
The contractual architecture of the “Blue Visby Solution”

Decarbonisation of maritime trade is now a firm priority for the shipping industry. Exciting new technologies are a welcome development. But one of the obstacles to progress is the contractual architecture of maritime trade, with current contract structures promoting the high-emission practice of “Sail Fast, Then Wait”. This article explains how the “Blue Visby Solution” repurposes familiar contractual concepts to work alongside technology to tackle “Sail Fast, Then Wait”. The authors of this article, Haris Zografakis, Jolien Kruit, Gordon Nardell QC and Emile Yusupoff, are members of the legal team developing the contractual side of the project.

The decarbonisation context

The IMO’s present trajectory requires a 50 per cent reduction in greenhouse gas (“GHG”) emissions by 2050. Many states, including many important trading nations, have committed to net zero by 2050.

In parallel, voluntary commitments on the part of ship finance banks,¹ charterers,² shippers of containers³ and marine insurers⁴ are driving change, while an increasing number of companies are measuring and reporting their supply chain emissions (chief amongst them, transport emissions) through Scope 3,⁵ and many are also committing to Paris-aligned targets through the Science-Based Targets initiative (SBTi).⁶

While the industry is still looking for a path, or multiple paths, to zero-carbon fuels, the existing fleet is striving to reduce its carbon footprint through increased efficiency. The IMO’s carbon intensity indicators (“CIIs”), which measure operational efficiency rather than a ship’s design, will come into force in January 2023. All vessels will then be required to provide Energy Efficiency Management Plans.⁷

Energy efficiency is mainly achieved through engineering solutions, such as wind-assisted propulsion, hull and coatings improvements, as well as operational measures such as voyage planning and weather routing.

All these measures are aimed at individual ships. However, the largest operational inefficiency in maritime trade does not relate to individual ships, but is systemic in nature: the practice of “Sail Fast, Then Wait” (SFTW), whereby ships sail at their service speeds towards their destination, only to wait at anchorage, sometimes for long periods of time, until a berth becomes available. This practice is widespread for a variety of reasons and has significant environmental impact. Academic research suggests that eradicating SFTW and introducing “Just-In-Time” (“JIT”) practices (ie vessels optimising their voyage, so as to proceed straight to berth when the port facilities are ready to receive them) would result in emissions savings of around 20 per cent. The magnitude of the environmental benefit cannot be overstated: it would be equivalent to the GHG emissions of entire countries.⁸

The SFTW problem in a contractual context

A 2020 study identified various operational and commercial barriers to implementing JIT practices.⁹ One of them may be described as horizontal fragmentation, ie the difficulty in coordinating thousands of ports, each featuring a multitude of (often uncoordinated) actors that play a role in berthing (pilots, tugs, customs, terminals, stevedores, shore-side transport networks).

From a contractual perspective, it is possible to identify two principal obstacles to eradicating SFTW:

Vertical fragmentation: the voyage of a vessel represents a web of contractual relationships: charterparties, bills of lading, sale contracts. Parties involved in the voyage (“the parties to the common maritime adventure”, to use the terminology of general average) have their separate interests in the ship prosecuting the voyage with the utmost despatch, even if that means that she sails fast, then waits. A variety of terms in those contracts exist to

protect such interests, and this creates a type of “agency problem” or “split incentives”.

Parallel fragmentation: SFTW is a practice involving a group of ships sailing to the same destination at any given time. Therefore, the agency problem will not be resolved solely by amending the contractual relationships amongst the parties with an interest in each individual voyage. It is also necessary to create a contractual nexus amongst the multitude of ships (and multitude of interests) that sail to the same destination.

Attempts at a contractual solution

There have been two types of attempts to resolve SFTW: “virtual arrival” contractual mechanisms (“VA”) and JIT initiatives. Viewed from the perspective of the fragmentation outlined above, the reasons for their limited success become apparent.

VA is invariably bilateral as between shipowners and charterers. It does not deal with the full scale of vertical fragmentation, as it does not apply to the parties to the sale contract(s) for the cargo on board. Also, VA does not deal with parallel fragmentation, meaning that other ships sailing to the same destination may simply steam faster to obtain an earlier berthing time than the ship that slows down pursuant to VA.

JIT may be able to overcome the obstacle of parallel fragmentation by incentivising ships to reduce speed so as to arrive optimally, but does not deal with vertical fragmentation at all.¹⁰

Outline of the Blue Visby Solution

The Blue Visby Solution (“BVS”) comprises a technological element and an operational system, underpinned by a contractual architecture, which seeks to overcome the obstacles of fragmentation. It can be outlined as follows.

Horizontal fragmentation is overcome by sidestepping the challenges of berthing. Instead, BVS optimises the ocean passage – effectively the journey from pilot station to pilot station, treating the short distance from the anchorage to berth as a “last mile problem”, which is left to individual ports to resolve separately. The BVS software and operational system optimise the group of ships on their ocean passage, not their berthing. The necessary operational compliance is achieved through the Blue Visby Protocol, which is incorporated into the charterparties and sale contracts by way of rider clauses that deal with the consequences of the operation of the BVS.

Vertical fragmentation is overcome through the introduction of a sharing mechanism amongst the parties to the common maritime adventure: “Blue GA”, which is inspired by general average. The methodology and rules of its application are set out in a separate contractual document, the “Blue GA Rules”, which is also incorporated into the relevant contract, in the same way as the Blue Visby Protocol. What is shared are the costs and benefits of implementing the BVS. The main benefit is the fuel saving¹¹ (which would otherwise inure to the benefit of the time charterer or the voyage charter owner) and the main cost is – sometimes – demurrage; the prolongation of the ocean passage will not impact upon the obligation to pay hire, as the length of the time charter is not prolonged. However, under a voyage charter, such prolongation will delay the tender of notice of readiness (NOR) in cases where the voyage charter allows tender at the anchorage. Accordingly, BVS may limit a shipowner’s demurrage in those cases. The same will apply in the analogous cases of FOB purchases in relation to the loadport or CFR sales in relation to the discharge port.

Parallel fragmentation is overcome by the creation of a multilateral contract, binding all participants inter se. This is designed as a mutual association, the Blue Visby Mutual Association (“BVMA”) (inspired by mutual insurers – P&I Clubs), so as to foster collaboration with regard to the operation of BVS, its development, but also the resolution of disputes that may arise.

Outline of the Blue Visby Protocol

The parties to typical common maritime adventures have a range of contractual relationships. Different incentives and mechanisms exist under each of a time or voyage charter, a FOB/CIF/DAP sale contract, and a bill of lading. To overcome the agency problem, the Blue Visby Protocol, which takes the form of rider clauses, must be incorporated into each “link” in the contractual chain.

Whilst the BVS is a novel concept, its execution is built upon standard practice in shipping law. The Blue Visby Protocol is particularly influenced by BIMCO’s virtual arrival and JIT clauses, and is compatible with standard form and bespoke contracts.

There are three different versions of the Blue Visby Protocol, for incorporation into each of a time charter, voyage charter, bill of lading and sale contract.

The Blue Visby Protocol requires the parties to become members of the BVMA, incorporates the Blue GA Rules, and refers relevant disputes to BVMA Arbitration. For the BVS to operate compatibly with the parties’ contractual obligations, the Blue Visby Protocol provides for:

- (a) the vessel to be equipped to receive instructions from the BVS software;
- (b) all provisions in the charter or sale contract regarding proceeding to ports, terminals, or other points (pursuant to employment under time charters) to be extended to proceeding to the relevant “Blue Line” area outside the relevant destination point;
- (c) the target estimated arrival time at a Blue Line (“Blue ETA”) to be provided by the BVS software;
- (d) the vessel’s speed to be adjusted as required to meet this target estimated arrival time; and
- (e) taking the appropriate steps, so as to arrive at “Blue ETA” to constitute compliance with employment orders (under a time charter) and with reasonable/utmost despatch (under a voyage charter or sale contract).

Under standard charterparty provisions, prolonging ocean passage and reducing time spent at anchorage will result in fuel savings (for charterers under a time charter and owners under a voyage charter). Under many (albeit not all) voyage charters, it will also result in forfeited demurrage by voyage charter owners (where NOR is tendered at the anchorage). Likewise, under many (albeit not all) sale contracts, it will also result in forfeited demurrage for the party responsible for arranging shipment. Hire under a time charter will not be affected, given that overall voyage time will not change.

In order to incentivise all parties to adopt the Blue Visby Solution, the Blue Visby Protocol provides for the sharing of any resultant costs and/or benefits to be determined under the Blue GA Rules.

Further, the Blue Visby Protocol provides that:

- (a) under a time charter, time lost as a result of reducing speed in compliance with the BVS software shall not constitute a breach of contract or place a vessel off hire; and
- (b) under a voyage charter or sale contract, allocation under the Blue GA Rules will operate independently from any provisions concerning laytime and demurrage in the charterparty or sale contract.

The Blue Visby Protocol also provides that various typical exceptions to duties under the charterparty or sale contract are preserved under the BVS. In particular, the Blue Visby Protocol provides that it does not:

- (a) require the vessel’s speed to be adjusted outside of its normal safe operational limits, or otherwise require the vessel to take actions that would interfere with safe navigation;
- (b) preclude the vessel from making reasonable deviations, including to save life or property; or
- (c) prevent the parties from using a voyage planning or weather routing provider of their choice to assist them in

complying with the BVS software.

To ensure that any charterparties “down the chain”, in the case of charterparties, or otherwise, in the case of a sale contract, are compatible with the BVS, the Blue Visby Protocol makes the charterer or the party responsible for arranging shipping incorporate it into any such sub-charters or contracts.

Ensuring that any obligations under a contract of carriage are compatible with the BVS is of paramount importance, especially given the transferable nature of bills and the complexity around incorporating charterparty terms into bills. Accordingly, when incorporated into a charterparty, the Blue Visby Protocol provides that, where a bill of lading is issued by a party thereto in respect of the relevant voyage, the issuing party shall be responsible for ensuring that the bill incorporates the Blue Visby Protocol by ensuring appropriate wording is included in the bill. Once incorporated, the Blue Visby Protocol will have a similar effect as that under charterparties and sale contracts as set out above. This will be done automatically, as the Blue Visby Protocol forms part of the charterparty that is incorporated into bills of lading and its terms pass the test of being “germane to the contract of carriage”. Therefore, unless the issuing party deliberately excludes the Blue Visby Protocol from being incorporated into a bill of lading, it will form part of the contract of carriage by incorporation.

Outline of Blue GA

The application of the BVS results in costs and benefits for different participants to the maritime adventure. In order to tackle this “split incentives” problem and make the application of the BVS attractive for all parties involved, losses and benefits are to be shared by these parties. In order to do so, inspiration was taken from the maritime law burden sharing concept of general average, ie the mechanism that has been around for over 2,000 years and which provides for apportionment of sacrifices suffered and expenditures incurred to protect the parties involved in a maritime adventure from peril. General average is a supreme example of collaboration in the face of a common danger. Similarly, the climate emergency, and its impact upon the maritime industry, is a common danger that requires collaborative action.

Whereas general average provides for a sharing of actual financial burdens only, the apportionment in Blue GA is different, most notably in two important respects: (a) the application of the BVS generates financial gains, which are shared; and (b) whereas the apportionment in general average is based on actual amounts and values, the BVS apportionment is based on equal shares and market rates.

Blue GA is governed by a set of contractual terms, the Blue Visby General Apportionment Rules (or Blue GA Rules), which set out the basic apportionment principles. A key similarity with the York-Antwerp Rules is that just as the York-Antwerp Rules have operated over 100 years mainly through contractual incorporation, so the Blue GA Rules are incorporated contractually into charterparties, (and, through them, into bills of lading) and sale contracts, in the same way as the Blue Visby Protocol.

Conceptually, the costs and benefits of the application of the BVS are: (a) fuel saving; (b) forfeited demurrage by voyage-chartered owners and FOB buyers or CFR/CIF/DAP sellers, due to the vessel’s delayed arrival at anchorage; and, potentially, (c) carbon credits or carbon insets generated by the operation of the BVS. The apportionment system so far has been limited to these items, but has the potential to expand to other costs and losses which are the result of the application of the Blue Visby Protocol, including for example emission trading rights.

In order to remove obstacles around commercial confidentiality and complexity, the choice was made for the simplicity of adopting equal shares and of market rates for fuel consumption and for prolongation of the ocean passage (as opposed to actual contractual rates). This means that the participants will not need to disclose financial information.

The apparent departure from the actual financial terms of the underlying contracts is deliberate. Blue GA is

designed to operate independently from the contractual regime, with no cross-contamination in terms of liabilities or finances. The perceived arbitrariness of the equal shares is also deliberate, as it introduces simplicity and removes cause for argument and disputes. This approach is not completely novel: in a different context, that of cargo claims, the Inter Club Agreement is a sharing mechanism that favours simplicity over precision.

Outline of the terms of the Blue Visby Mutual Association

The Blue Visby Mutual Association adopts a form of multilateral contract well understood in the shipping industry. The best-known example is the P&I Club. Each Club member is involved in multiple, free-standing maritime ventures. But they associate themselves by contract to implement a discrete venture – related to, and essential for, their maritime business, but contractually quite separate from individual voyages or charters. The common venture consists of pooling and re-allocating risk associated with members' individual operations, for their mutual benefit. The necessary pooling and allocation could not be achieved without a common structure reaching across the fragmented contractual scene.

The BVS poses similar demands for two reasons: first, each participating voyage involves a chain of contractual relationships between the immediate parties (shipowner, charterers, shippers, buyers, sellers). But the necessary pooling and allocation of risk, cost and benefit cannot be achieved without establishing a common mechanism setting out the terms on which individual players participate in the scheme. Secondly, there is a multitude of ships, each with her own ventures and web of contractual relationships, sailing to the same destination. The parties involved on the voyage of each ship also need a contractual nexus with the parties on each of the other ships.

A mutual association is not the only possible way of meeting that need. But given the familiarity of the concept in the maritime field, it provides an obvious starting point for the design of the necessary contractual structure. The members of a mutual association are bound together by the contractual force of the association's rules. The rules contain all the provisions necessary to make the common venture work, but no more: they will not trespass on the individual contractual relationships that define each commercial venture. The matters the rules will need to address include:

- (a) Who can join the association.
- (b) The categories and duration of membership – a participant might choose to join on a rolling basis renewed annually, ensuring they are within the scheme in relation to all Blue Visby voyages undertaken during their period of membership, or they may opt to join for a single voyage only.
- (c) The method for computing and allocating costs and benefits among participants, linked to the Blue GA Rules.
- (d) The requirement for operational compliance, in particular horizontally across the various ventures (bearing in mind that the BV Protocol and Rules will cover the key vertical relationships in each BV voyage).
- (e) Filling any contractual gaps left in the vertical relationships, so far as essential to the effective operation of the scheme.
- (f) Administration, management and financing of the association.
- (g) The mechanism for resolving disputes about computation, allocation and payment of costs and benefits, as well as constitutional issues (membership, management, etc).

The choice of dispute resolution mechanism will be important, for the reason that maritime disputes are common. The challenge is to design a model sophisticated and effective enough to command the confidence of participants, without introducing undue delay or excessive cost. Sufficient flexibility will be needed to cover the various types of disputes the scheme may produce, including the possibility – flowing from the very nature of the scheme – that an individual dispute might involve multiple parties with a range of different interests in a number

of voyages.

Some membership associations – such as sporting organisations or private clubs – choose a bespoke dispute resolution mechanism, with a standing board or committee, appointed or elected by the members, exercising wide powers to determine disagreements. Some P&I Clubs contemplate a tiered arrangement under which disputes are initially subject to adjudication by the Board, subject to a right of challenge in either court or arbitral proceedings.

An arbitral mechanism along the lines of those under the rules of P&I Clubs would be most suited in principle to the Blue Visby scheme. Participants in maritime ventures are accustomed to resolving their disputes through arbitration. On the other hand, arbitration is almost always an essentially bilateral process. Few of the standard sets of arbitral rules commonly used in maritime arbitration are geared to accommodating disputes between multiple sets of parties, a reflection of the focus of traditional maritime disputes on a narrow range of individual contractual relationships. The model under development therefore seeks to combine the familiarity and attractiveness of maritime arbitration – including its advantages of confidentiality and the availability of a cohort of specialist decision-makers – with the novel and flexible features required for BVMA dispute resolution.

The intention is that the association rules will contain an arbitration agreement under which:

- (a) A dispute between the BVMA itself and one or more members, or among individual members, arising out of the association rules is referred to binding arbitration.
- (b) An overriding principle will apply (analogous to the overriding principle in salvage arbitration), whereby reduction of emissions will be paramount, subject only to safety.
- (c) The dispute will be determined by a tribunal, or one or three arbitrators, as appropriate, appointed from a panel chosen not only for the expertise of its members in the applicable range of technical, legal and policy issues, but also for its diversity – historically something of a problem in the world of maritime arbitration.
- (d) The rules of procedure will adopt best practice from existing sets of maritime arbitration terms, enabling cases to be determined quickly and efficiently. The rules will also be geared to managing participation of multiple parties and interests in a single set of proceedings.
- (e) Overlap with the dispute mechanisms under the vertical relationships for each voyage will be avoided where possible and managed where necessary.

The future

The BVS is currently being tested and refined by the Blue Visby Consortium, which comprises institutions, universities, shipowners, charterers and traders. Refinements will not be limited to software and operations, but will also encompass the contractual architecture, especially in view of the existence of a variety of contract forms in different market segments. It is anticipated that the BVS will be ready for deployment in the course of 2023 in at least one market segment, with more to follow.

Regardless of the fate of this particular initiative, it is indisputable that maritime decarbonisation will require not only new technologies, but also a new approach to the contractual architecture of maritime trade.

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- 1 Poseidon Principles. For details see www.poseidonprinciples.org
- 2 Sea Cargo Charter. See www.globalmaritimeforum.org/sea-cargo-charter
- 3 Cargo Owners for Zero Emission Vessels (“coZEV”). See www.cozev.org
- 4 Poseidon Principles for Marine Insurance.
- 5 The UK's Streamlined Energy and Carbon Reporting Scheme sets out three categories of greenhouse gas emissions, with Scope 3 being emissions resulting from the firm's actions which occur at sources which it does not control, meaning companies will have to evaluate supply chain emissions.
- 6 <https://sciencebasedtargets.org>
- 7 Industry Expertise: Navigating Decarbonisation – 2023 – Act Now – EEXI and CII (nepia.com)
- 8 <https://ourworldindata.org/co2/country/norway>
- 9 <https://greenvoyage2050.imo.org/wp-content/uploads/2021/01/GIA-just-in-time-hires.pdf>
- 10 From the point of view of decarbonisation, even if JIT systems can be implemented in certain ports, deploying such systems at the scale required to deliver meaningful GHG reductions, across thousands of ports worldwide, would be a monumental challenge.
- 11 There is also the possibility of the creation of carbon credits, which would also represent a benefit to be shared.