THE SECOND SERIES OF PROTOTYPE TRIALS OF THE BLUE VISBY SOLUTION DELIVERS SIGNIFICANT SAVINGS OF GHG EMISSIONS

The Blue Visby Solution project (BVS) has completed a series of Prototype Trials (PT), involving 16 vessels (LPG tankers) under charter by Marubeni Corporation, a Blue Visby Consortium member, across 40 voyages during a period of 3 months.

The BVS/Marubeni PT was designed to test the BVS technology acting as a decision-support tool in a First Come First Served (FCFS) operational environment. For the purposes of this PT, BVS technology provided the necessary optimisation information and recommendations for the operator to decide (based on its own operational and commercial considerations) whether or not to implement BVS, so as to reduce GHG emissions by mitigating the effects of Sail Fast Then Wait.

Due to the FCFS operational environment, a key parameter of the BVS/Marubeni PT involved monitoring the operational status of a total of some 919 vessels on a 24/7 basis, so as to ensure that the vessels participating in the PT would not be overtaken by non-participating vessels.

Approximately 31 actionable recommendations for vessels to reduce speed were issued, with projected fuel and GHG savings of about 29%, on average. This average figure was confirmed in the results from the vessels that followed the BVS recommendations[1]. These savings were delivered through speed reductions from an average speed of 13.6 knots, down to an average speed of 10.6 knots[2].

The BVS/Marubeni PT demonstrated:

I.   substantial GHG emissions savings;

II.   the value of BVS as a decision-support tool, including in cases where a commercial decision is taken not to reduce speed, or to reduce speed only for part of a voyage.

III. The feasibility of individual ships using BVS to reduce GHG emissions in a FCFS environment, without suffering any commercial disadvantage, even in the absence of wider co-ordination or terminal involvement.

The BVS/Marubeni PT follows on from the Prototype Trials that completed in Q2 2024 involving vessels (supramax bulkers) under charter by Blue Visby Consortium member CBH Group, which demonstrated fuel and GHG emissions savings of approximately 8-28%. The BVS/CBH Group Prototype Trial was designed to test the BVS in the context of optimising for the needs of a terminal stem, rather than in a FCFS environment, which was the case in the BVS/Marubeni PT.

For more information about the Blue Visby Solution, please contact the Consortium co-ordinators, Pekka Pakkanen or Haris Zografakis, pekka.pakkanen@napa.fi, or haris.zografakis@shlegal.com

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[1] Based on performance model estimates and using four alternative consumption benchmarks: service speed, eco speed, average prior to activation, average for the full length of the voyage minus the period of activation.

[2] Based on AIS data using an average speed for the total length of the voyage excluding the implementation period (13.6 knots), and the average during the implementation period (10.6 knots).

QUOTES

"Over a period of several years, the Blue Visby Solution project has progressed iteratively through studies, simulations, virtual pilots to prototype trials. The combined experience of two sets of prototype trials over a period of six months, with the invaluable support of Blue Visby Consortium members CBH Group and Marubeni Corporation, has demonstrated the feasibility of deploying the Blue Visby Solution in the two main operating environments in maritime trade: terminal stem and First Come First Served."

Haris Zografakis and Pekka Pakkanen,
co-ordinators of the Blue Visby Consortium.

"We are thrilled with the outcome of the second Prototype Trials, carried out with the dedicated and invaluable support from Marubeni Corporation, a Blue Visby Consortium member. These trials involved a fantastic team based in four countries, working on a 24/7 basis across time zones. The organisation's scaling up continues, and the team's experience, expertise and geographical reach will support commercial deployment in the coming months."

Christian Wounlund, Chief Executive Officer.

"During this Prototype Trial, we successfully demonstrated the capabilities of the technical system in challenging First Come First Served operational environments. The groundbreaking work of our research team during the past year has enabled us to use a wide range of new data and optimisation constraints, allowing us to solve some of the optimization challenges present in a competitive operational environment with a limited number of participating ships. The experience and the outcome of this Prototype Trial demonstrate that the Blue Visby Solution can adapt to different operational needs and use cases, supporting various segments of the industry."

Kimmo Laaksonen, Chief Technology Officer.

"One of the key objectives of this Prototype Trial was to actively engage with the participating operational team, so that BVS can be used as a practical tool. Over a period of three months, the BVS team was able to learn from and integrate valuable feedback and insights from the team at Marubeni Corporation. In the process, BVS has continued to evolve as a decision-support tool, essential for empowering its users to make informed decisions about the carbon efficiency of their operations."

Captain Munaf Shaikh, Chief Maritime Officer.

NOTE TO EDITORS

The practice of *"Sail Fast Then Wait"* and the Blue Visby Solution

The Blue Visby Solution is aimed at eradicating Sail Fast Then Wait (SFTW): the operational practice of ships that sail to their destination "with the utmost despatch", without regard to other ships or to the conditions at the destination. This practice can be justified for various reasons, but it is responsible for about 20% of shipping's carbon footprint.

SFTW can neither be eradicated through the actions of individual ships, nor bilaterally as between an individual shipowner and an individual charterer. It is a systemic challenge that requires a systemic solution. The Blue Visby Solution combines software, data, operations and contracts, so as to systemically optimise the ocean passage of participating ships, and thereby reduce GHG emissions. It does not interfere with the voyage planning or weather routing of individual ships; and it does not interfere with berthing or with port operations. A crucial component of the multilateral nature of the Blue Visby Solution is a benefit-sharing mechanism, which incentivises participation and removes the obstacle of split incentives.

The Blue Visby Solution Consortium

Over a period of several years, and with support from 40+ members of the Blue Visby Consortium, which is co-ordinated by Helsinki-based software company NAPA Oy and London-based law firm Stephenson Harwood LLP, the project has progressed iteratively through several stages: from academic studies to proofs of concept, to hindcast simulations in real operating conditions, to virtual pilots with the use of digital twins and, finally, to Prototype Trials.

The Prototype Trials

The accumulation of learnings and experience through studies and simulations has enabled the project to launch the final R&D phase in early 2024: a series of Prototype Trials involving actual voyages, organised together with Consortium members. Prototype Trials with the CBH Group and Marubeni Corporation have successfully concluded in the dry bulk and tanker segments, to be followed by more in 2025 with other Consortium members and in other market segments.

The BVS/Marubeni Prototype Trial

While SFTW cannot be eradicated through the actions of individual ships, it is possible to mitigate its impact on GHG emissions, even in the absence of complete systemic interventions. The BVS/Marubeni Prototype Trial was designed to test a version of the Blue Visby Solution that can deliver benefits on that basis.

Next steps

The trade and commercial framework of the two series of Prototype Trials with CBH Group and Marubeni Corporation align well with various segments of the dry and wet bulk trade. The experience and learnings of these two Prototype Trials will be scaled up and extended.

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