is a different rate given for light products (naphtha, gasoline) vs. middle distillates (kerosene, gasoil, diesel) and FAME/HVO.
- TTB 2010 T&C apply

#### 3.3 Rate reporting methodology

In the daily report, freight rate information is summarized. The main components of the report are summarized in a table containing average rates, daily changes in rates and a freight rate range depending on the standard deviations (in euro per ton). The table (top/right) also shows the total volume in kiloton for that day. The report also includes additional qualitative market information and an overview of a low and high freight rate per given route, including the tonnage belonging to that deal.

Methodology barge freight rates

**Average rate and change:**

In the ARA barge freight report per route rates are indicated as average rate in €/ton. In order to facilitate easy analysis of freight rate dynamics, the change from the previous reported rate is displayed in the column next to the average rate per route in €/ton.

**Standard deviation and calculated range:**

The 'overall standard deviation' as mentioned in section 2.3.1. is displayed in the report. The standard deviation is a measure of the daily spread in freight rates. Based on this, a range is calculated. The lower-bound of this range is the average rate minus the standard deviation and the higher-bound is the average rate plus the standard deviation.

**Total Volume:**

To indicate the liquidity in the market the sum of all transactions that have been registered in the ARA freight rate survey process that day is showed in the report under the name 'total volume'. For clarification purposes: a deal that encompasses optionality with regards to loading or discharge port (for instance a 'ARA- Amsterdam' deal, which provides the flexibility to load in Amsterdam, Rotterdam or Antwerp) is only incorporated once in the calculation of the total volume.

**Other Parts of Report:**

Other parts of the report include lowest and highest priced deals (including related volume) per route (1 in below snapshot), specification for which routes the Low Liquidity procedure was applied (2), registered outliers (rates that are not included into the average rate calculation (3), graphs of time series involving the daily freight trading volumes on the second page.

28 Nov 2024

PJK ARA CPP Barge Freight Rates [€/ton]

Load	Discharge	Middle Distillates				Light Ends			
		Average	Change	Av - Stdev	Av + Stdev	Average	Change	Av - Stdev	Av + Stdev
ARA CROSS HARBOR		€ 2.53	0.00	€ 0.43	€ 2.63	€ 1.92	-0.08	€ 1.82	€ 2.02
ROTTERDAM	AMSTERDAM	€ 3.53	0.00	€ 3.43	€ 3.63	€ 2.92	-0.10	€ 2.82	€ 3.02
ROTTERDAM	ANTWERP	€ 3.53	0.00	€ 3.43	€ 3.63	€ 2.92	-0.10	€ 2.82	€ 3.02
ANTWERP	AMSTERDAM	€ 4.80	0.00	€ 4.50	€ 4.70	€ 3.90	-0.10	€ 3.80	€ 4.00
FLUSHING	ANTWERP	€ 3.80	0.00	€ 3.70	€ 3.90	€ 2.93	-0.10	€ 2.83	€ 3.03
FLUSHING	ROTTERDAM	€ 4.05	0.00	€ 3.95	€ 4.15	€ 3.49	-0.10	€ 3.39	€ 3.59
FLUSHING	AMSTERDAM	€ 4.95	0.00	€ 4.85	€ 5.05	€ 4.36	-0.10	€ 4.26	€ 4.46
GHEENT	FLUSHING	€ 3.75	0.00	€ 3.65	€ 3.85	€ 3.17	-0.10	€ 3.07	€ 3.27
GHEENT	ANTWERP	€ 4.05	0.00	€ 3.95	€ 4.15	€ 3.37	-0.10	€ 3.27	€ 3.47
GHEENT	ROTTERDAM	€ 4.50	0.00	€ 4.40	€ 4.60	€ 3.84	-0.10	€ 3.74	€ 3.94
GHEENT	AMSTERDAM	€ 5.06	0.00	€ 4.96	€ 5.16	€ 4.55	-0.10	€ 4.45	€ 4.65

Total volume [in tton]: 39.4  
Standard deviation [Stdev]: 0.10

**Low liquidity (x3 deals) used for:**

Flushing - Antwerp, Flushing - Rotterdam, Flushing - Amsterdam, Ghent - Flushing, Ghent - Antwerp, Ghent - Rotterdam, Ghent - Amsterdam.

**Outliers:**

No outliers registered.

**Market commentary:**

After the more active days of the week are behind us, spot business in the ARA barge market decreased once again. This is not surprising, considering that most ships that are required during the weekend are booked already. Instead of offering barges on the spot market, freighters tend to focus on sorting out logistics or making the necessary renominations. Unlike yesterday, more deals were seen with light ends cargoes, mostly gasoline and naphtha. However, the availability of barges to transport such cargoes remains high. This can be demonstrated by the fact that various barges had no trips planned, and prompt loading is possible. Therefore, prices in this segment remain under pressure. On the one hand, deals for middle distillates were hardly seen, displayed a large gap, and therefore show no clear direction. On the other hand, ARA freight rates for light ends have decreased across the board.

**Deal information:**

Today for Cross Harbor deals were registered from 3.50 (5tton) till 2.00 (4.5tton). For Rotterdam - Antwerp/Amsterdam deals were registered from 2.80 (5tton) till 3.00 (4.5tton). For Antwerp - Amsterdam deals were registered from 3.80 (5tton) till 4.00 (4.5tton). Other deals included Flushing - Antwerp at 4.00 (5tton), Antwerp - Ghent at 4.00 (3tton), and Rotterdam - Ghent at 5.00 (3tton).

Various graphs on the different markets (light ends/middle distillates and ARA and Ghent-based routes are now added on the second page of the report. Next, the daily distinction between middle distillate and light ends volumes is added in a stacked bar chart as well.

Disclaimer: The information in this report is gathered and determined according to a specific methodology. Upon request a copy of this methodology can be sent. The data and other information published herein (the "Data") are provided on an "as is" basis. PJK makes no warranties, express or implied, as to the accuracy, adequacy, timeliness, or completeness of the Data or for any particular purpose. PJK does not accept any liability for direct or indirect losses or damage resulting from interpretation or use of the Data. Nothing from this document is allowed to be copied and/or made public by means of press, photographs, recordings, electronic copy or other way means possible, without the prior authorization of PJK International B.V.

## 4 Rhine barge freight rates

In this chapter the specifics of the Rhine barge freight rate assessment and reporting methodology are set out. First of all the assessed routes are defined. Second, the standard commercial terms and conditions on which the freight rates are based are defined. In the third section the rate reporting methodology is highlighted.

### 4.1 Rhine routes

The Rhine report incorporates seven standard routes. The standardized loading port for all these routes is either Rotterdam or Amsterdam, which is abbreviated by AR. The standard routes are:

- AR – Duisburg
- AR – Dortmund
- AR - Cologne
- AR – Frankfurt
- AR – Karlsruhe
- AR - Strasburg
- AR – Basle

Deals for other loading ports are priced at a differential to these rates. In the final report, the rates for AR – Basle are also stated in €/mton, depending on the official ECB daily exchange rate.

### 4.2 Standard commercial terms and conditions

Rhine barge freight rates as reported by INSIGHTS GLOBAL are based on transactions with 'standard' commercial terms and conditions regarding volume, demurrage, etc. Below some of these standard T&C are specified:

- Rates are for relatively prompt loadings
- Rates include pilotage, harbor- and canal dues
- Rates include fuel costs
- Standard volume: basis 2000mtons or water level loading. For destinations around Dortmund, 1000-1200mton cargoes are also taken into account due to the restrictions of the canals. The volumes of the parcels are depending on the water levels and could therefore shrink.
- Cargo: clean petroleum products or biofuels (FAME/HVO)
- There is a difference in rates between light products (naphtha, gasoline, gasoline components) and middle distillates (kerosene, gasoil). The rates for light products are indicated by the category 'gasoline' whereas the rates to transport middle distillates are indicated by the category 'gasoil'.
- TTB 2010 T&C apply

### 4.3 Rate reporting methodology

In the current Rhine barge freight report per route and per product category rates are indicated on an average rate. Next, a range is given using the standard deviation of the routes for the past five days (including the current day) to show the fluctuations in the routes. This calculation is not equal to the old 'low/high' range of the INSIGHTS GLOBAL Rhine Freight rates, which were published till July 2018 and could therefore not be used as a direct substitute. Rates are in €/ton for the German and French discharge ports (connected to Strasburg) and in CHF/ton for Basle.

Methodology barge freight rates

Furthermore the difference between the two categories ('gasoline' and 'gasoil') depends on the specific route. The differences are fixed at:


- AR – Duisburg: €0.55
- AR – Dortmund: €0.55
- AR - Cologne: €0.55
- AR – Frankfurt: €0.80
- AR – Karlsruhe: €0.80
- AR – Strasburg: €0.80
- AR – Basle: CHF1.50
- AR – Basle in €: differs depending on daily exchange rate and is connected to the rate in CHF.

The report states, next to the given rates, the amount of deals/offers taken into account for that publication date and whether outliers have been filtered out of the data pool. If so, this outlier should be mentioned using the freight rate per mton, standardized destination and the reason behind omitting the freight rate.

Outliers are defined as rates which are outside of the range "average rate +/- 2x standard deviation (in percentage). This is in line with the earlier used ARA outlier procedure. Non-standard rates, which could be too high or too low, will be filtered out of the dataset and the average will be calculated again. This will only be used one time, meaning that new outliers could come up when setting the new average rates.

Other Parts of Report:

Other parts of the report include small market commentary (1 in below snapshot), graphs of time series involving the freight rates (2) and water levels at several key locations (3) and some statistics of the freight rates in the last four weeks (4).



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### PJK Rhine barge freight rates

2 Feb 2024

Standard deviation 8.3% \* five-day average  
(Stdev), all routes\*

	Gasoil rate (av)		Change d-d	Gasoil		Gasoline	
	Gasoil rate (av)	Gasoline rate (av)		Av - Stdev	Av + Stdev	Av - Stdev	Av + Stdev
Duisburg [€/mton]	€ 11.50	€ 12.05	0.00	€ 10.55	€ 12.45	€ 11.05	€ 13.05
Dortmund [€/mton]	€ 14.00	€ 14.55	0.00	€ 12.85	€ 15.15	€ 13.35	€ 15.75
Cologne [€/mton]	€ 13.50	€ 14.05	0.00	€ 12.35	€ 14.65	€ 12.90	€ 15.20
Frankfurt [€/mton]	€ 17.00	€ 17.80	0.00	€ 15.60	€ 18.40	€ 16.30	€ 19.30
Karlsruhe [€/mton]	€ 18.00	€ 18.80	0.00	€ 16.50	€ 19.50	€ 17.25	€ 20.35
Strasbourg [€/mton]	€ 18.50	€ 19.30	0.00	€ 16.95	€ 20.05	€ 17.70	€ 20.90
Basle [CHF/mton]	CHF 18.75	CHF 20.25	0.00	CHF 17.20	CHF 20.30	CHF 18.55	CHF 21.95
Basle [€/mton]	€ 20.10	€ 21.71	+0.03	€ 18.45	€ 21.80	€ 19.90	€ 23.50

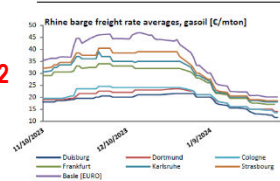
CHF/EUR: 0.9327  
amount of deals/offers: 4  
Outliers: no outliers registered

**Market commentary:**

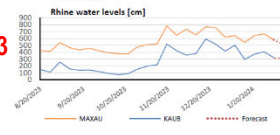
The markets closed the week off quietly, with only four deals/offers registered. As spot demand remains almost non-existing, barge availability - high and there are no navigation restrictions on any sections of the Rhine, discussions are halted till next week and the barge landscape sees no changes today. There is no incentive to import product from ARA at the moment, as diesel/gasoil prices have hit nearly a three-month high and the backwardation strengthened, thus discouraging any storage. Tighter European diesel balances are likely expected in the coming period, but for now this is not seen in the developments along the Rhine. The prospect of more expensive fuels will test the resilience of the supply chains, but this week demand is covered by hinterland production and a limited amount of trips have been seen scheduled ex-ARA. Reduced trading activity kept the freight costs unchanged today.

**1**

**2**



**3**



**4**

	Today	Average	Min.	Max.
Duisburg	€ 11.50	€ 15.06	€ 11.50	€ 20.00
Dortmund	€ 14.00	€ 16.45	€ 14.00	€ 21.00
Cologne	€ 13.50	€ 16.35	€ 13.50	€ 21.00
Frankfurt	€ 17.00	€ 20.15	€ 17.00	€ 28.00
Karlsruhe	€ 18.00	€ 20.33	€ 18.00	€ 27.00
Strasbourg	€ 18.50	€ 20.93	€ 18.50	€ 27.50
Basle	€ 20.10	€ 22.91	€ 20.50	€ 30.08

	Current levels		4 days ahead	
	level	max draft	level	max draft
Ruhrort	815	836	543	564
Cologne	438	504	427	493
Kaub	542	632	315	405
Maxau	580	380	530	330

## 5 ARA barge DPP weekly report

In this chapter the specifics of the ARA barge DPP freight rate assessment and reporting methodology are set out. First the assessed routes are defined. Second, the standard commercial terms and conditions on which the freight rates are based are defined. In the third section the rate reporting methodology is highlighted. This is currently a weekly report, send out on Friday's after 15:00 CET and consists of data over the course of the week.

### 5.1 ARA routes

The ARA DPP report incorporates six standard routes:

1. ARA cross harbor
2. Rotterdam – Amsterdam
3. Rotterdam – Antwerp
4. Amsterdam- Antwerp
5. Flushing – Antwerp
6. Flushing – Rotterdam

The route 'ARA cross harbor' relates to voyages within the harbors of Rotterdam, Antwerp, Flushing and by rare occasion Amsterdam. The other routes are made up of two different harbors. The freight rates also apply for the reverse route. For example the freight rate for the route Rotterdam – Amsterdam is equal to the freight rate of the route Amsterdam – Rotterdam, although not all routes are commonly in use due to absence of storage or refineries at those ports.

### 5.2 Standard commercial terms and conditions

ARA barge freight rates as reported by INSIGHTS GLOBAL are based on transactions with 'standard' commercial terms and conditions regarding volume, demurrage, etc. Below some of these standard T&C are specified:

- Rates are for relatively prompt loadings
- Rates include pilotage, harbor- and canal dues
- Rates include fuel costs
- Standard volume: between 3000 and 6000 tons
- Cargo: dirty petroleum products including VLSFO, HSFO, slurries/slops, VGO.
- TTB 2010 T&C apply

### 5.3 Rate reporting methodology

In the weekly report freight rate information is summarized. The main components of the report are summarized in a table containing average rates, weekly changes in rates and a freight rate low and high seen over the course of the week. A total number of deals/offers taken into account are stated below the table. Below the table, some other information is stated including the forward curves of HSFO/VLSFO which could provide direction of demand and a snapshot of the weekly volumes of Fuel oil entering the market by grade (if possible), for last week, this week and the coming week. This data comes from external sources and INSIGHTS GLOBAL International B.V. is not liable for any mistakes in this last overview.

#### *Average rate and change:*

In the ARA barge DPP freight report, route rates are indicated as average rate in €/ton. In order to facilitate easy analysis of freight rate dynamics, the change from the previous reported rate is displayed in the column next to the average rate per route in €/ton.


Methodology barge freight rates

**Number of deals/offers:**

To indicate the liquidity in the market used for this report, the sum of all transactions that have been registered in the ARA freight rate survey process that day is given in the report. For clarification purposes: a deal that encompasses optionality with regards to loading or discharge port (for instance a 'ARA- Antwerp deal, which provides the flexibility to load in Amsterdam, Rotterdam or Antwerp) is only incorporated once in the calculation of the total volume.

**Other Parts of Report:**

Other parts of the report include lowest and highest priced deals (including related volume) per route (1 in below snapshot), forward curves for HSFO and LSFO FOB ARA product prices (2) and external data on received and expected fuel oil into ARA by grade, if possible (3). Insights Global is open to any additional feedback and adjustments of this first version of the report.



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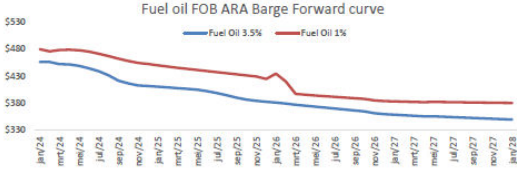
**PJK DPP barge freight rates week report**  
WEEK 8

23 Feb 2024

	Average rate (Av)	Change d-w	Weekly low	Weekly High
ARA CROSS HARBOR	€ 7.50	+0.50	€ 6.50	€ 7.50
ROTTERDAM – AMSTERDAM	€ 8.50	+0.50	€ 8.00	€ 8.50
ROTTERDAM – ANTWERP	€ 8.50	+0.50	€ 8.00	€ 8.50
AMSTERDAM – ANTWERP	€ 9.00	+0.50	€ 8.50	€ 9.50
FLUSHING – ANTWERP	€ 8.00	0.00	€ 8.00	€ 8.25
FLUSHING – ROTTERDAM	€ 8.25	-0.25	€ 8.00	€ 8.50

Number of deals/offers: 6

**Fuel oil FOB ARA Barge Forward curve**



**DPP Product imported into ARA, by grade (forecasted), in kton**

	week 7	8	9
VLSFO	0	0	39
LSFO	37	0	0
HSFO	67	39	204
(L5/HS)SRFO	0	0	0
VGO*	0	98	10
OTHER*	161	39	218
<b>TOTAL</b>	<b>265</b>	<b>176</b>	<b>471</b>

Data by Kpler

\* Other includes product without grade specification. Data as snapshot from publication date

**Disclaimer:** The information in this report is gathered and determined according to a specific methodology. Upon request a copy of this methodology can be sent. The data and other information published herein (the "Data") are provided on an "as is" basis. PJK makes no warranties, express or implied, as to the accuracy, adequacy, timeliness, or completeness of the Data or fitness for any particular purpose. PJK does not accept any liability for direct or indirect losses or damage resulting from interpretation or use of the Data.

## 6 Changes to methodology and internal review

An internal review of this methodology, processes and procedures followed in the freight rate assessments exists to ensure that these are effective, efficient and aligned with the goals of INSIGHTS GLOBAL. INSIGHTS GLOBAL strives to conduct proper, frequent internal reviews (min. once every year) to make sure it follows its high standards. The review is used to identify any redundancies and gap and evaluates compliance with the established IOSCO standards and guidelines. The review should be needed to ensure all processes are up to date and meet the evolving needs of the organization, its clients and its other stakeholders.

From time to time the methodology applied to determine and publish freight rate indexes could be changed in order to ensure a more proper fit to the market. Proposals to change methodologies typically emerge out of the interaction with various stakeholders or based on internal reviews. Formal procedures for external consultation regarding changes to existing methodologies will be initiated with an announcement of the proposed change published in the relevant INSIGHTS GLOBAL report. This announcement will include:

- Details on the proposed change and the rationale
- Method for submitting comments with a deadline for submissions.

INSIGHTS GLOBAL will provide sufficient opportunity (minimum 30 days) for stakeholders to analyze and comment on changes. However in a situation when freight rate indexes are unrepresentative or false rates are published, markets are disrupted, or market participants are put at unnecessary risk, the consultation period may be of shorter length. In any case INSIGHTS GLOBAL will engage with industry throughout this process in order to gain acceptance of proposed changes to methodology. INSIGHTS GLOBAL however cannot guarantee universal acceptance and will act for the good order of the market and ensure the continued integrity of its barge freight rate indexes as an overriding objective.

Following the consultation period, INSIGHTS GLOBAL management will review all submitted comments and decide on the methodology change. This will be followed by an announcement of the decision, which will be published in the relevant INSIGHTS GLOBAL report and include a date for implementation.

## 7 Complaint procedure regarding the freight rate methodology.

At INSIGHTS GLOBAL, we would like to acknowledge that we take any questions or concerns regarding our freight rates and freight rate methodology serious. We have implemented a complaints handling procedure to ensure that any stakeholder, whether it is a source, panel member or client, can submit a complaint directly. Below is an overview of the steps we take to investigate and follow up complaints so we can resolve them in a timely and fair manner.

- 1) To ensure a proper follow-up, the complaint should be stated formally in writing and state an explanation of the request. The submitter should provide as much details as possible regarding the complaint, the background and we encourage any evidence or materials if applicable. Please send the complaint to [info@insights-global.com](mailto:info@insights-global.com) so our team can investigate the issue. INSIGHTS GLOBAL will follow up the complaints within the next 5 (five) business days.
- 2) INSIGHTS GLOBAL will assign the work to the data quality management which will investigate the complaint and set the proper course of action. The goal is to provide a written response to the complainant within 30 (thirty) business days from the date of receiving the formal complaint in writing. The response would include the steps to take by the data quality team of INSIGHTS GLOBAL. If there is additional investigation needed, this will also be stated in the response and indicate when a final

decision or response can be expected. Complaints should be handled correctly, fair and transparent and INSIGHTS GLOBAL will do its utmost best to explain this to the complainant.

- 3) If needed, the complaint can be referred to the legal advisor of INSIGHTS GLOBAL if it covers e.g. legal problems (fraud, ethical issues).

INSIGHTS GLOBAL could decide to reverse price assessments made and exclude fraudulent data and correct price assessments for the given day. This will be communicated to all clients, including the reasoning for the correction.

If the complainant is not satisfied with the outcome or the handling of the complaint by INSIGHTS GLOBAL, it could refer the complaint to a third party within 30 (thirty) business days from the date of the final response of INSIGHTS GLOBAL. This independent party will investigate the complaint and provide a written response within a reasonable time period. INSIGHTS GLOBAL will retain all information regarding this complaint, the outcome and communication for a period of 5 (five) years. It will be used to improve the internal process of the freight rate methodology, its team and could be used to respond to investigation in the future.