

Ocean Freight Cost Components: Understanding and Controlling the Cost Elements of the Sea Transport Route

Ocean freight cost components are the individual cost elements that make up the transport of goods by sea – from base freight through surcharges to port and documentation fees. Buyers who only look at the net rate per container or freight tonne quickly overlook a considerable cost volume hidden in the surcharges. This article explains the typical building blocks, their negotiation logic and how buyers can systematically control transport costs.

As of October 2026 · amplifa-marketplace.ai/en/glossary/see-frachtkosten-komponenten

Key facts at a glance

- 01** Ocean freight typically consists of base freight, surcharges (BAF, CAF, THC), documentation fees and, where applicable, pre-/on-carriage.
- 02** Base ocean freight, fuel and currency surcharges can account for 20–50 per cent of total freight in practice.
- 03** Incoterms determine which ocean freight component is borne by the buyer or seller – the Incoterms convention is therefore the basis for comparability.
- 04** Surcharges are negotiable; peak season, surcharge and currency adjustments should be contractually capped or transparently defined.
- 05** Benchmarking clauses allow regular price checks against market levels and are common and sensible in ocean freight contracts.
- 06** Transparency on all cost components is a prerequisite for effective procurement controlling and for reliable landed cost comparisons.

Definition: Ocean Freight Cost Components

Ocean freight cost components denote all price elements incurred in the transport of goods by sea. They comprise the actual transport service as well as operational surcharges, port charges and administrative costs.

Base Freight as the Core Building Block

The base freight is the freighted base price for the transport service, usually per container (e.g. TEU/FEU) or per freight tonne or measurement ton. It is usually calculated per trade lane (port of loading–port of discharge) and per container type. In practice, base freight often accounts for only 50 to 70 per cent of total freight costs, as surcharges take up a considerable share. For buyers, base freight is the reference point for benchmarking and price negotiations.

- Calculation per container type (20', 40', 40' High Cube, Reefer)
- Check the validity period of the quote (typically 7–30 days for spot, months for contracts)
- Delivery terms (Incoterms) must match the quote

Delineation from Other Transport Costs

Ocean freight costs are a sub-area of a supply chain's total transport costs. Pre-carriage and on-carriage, storage and customs clearance are charged separately. The terms and conditions of purchase should therefore clearly stipulate which cost elements are included in the freight price and which are invoiced separately. Without this delineation, supplier comparisons are hardly reliable.

The Most Important Cost Elements in Detail

In addition to base freight, ocean freight costs consist of a range of surcharges and fees. Those who know these building blocks can compare offers more quickly and identify unnecessary costs.

Fuel, Currency and Peak Surcharges

The Bunker Adjustment Factor (BAF) or a Low Sulphur Surcharge (LSS) covers fuel costs, and the Currency Adjustment Factor (CAF) covers currency fluctuations. In high season, a Peak Season Surcharge (PSS) often applies. In practice, these surcharges are often negotiable or at least cappable. A benchmarking clause in the contract can ensure that surcharges are regularly checked against market levels.

- BAF/LSS: fuel-dependent, frequently formula-based
- CAF: currency adjustment, relevant for USD quotes
- PSS: seasonal, e.g. before Chinese New Year

Port, Terminal and Handling Charges

Terminal Handling Charges (THC) at the port of origin and destination cover loading and unloading as well as container handling at the terminal. In addition, there are documentation fees (Bill of Lading

Fee), container cleaning, seals and, where applicable, dangerous goods or overwidth surcharges. These items are standardised but not uniform – they vary considerably by shipping line and port. Comparing the individual items across several offers is almost always worthwhile.

Special Costs and Demurrage/Detention

Special costs arise, for example, with dangerous goods, reefer containers, overweight or complex load carrier management. Particularly critical are Demurrage (storage charges in port) and Detention (use of the container beyond the free days): in bottleneck situations, these costs can exceed the original freight. Free days and rates should be contractually fixed.

| Methods and Approach: Procuring Ocean Freight Professionally

The procurement of ocean freight follows the logic of any industrial services procurement, with some particularities arising from market volatility and capacity dynamics.

Enquiry, Binding Offer and Offer Comparison

A structured enquiry with a clear specification sheet – trade lanes, volumes, container mix, Incoterms, requirements regarding schedules and documentation – is the foundation of comparable offers. Important: offers should be obtained as a binding offer with fixed validity, as spot rates can fluctuate daily. For recurring volumes, a trade-off between spot purchase and framework agreement is required: framework agreements with fixed base rates and defined surcharge mechanisms provide planning certainty, spot purchases provide flexibility. In practice, a mix of volume commitments and a spot share has often proven effective.

Incoterms as Price Responsibility Logic

The chosen delivery clause determines which ocean freight component lies with the buyer or seller. Under FOB, the buyer bears the ocean freight from the port of shipment; under CIF or Incoterms DPU, it is included (at least in part) in the sales price. Buyers should therefore compare not only the goods price but the total costs to the place of receipt – otherwise there is a risk of double charging or hidden freight mark-ups by the supplier.

Benchmarking and Regular Market Soundings

Ocean freight rates are cyclical and partly highly volatile. A benchmarking clause makes it possible to regularly check agreed rates against the market level and renegotiate in the event of deviations. In addition, ongoing market observation as part of procurement planning is recommended in order to make informed decisions about contracting dates and volume allocation (lot allocation across several carriers).

Key KPIs for Controlling Ocean Freight Costs

Without reliable key figures, freight controlling remains a matter of judgement. The following KPIs have proven their worth in the procurement of transport services and can be integrated into procurement controlling.

Cost KPIs

The central metric is freight cost per unit – for example per container, per tonne or as a share of cost of goods purchased. The Purchase Price Variance (PPV) can also be applied to freight rates: the deviation between the actually paid and the planned rate. What matters is the breakdown by cost component, so that rising surcharges are not passed off as 'market conditions'.

- Freight cost per TEU/FEU per trade lane and period
- Surcharge share of total freight (target: falling or under control)
- PPV on freight rate (plan-actual comparison)

Performance and Quality KPIs

Besides price, reliability and speed count: punctuality rate (On-Time Performance), transit times and documentation quality. Shipping lines with low rates but high delay rates cause follow-up costs – for example through expediting effort, safety stock and production downtime. The combination of cost and performance indicators enables a fair carrier evaluation and supports procurement optimisation over several years.

Benchmarking and Reporting

Key figures should be periodically benchmarked against internal plan values and – where possible – against market indices. A clear reporting structure, ideally integrated into e-procurement or the existing reporting, creates transparency towards management and provides arguments for negotiations.

Risks and Controls: Avoiding Typical Pitfalls

Ocean freight procurement entails not only price risks but also operational and compliance risks. Clear contracts and defined processes significantly mitigate these risks.

Price and Contract Risks

The biggest surprises arise in the details: open surcharge formulas, unclear free days for Demurrage/Detention, surcharges introduced retrospectively or exchange rate risks. Contracts should assign surcharges to defined indices or cap values. An escalation process rule helps when carriers announce unilateral price changes. Legally relevant points – such as liability limitations and limitation periods – should also be professionally reviewed on a case-by-case basis.

Operational Risks and Disruption Management

Port congestion, weather events, capacity bottlenecks or strikes can disrupt supply chains. A

pre-defined procurement emergency response team with clear responsibilities and a Delegation of Authority for rapid rerouting decisions (e.g. booking on other routes or carriers) significantly shortens response times. In addition, replenishment logic and increased safety stock on critical trade lanes support supply stability.

Compliance, Sustainability and Supplier Evaluation

Sustainability aspects are increasingly factored into carrier selection. Emissions per TEU-kilometre, the EcoVadis rating or a supplier's ESG Risk Rating are frequently used as selection criteria in practice. Buyers should incorporate these criteria into the supplier evaluation with appropriate weighting and evaluate the results in the lessons-learned process after each major procurement cycle.

Current Developments: Digitalisation, Sustainability and Market Cycles

The ocean freight market is subject to strong cyclical fluctuations and at the same time structural changes driven by regulation and digitalisation.

Digitalisation of Freight Procurement

Digital platforms and instant quoting are changing procurement: rate enquiries, bookings and tracking are partly automated. For buyers, this means faster market transparency – but also the need to set up data quality and interfaces (e.g. to e-procurement) cleanly. Document processes such as bills of lading are being progressively digitalised, reducing throughput times and error rates.

Sustainability and Emissions Regulation

IMO requirements on sulphur limits and CO₂ regulation increase cost complexity: new surcharges (e.g. for low-emission fuels) have been added. Many companies are beginning to include emission values in carrier selection and their own carbon accounting. Sustainability ratings such as the EcoVadis rating or ESG Risk Rating serve as a first orientation but do not replace an independent review.

Market Cycles and Procurement Strategy

Ocean freight rates fluctuate cyclically between overcapacity and shortage. Strategically well-positioned buyers exploit this depth: in weak markets, long-term framework agreements are concluded at favourable rates; in bottleneck situations, contractual volume commitments secure capacity. This flexibility is a key lever for procurement optimisation in the transport sector.

Typical metrics

Metric	Typical value
--------	---------------

Freight cost per TEU	relational, depending on market cycle <i>Key figure per trade lane and period; only meaningfully interpretable against a market benchmark</i>
Surcharge share	typically 20–50 % of total freight <i>A falling share indicates negotiation success; jumps indicate pass-throughs</i>
On-Time Performance	> 90 % <i>Delays cause follow-up costs; evaluate together with rate, not in isolation</i>
Demurrage/Detention costs	ideally < 5 % of freight costs <i>Indicator of smooth processing and clear free days</i>
Freight rate PPV	±5 % versus plan <i>Plan-actual variance; larger variances should be analysed</i>

Practical Example

A mid-sized machinery manufacturer sourced components from Asia and paid surcharges that were unclearly itemised. After a systematic analysis of the ocean freight cost components, procurement introduced the following measures:

- Structured tendering with a specification sheet and binding offer covering all core trade lanes, including detailed surcharge itemisation
- Framework agreement with a benchmarking clause and defined caps for BAF/LSS as well as fixed free days for Demurrage/Detention
- Monthly freight controlling with cost per TEU, surcharge share and On-Time Performance as a fixed element of procurement controlling
- Definition of a procurement emergency response team with a Delegation of Authority for rerouting in the event of port disruptions

Conclusion

Ocean freight cost components are far more than the base freight rate: surcharges, port charges, documentation and special costs determine a considerable share of total freight in practice. Buyers who itemise these building blocks transparently, secure them contractually and benchmark them continuously create comparability and negotiating power. Combined with clear Incoterms, reliable KPIs and a defined escalation process, ocean freight is transformed from a fluctuating cost block into a controllable procurement category. Those who also include performance and sustainability criteria optimise both total costs and delivery reliability.

Frequently asked questions

? What is included in ocean freight costs?

Ocean freight costs comprise the base freight, surcharges such as BAF/LSS (fuel), CAF (currency) and Peak Season Surcharge, Terminal Handling Charges at both ports, and documentation fees. In addition, there are special charges for dangerous goods, reefer containers or overweight, as well as Demurrage and Detention when the free days are exceeded. Depending on the Incoterm, pre-carriage and on-carriage, insurance and customs are charged separately.

? What does THC mean in ocean freight?

THC stands for Terminal Handling Charge and refers to the fee for container handling at the terminal – shown separately at the port of origin and the port of destination. The amount varies considerably depending on the port and shipping line. Since THCs are not always shown identically in quotations, buyers should explicitly compare this item when comparing offers.

? What is the difference between BAF and LSS?

BAF (Bunker Adjustment Factor) is the classic fuel surcharge that offsets fluctuations in bunker prices. LSS (Low Sulphur Surcharge) compensates for the additional costs of lower-emission fuels resulting from IMO requirements. In practice, both surcharges are partly formula-based and negotiable; a cap or index linkage in the contract is common and recommended.

? Are ocean freight surcharges negotiable?

Yes, at least in part. Base freight, THC packages, Peak Season Surcharges and documentation fees are regularly the subject of negotiation in practice, particularly where volumes are reliable. Formula-based surcharges such as BAF can often not be eliminated, but can be controlled through caps, index linkage or benchmarking clauses. What matters is full transparency of all components in the offer.

? What are Demurrage and Detention?

Demurrage is the storage charge incurred when a container remains in the port longer than the agreed free days. Detention is the charge for using the container outside the terminal beyond the free time. Both rates can exceed the actual freight in bottleneck situations, which is why free days and rates should be contractually fixed.

? Which Incoterms affect the buyer's ocean freight responsibility?

Under FOB and FAS, the buyer bears the ocean freight from the port of shipment and can freely choose the carrier. Under CFR or CIF, the ocean freight is included in the seller's sales price, and under DPU even the landing at the destination. The choice of clause therefore determines whether the buyer controls freight costs directly or accepts them as an (opaque) component of the goods price.

Find the right suppliers on Amplifa

Verified industrial suppliers in Germany, Austria and Switzerland. Describe your requirement and receive comparable offers.

amplifa-marketplace.ai