IUMI

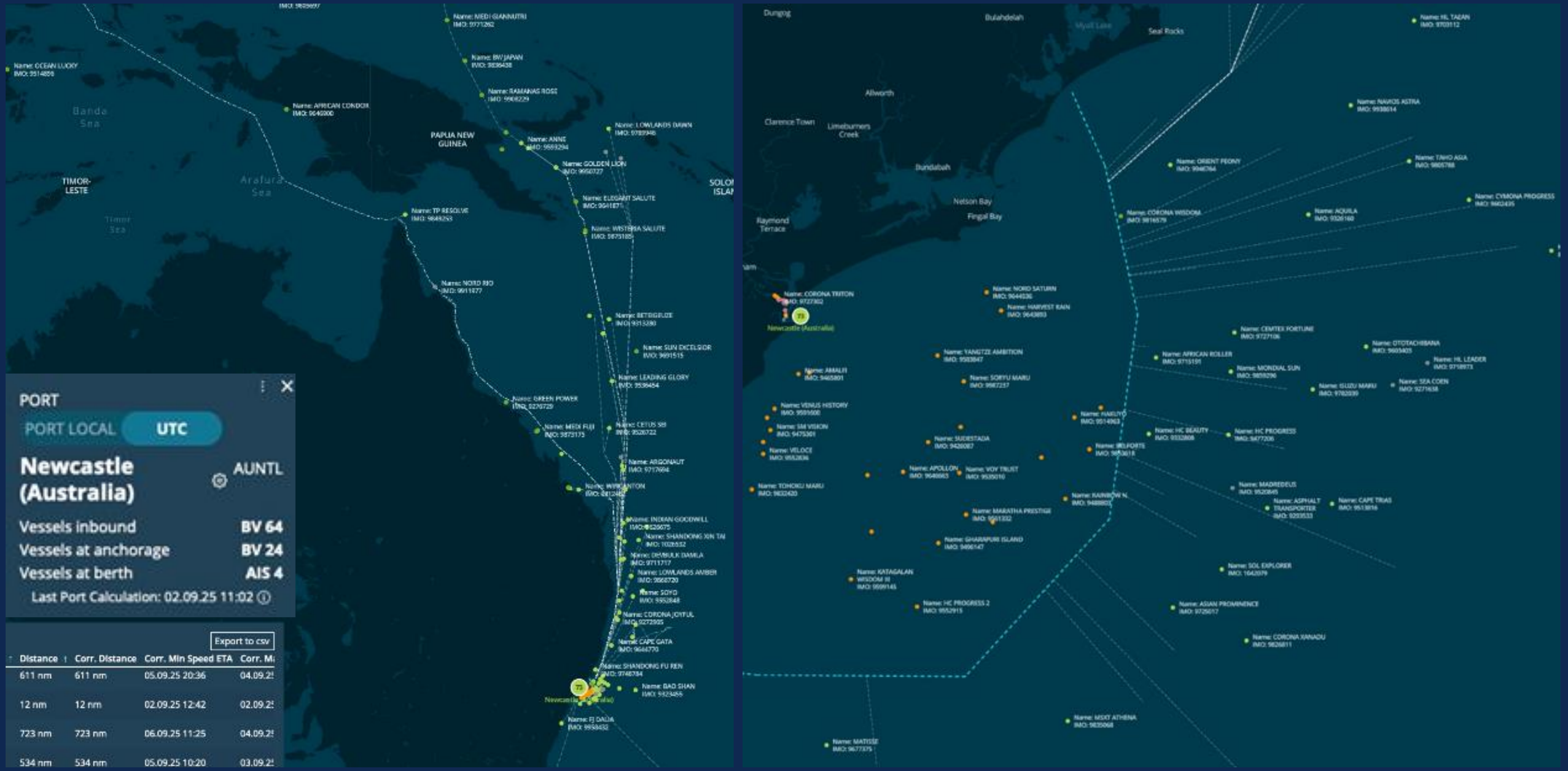
IUMI webinar

3 September 2025

The Blue Visby Solution and its Contribution to Maritime Decarbonisation

BLUE VISBY
SOLUTION

Presentation to IUMI
3 September 2025



BLUE VISBY
SOLUTION

Congested anchorages: a snapshot

Port	Ships waiting at anchorage	Ships sailing fast, to join the queue
Santos	35	70
Port Hedland	33	102
Newcastle	41	44

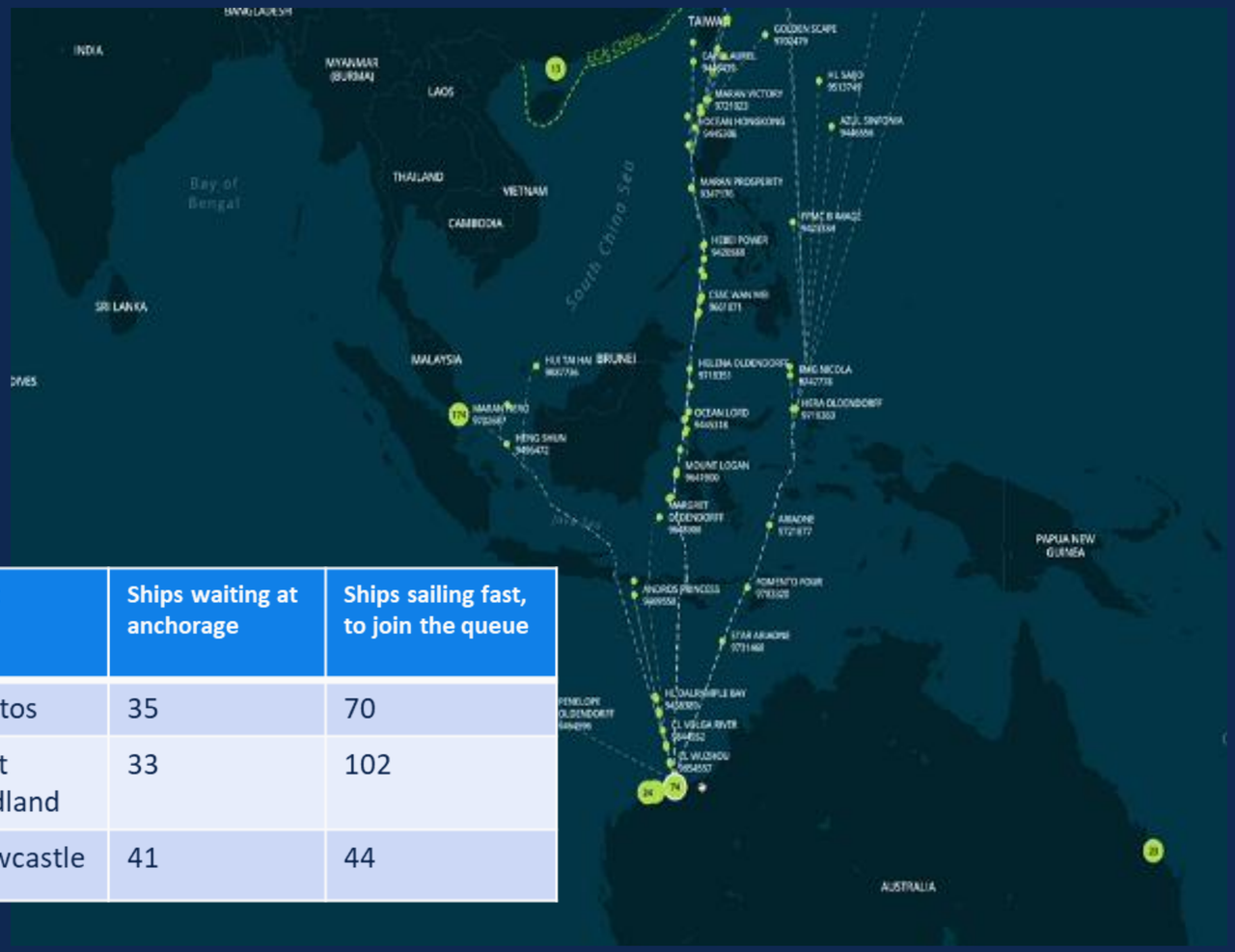
BLUE VISBY SOLUTION

Congested anchorages are unsafe. Why do (so many) ships wait at anchorage (for so long)?

BLUE VISBY
SOLUTION

Sail Fast, Then Wait.

The single largest systemic carbon inefficiency, responsible for 20% of shipping’s carbon footprint.



Port	Ships waiting at anchorage	Ships sailing fast, to join the queue
Santos	35	70
Port Hedland	33	102
Newcastle	41	44

BLUE VISBY SOLUTION

The Blue Visby Consortium

- In collaboration with the Consortium of 42+ participants,
- raised awareness
- prepared studies,
- refined the concept,
- conducted real-time virtual pilots,
- launched operational prototypes in Q2 2024,
- and deployed commercially since December 2024

BLUE VISBY SOLUTION

Why do cargo vessels Sail Fast, Then Wait?

BLUE VISBY
SOLUTION

Forbes

FORBES > INNOVATION > SUSTAINABILITY

Could An Air Traffic Control System For The Oceans Help Cut Carbon Emissions?

Jamie Hailstone Contributor ⓘ

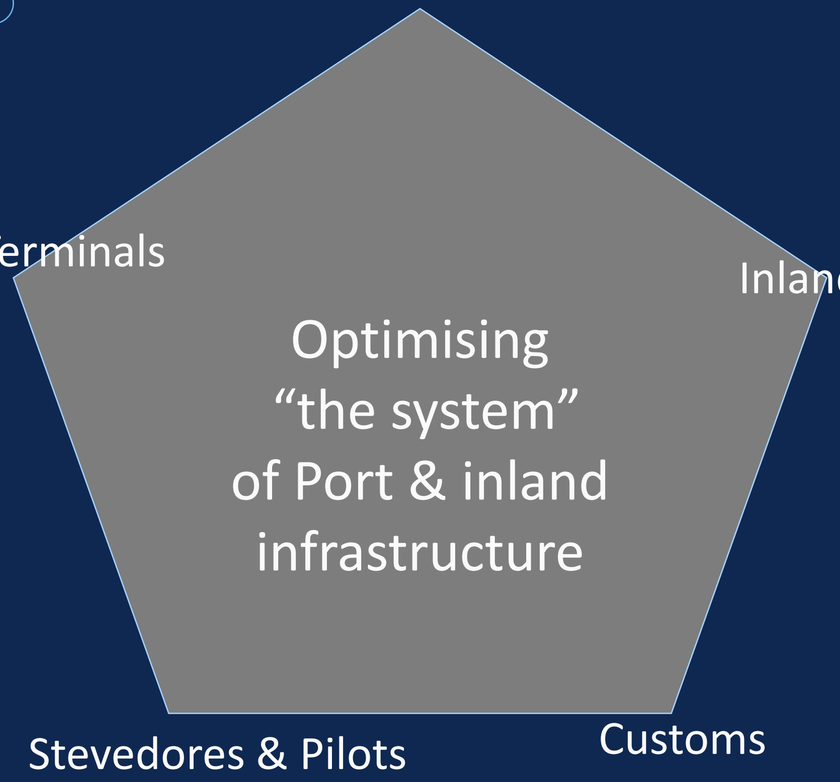
I write about air quality and the environment.

Follow

Aug 26, 2022, 04:16am EDT

The SFTW optimisation problem

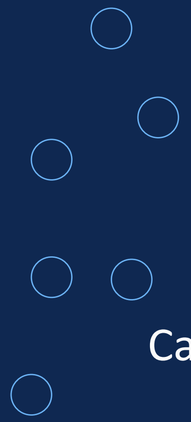
Optimising the “system” of vessels steaming to the same port

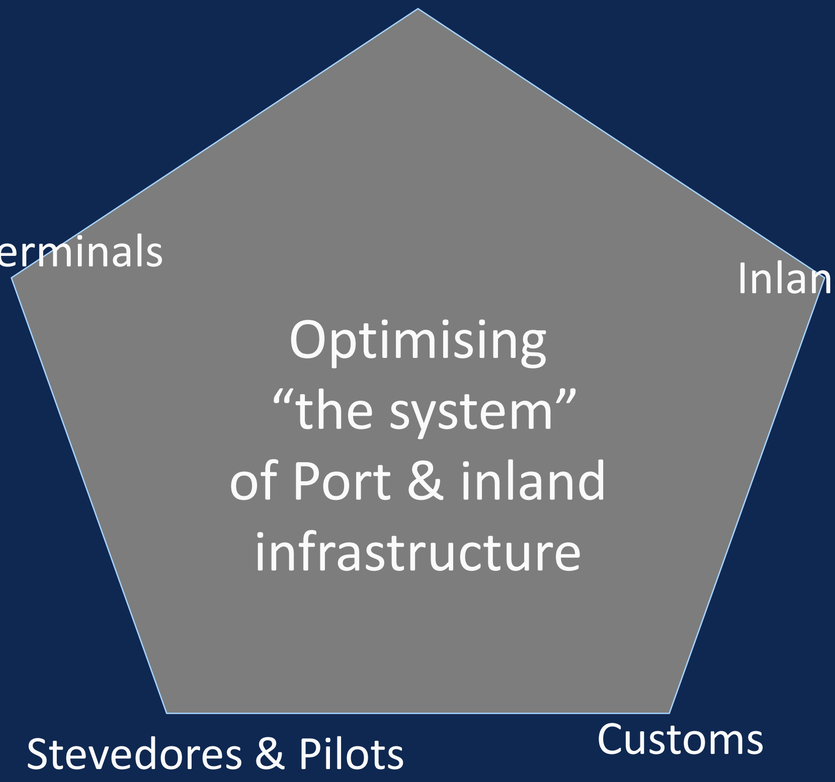


BLUE VISBY SOLUTION

SFTW: In reality, it's FOUR separate problems

Optimising the "system" of vessels steaming to the same port





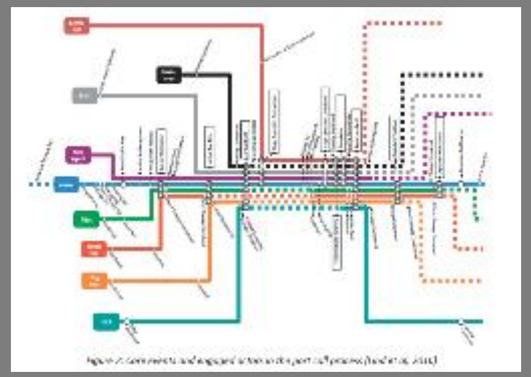
BLUE VISBY SOLUTION

Problem 1: Optimising land operations

vessels steaming to the same port

Port Authorities

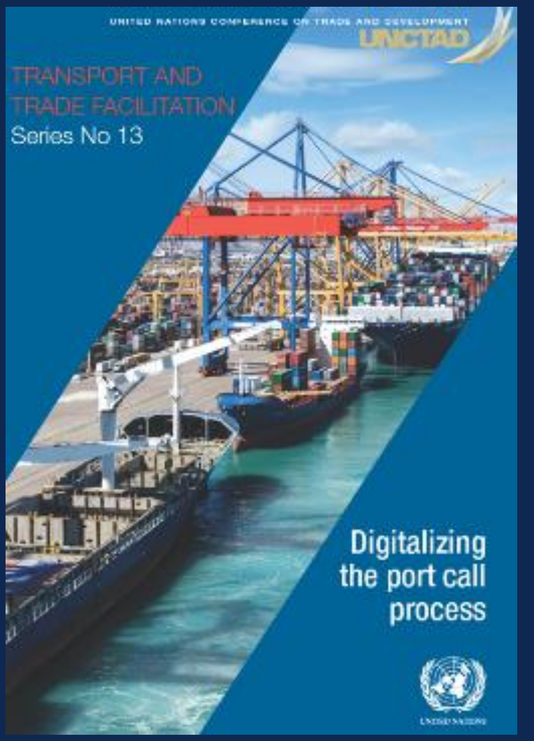
Cargo Terminals



Land transportation

Stevedores & Pilots

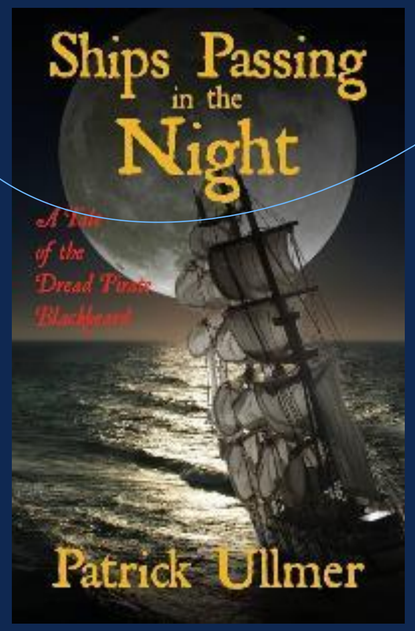
Customs

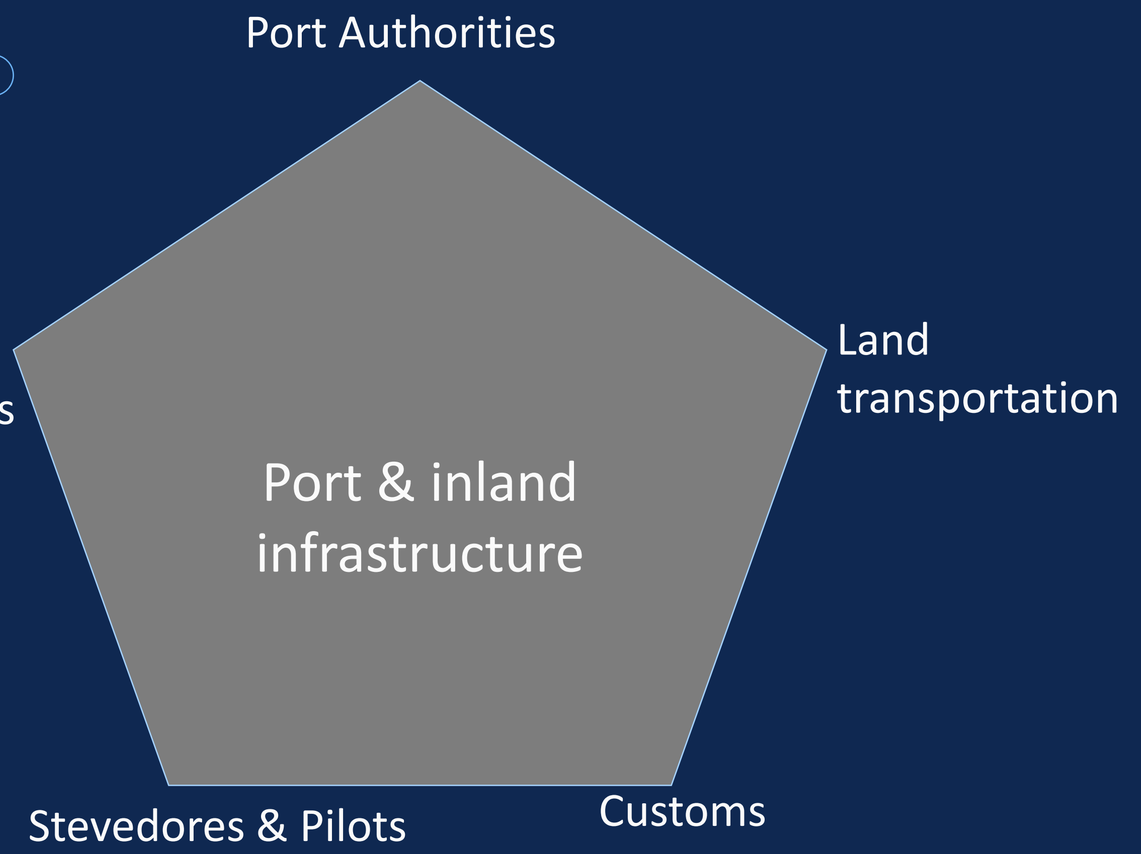


BLUE VISBY SOLUTION

Problem 2: Optimising ocean operations

Optimising the "system" of vessels steaming to the same port

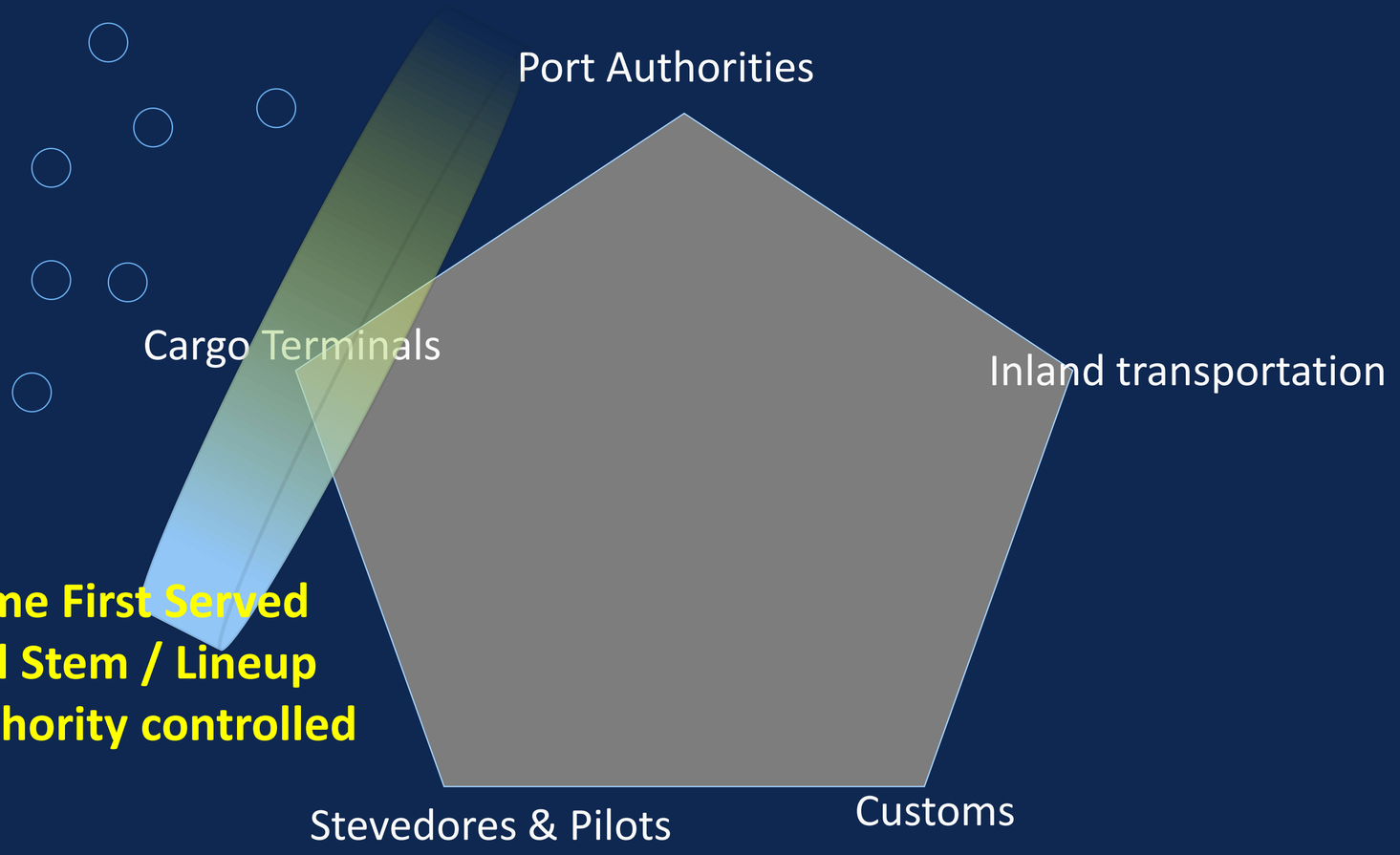




BLUE VISBY SOLUTION

Problem 3: Optimising land and ocean **and the interface between them**

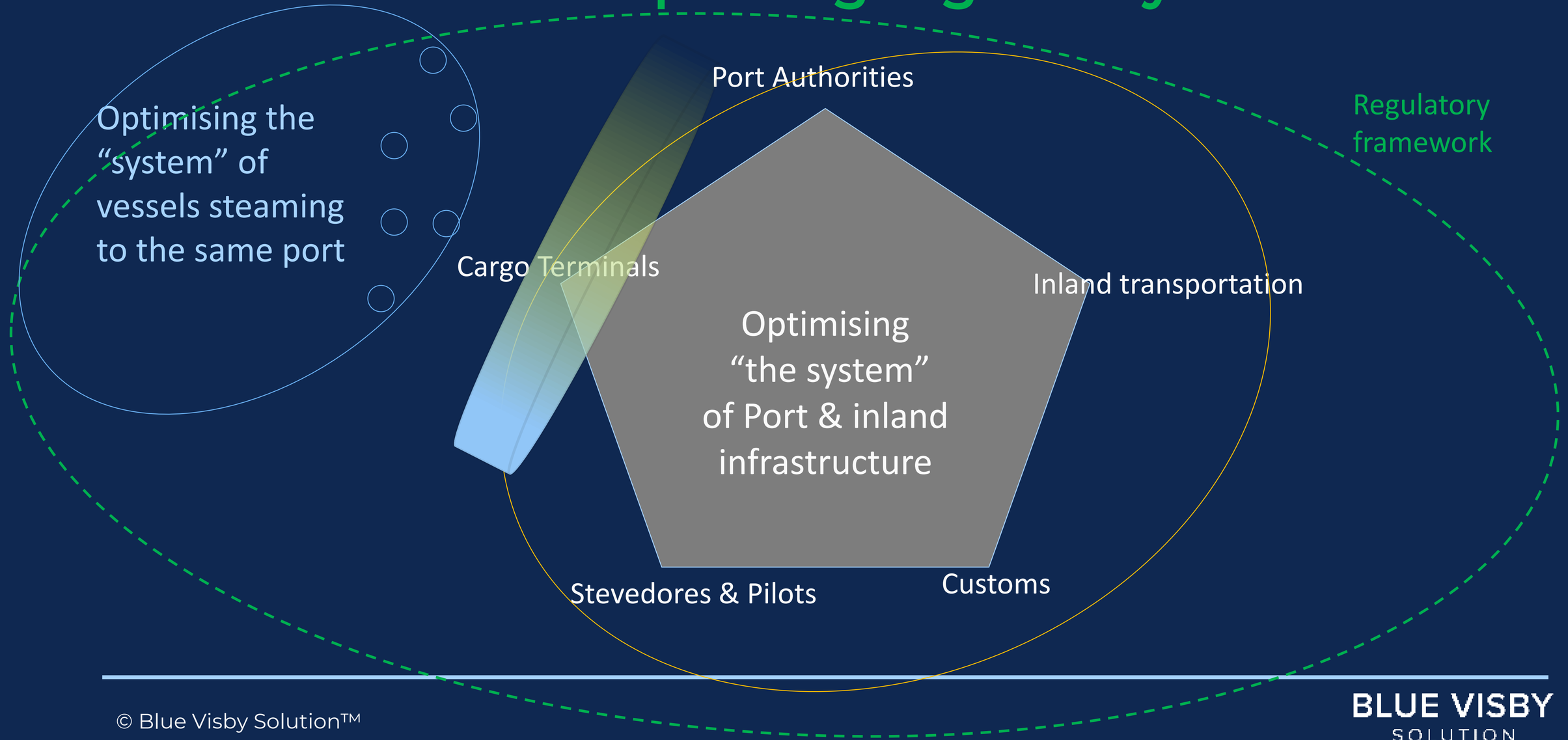
vessels steaming to the same port



- **First Come First Served**
- **Terminal Stem / Lineup**
- **Port-authority controlled**

BLUE VISBY SOLUTION

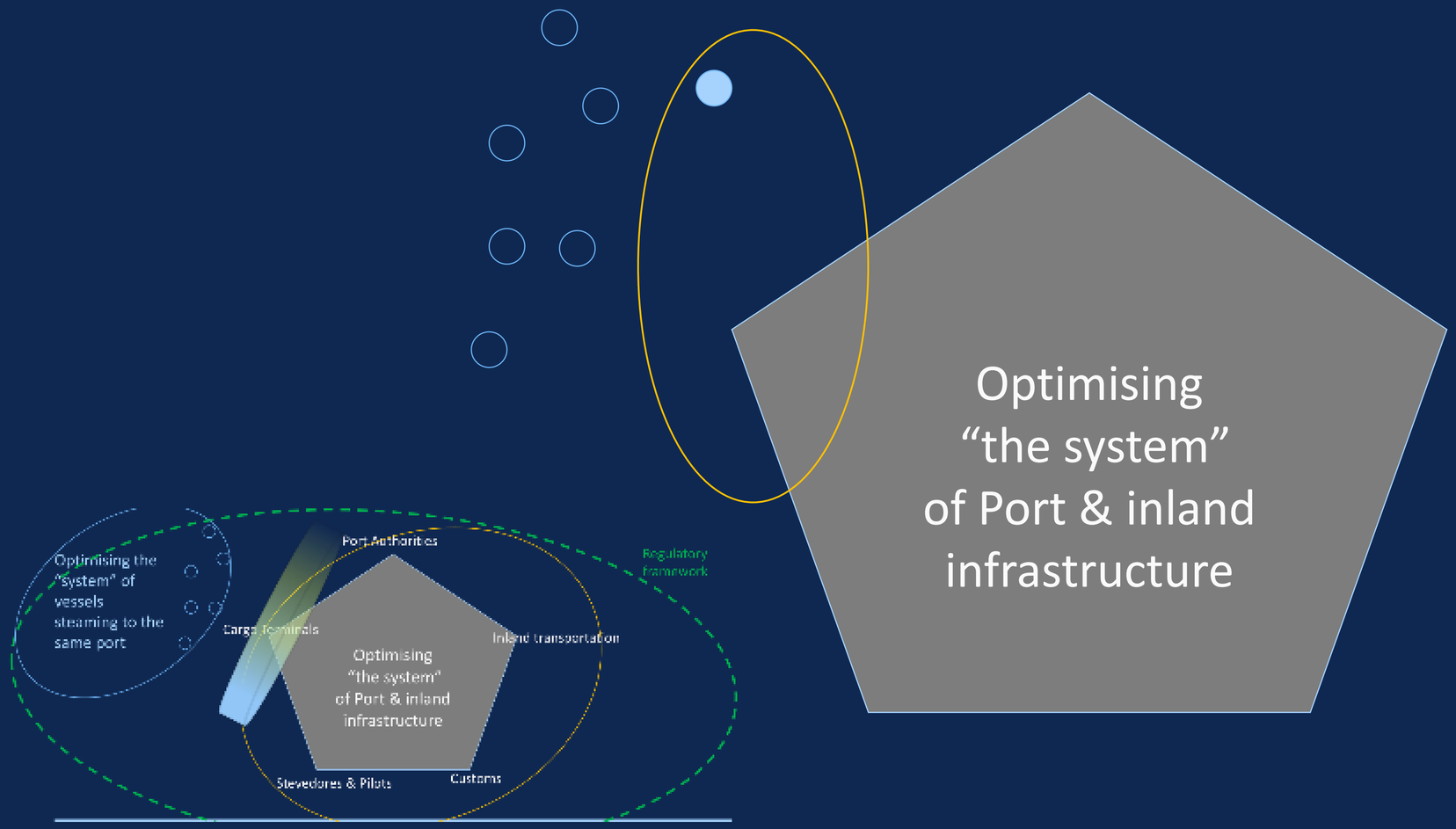
Problem 4: Optimising land and ocean and the interface between them within an all-encompassing regulatory framework



BLUE VISBY SOLUTION

We have tried this before.

Virtual Arrival (2008): Limited application to specific terminals



TradeWinds

'Virtual-arrival' tanker scheme promises to cut emissions

4 December 2008 0:00 GMT UPDATED 4 December 2008 0:00 GMT

By **Adam Corbett London**

A new scheme that will change the way tanker voyages are scheduled promises to make one of the most significant contributions to reducing greenhouse-gas emissions.

The prospect of up to a 20% reduction is being held out through the so-called virtual-arrival scheme developed by tanker owners' association Intertanko, Oil Companies Industry Marine Forum (OCIMF) and weather-routing company Weathernews International (WNI).

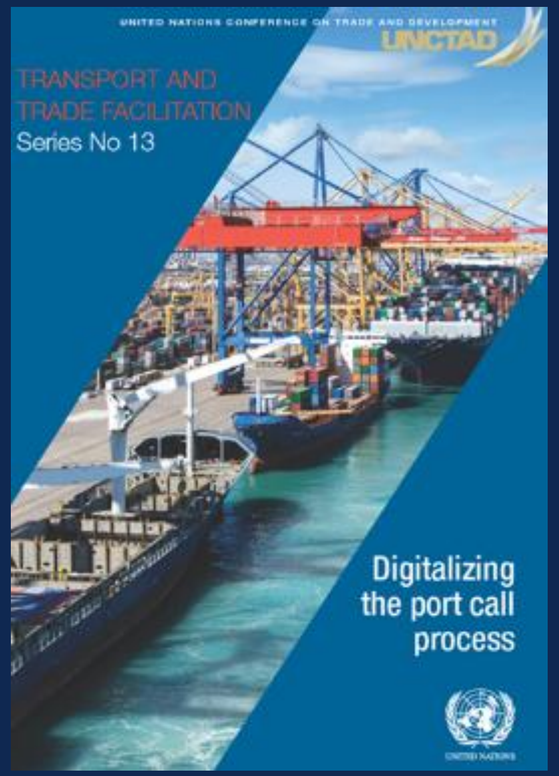
Put simply, tankers will pre-book arrival slots at loading and discharging terminals based on terminal availability and weather conditions. Owner and charterer will then agree a speed to meet the terminal booking that maximises fuel efficiency and minimises port waiting time.

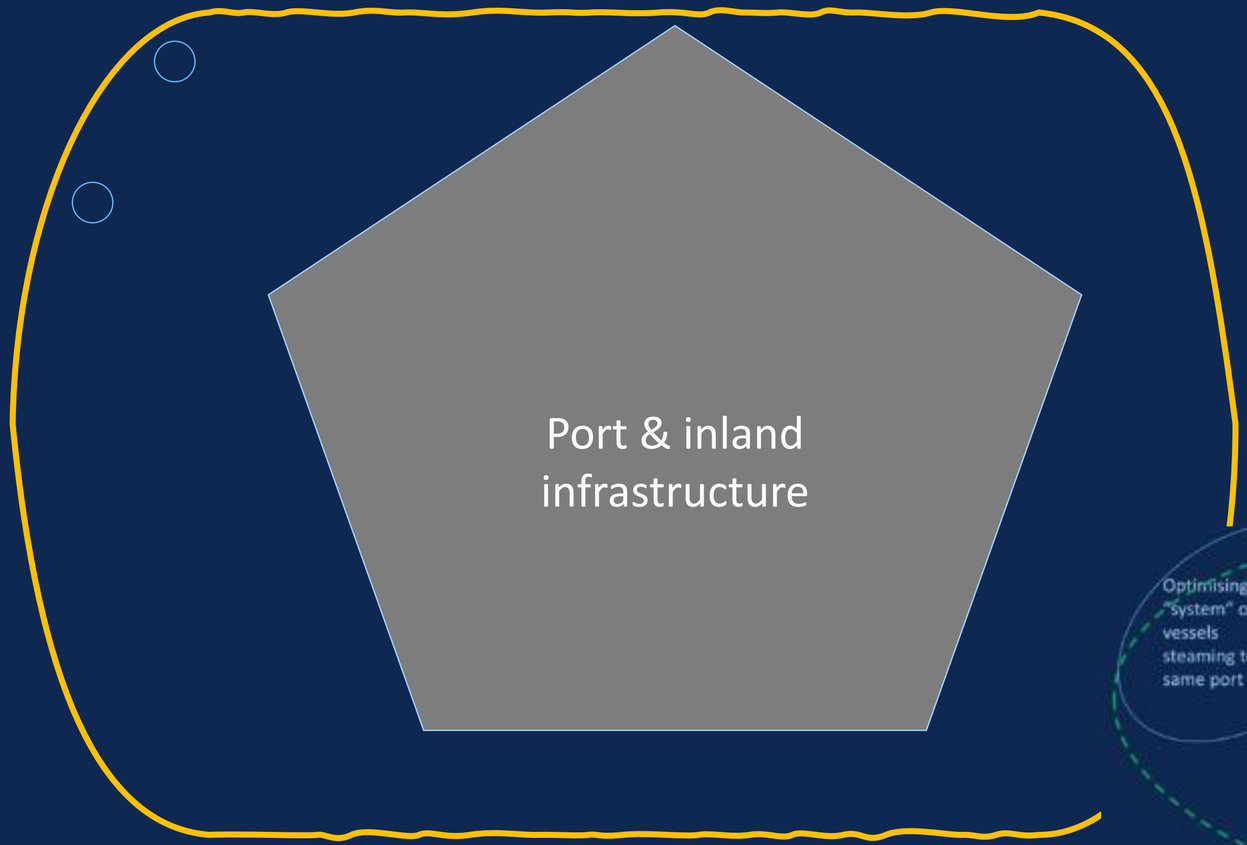
In effect, it will end the current practice of wastefully full steaming to port and then waiting for days to conduct cargo operations.

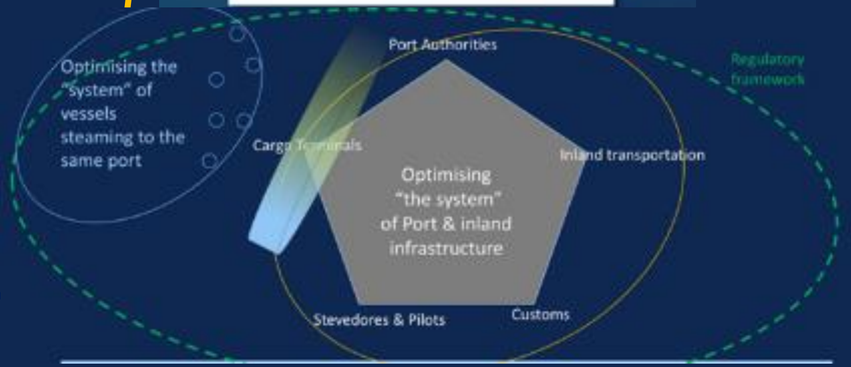
BLUE VISBY SOLUTION

Practical Just-in-Time: VHF range
Difficult to scale & Limited GHG benefit

Vessels steaming to the same port

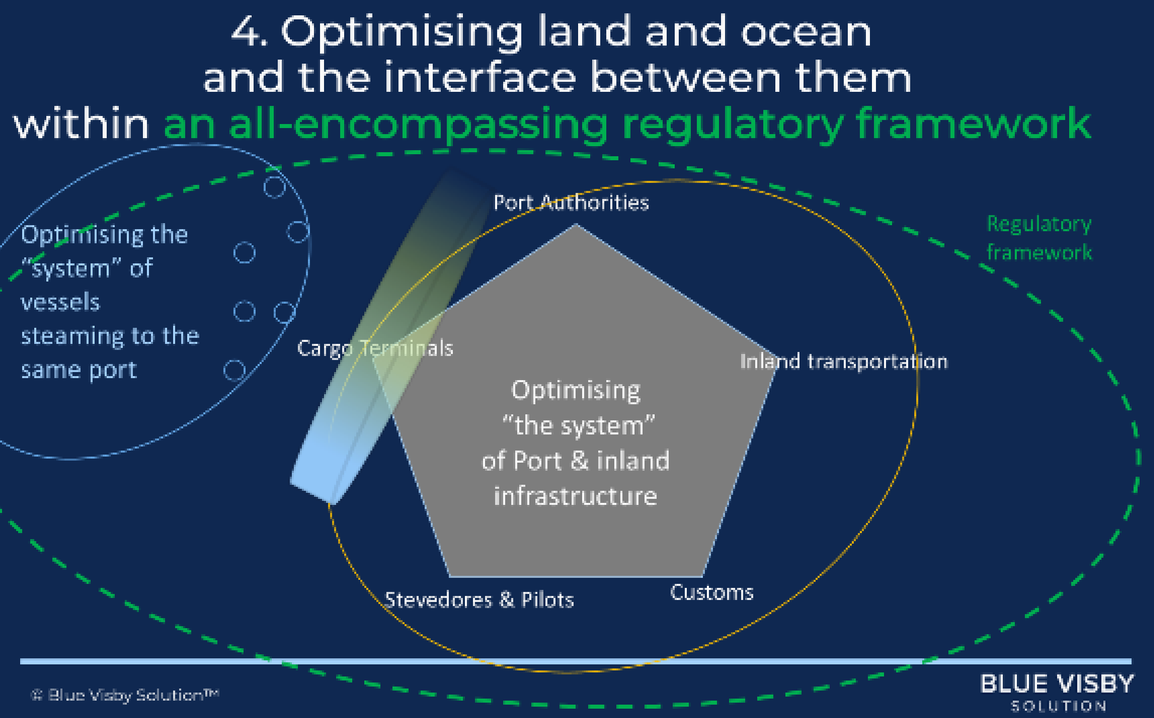






BLUE VISBY SOLUTION

Eradicating SFTW is too hard.
Give up and wait for those aliens.

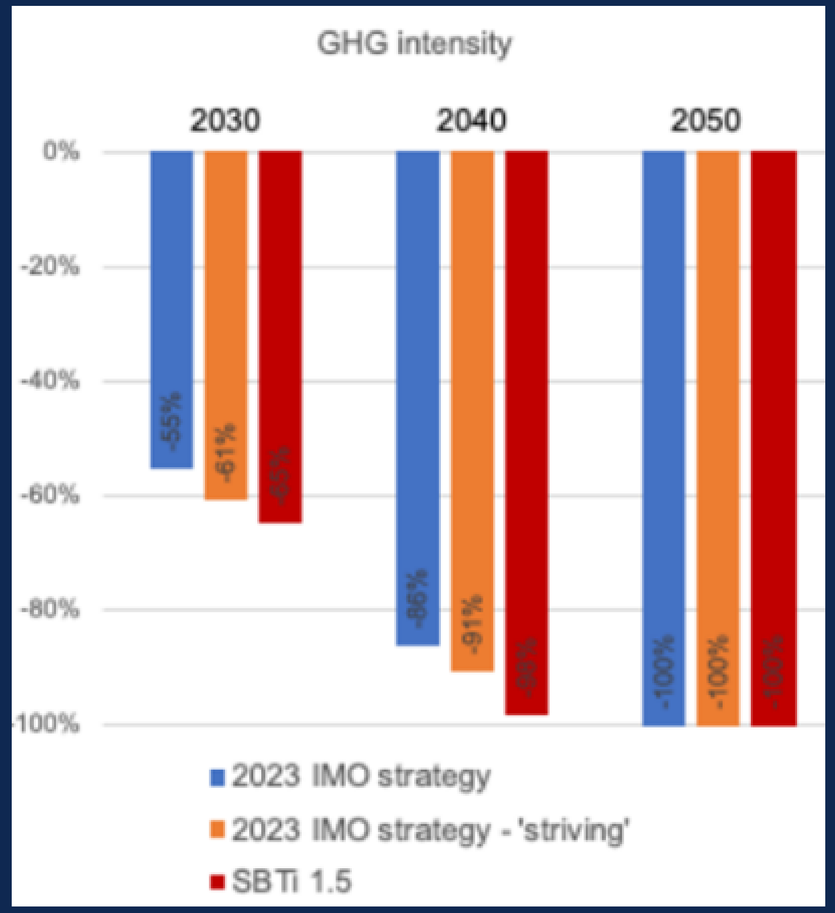


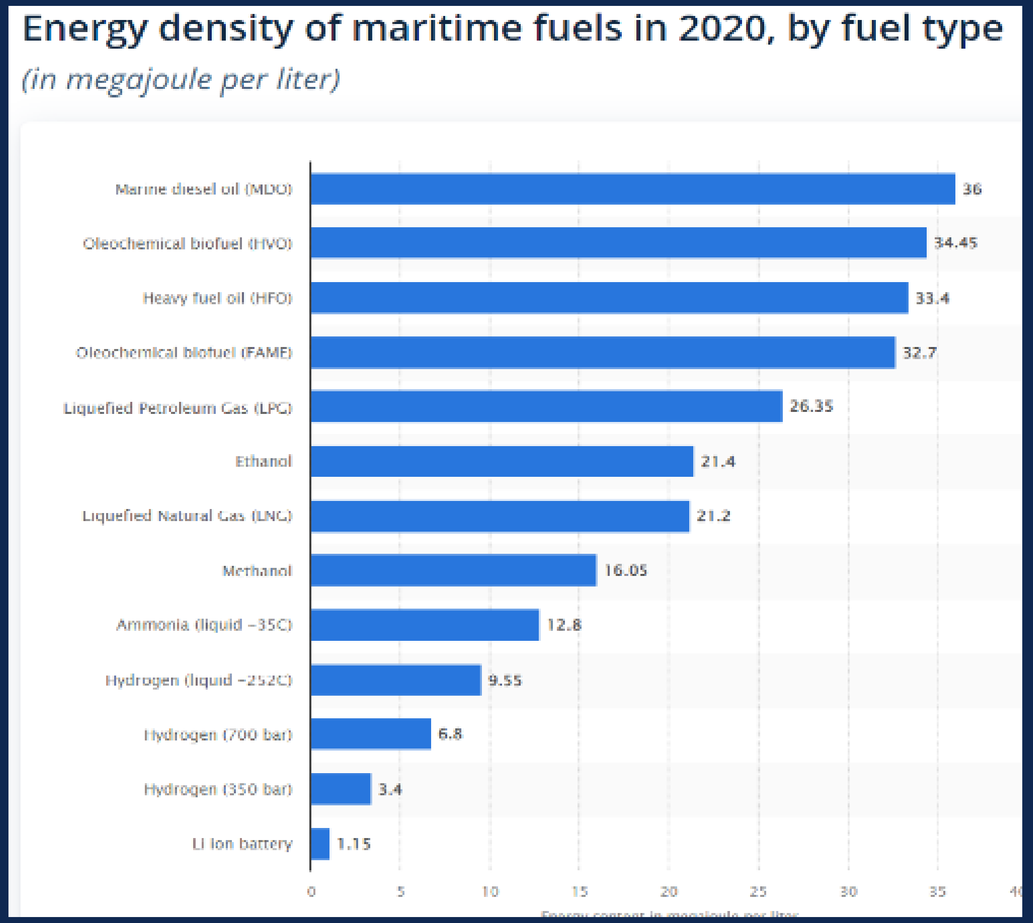
BLUE VISBY SOLUTION

Decarbonisation is not possible with ships that Sail Fast Then Wait

BLUE VISBY
SOLUTION

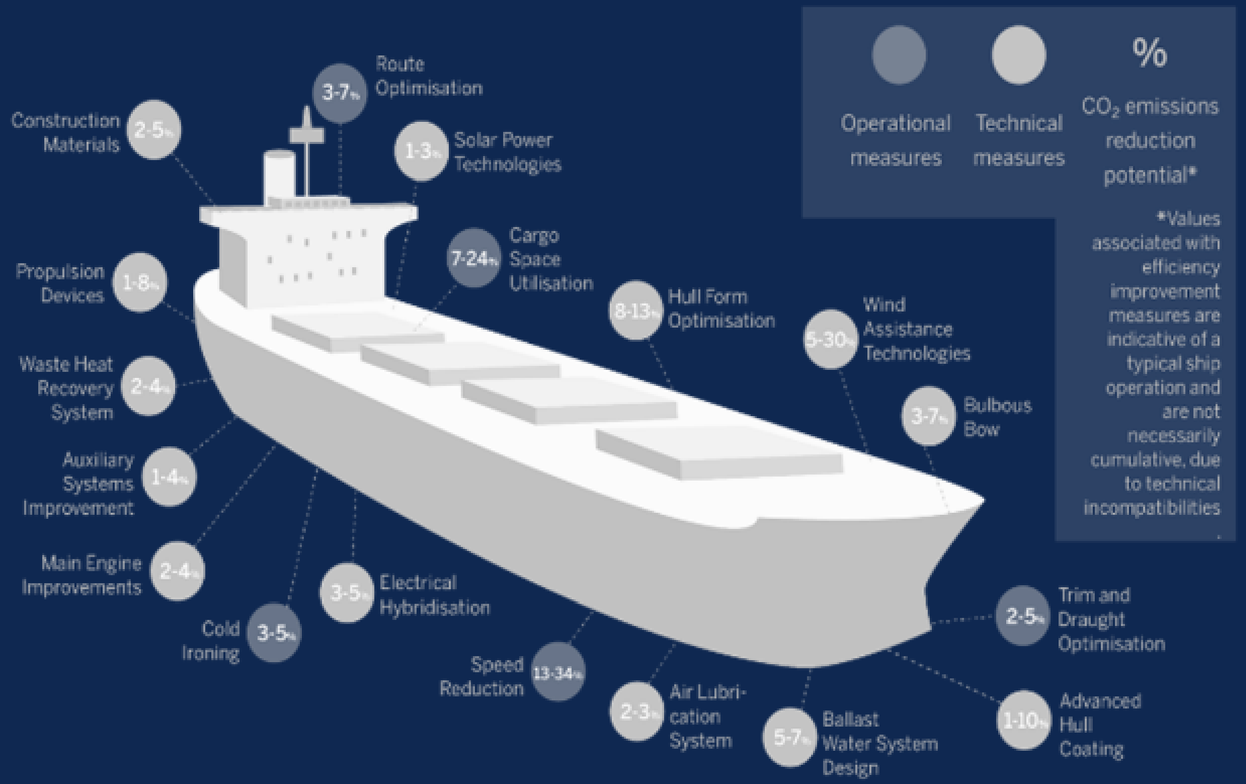
Energy efficiency as the most potent tool. Both today and tomorrow.





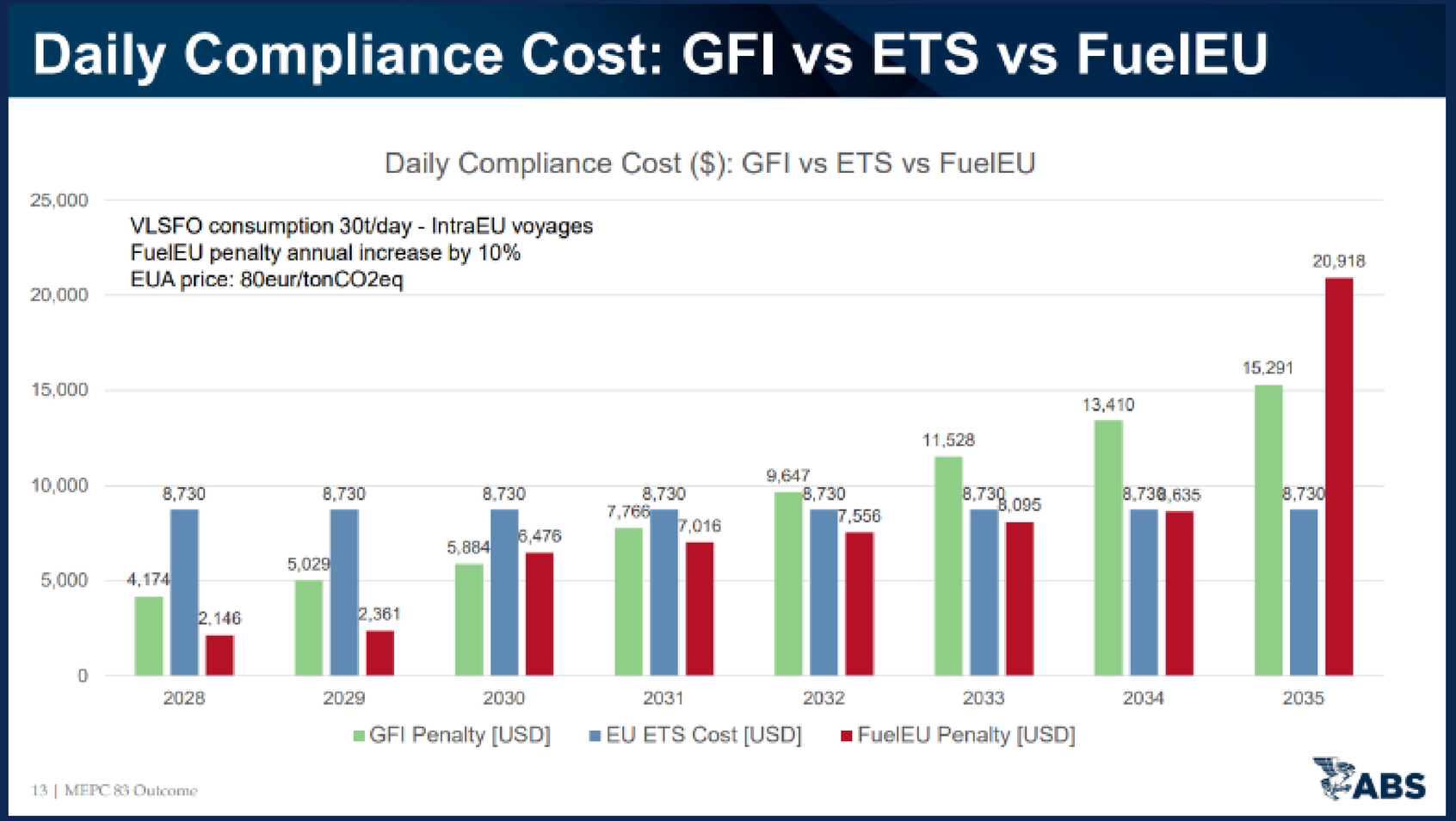
BLUE VISBY
SOLUTION

Optimisation.
Individual vs. Systemic



BLUE VISBY SOLUTION

Compliance cost



BLUE VISBY SOLUTION

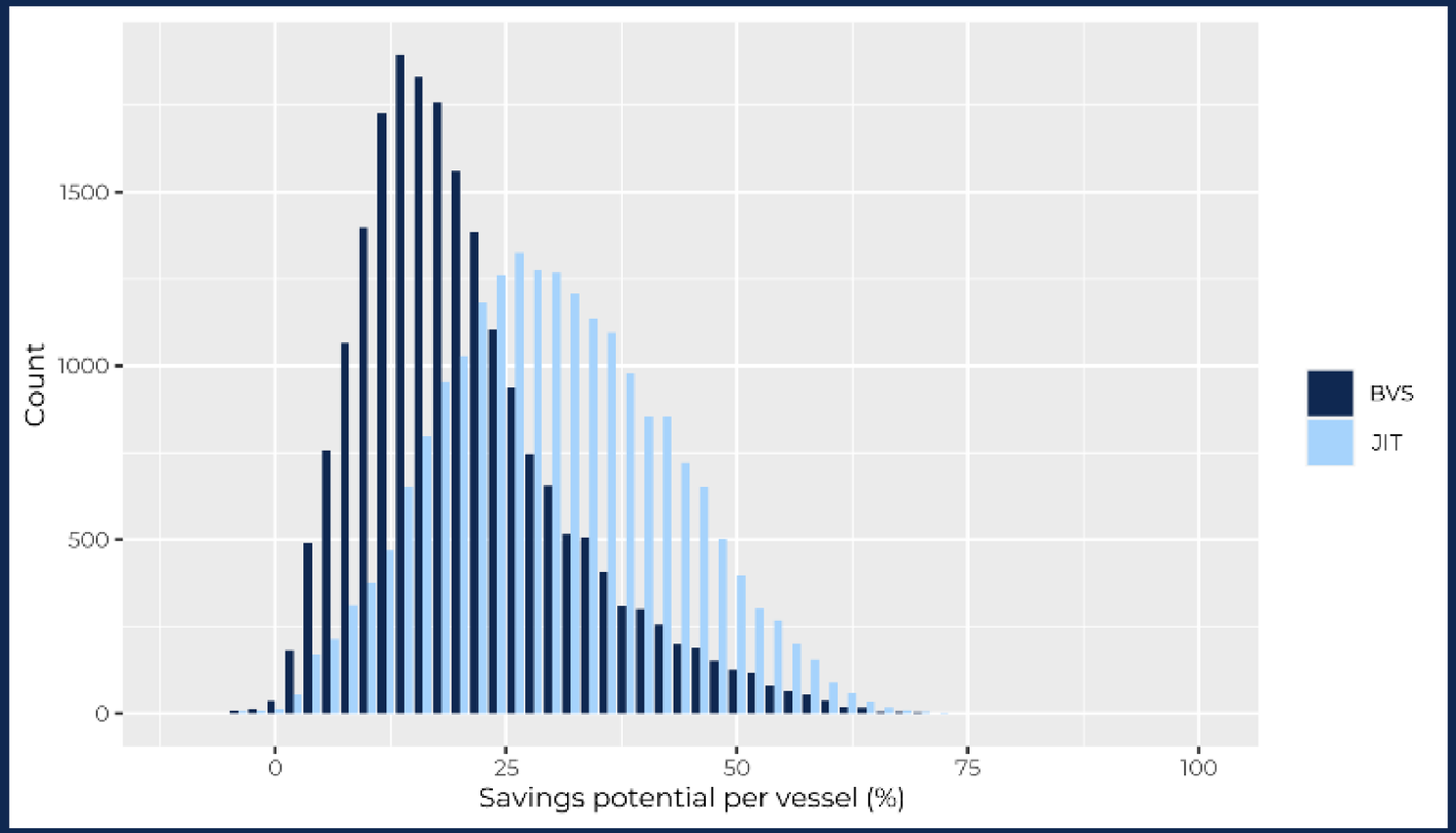
The vessel-user context: Scope 3

- Ocean transportation of raw materials and products
- Mandatory disclosure and reduction targets
- Shareholder pressure
- Consumer pressure
- Voluntary targets - SBTI

The (different) approach of the Blue Visby Solution.

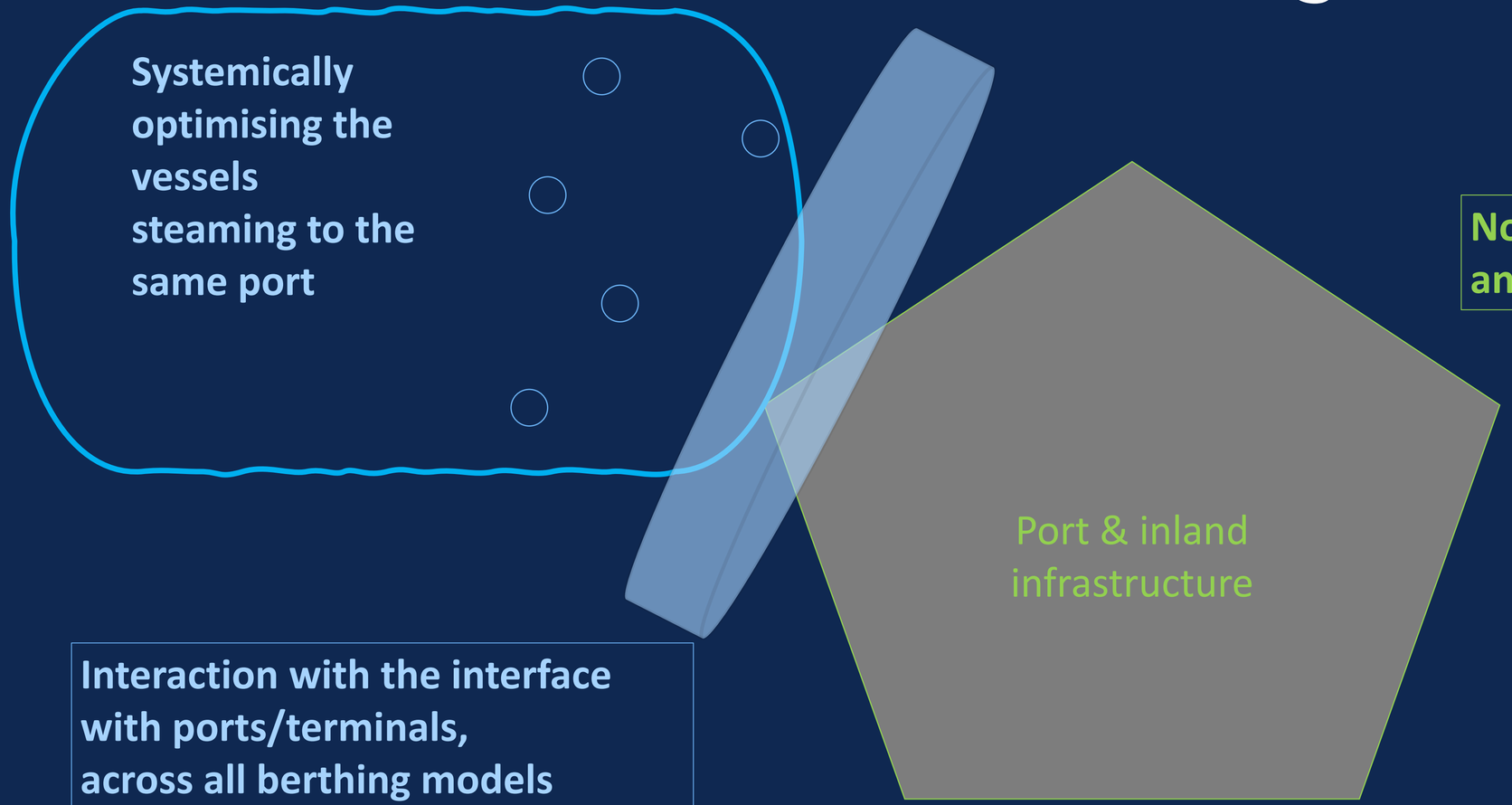
BLUE VISBY
SOLUTION

What if we optimised only the ocean passage to the anchorage, not the entire voyage to berth, treating berthing as a last-mile problem?



BLUE VISBY
SOLUTION

The Blue Visby Solution
optimisation of the ocean passage, not berthing



Not seeking to optimise the land elements and not seeking to optimise berthing

Interaction with the interface with ports/terminals, across all berthing models and not interfering with berthing

BLUE VISBY SOLUTION

The Blue Visby Solution
optimisation of the ocean passage, not berthing - across all berthing models

Systemically optimising the vessels steaming to the same port

Interaction with the interface with ports/terminals, and not interfering with berthing

Not seeking to optimise the land elements and not seeking to optimise berthing

ACROSS ALL BERTHING MODELS
- Terminal stem
- Port-authority-controlled
- First Come First Served

BLUE VISBY SOLUTION

… and what if we optimised only the ocean passage
to the anchorage,
not the entire voyage to berth,
treating berthing as a last-mile problem …

… we did all that contractually, and not waiting for some perfect global “air traffic control system” for the oceans?

The Blue Visby Solution as one unified system

THE FRAGMENTATION OF BERTHING MODELS

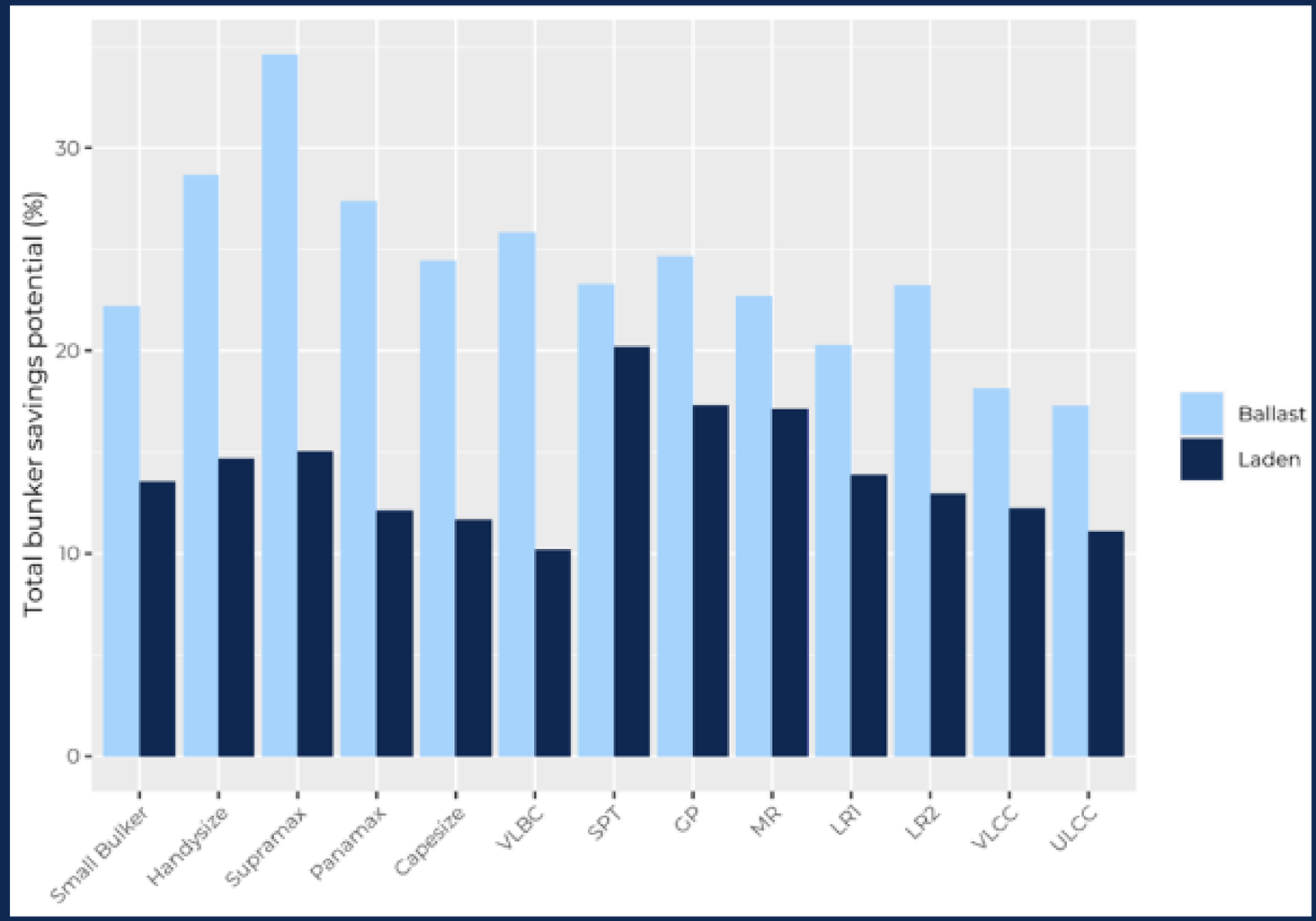
- Terminal Stem
- Port authority-controlled berthing
- First-Come-First-Served

THE UNIFIED SYSTEM OF THE BLUE VISBY SOLUTION

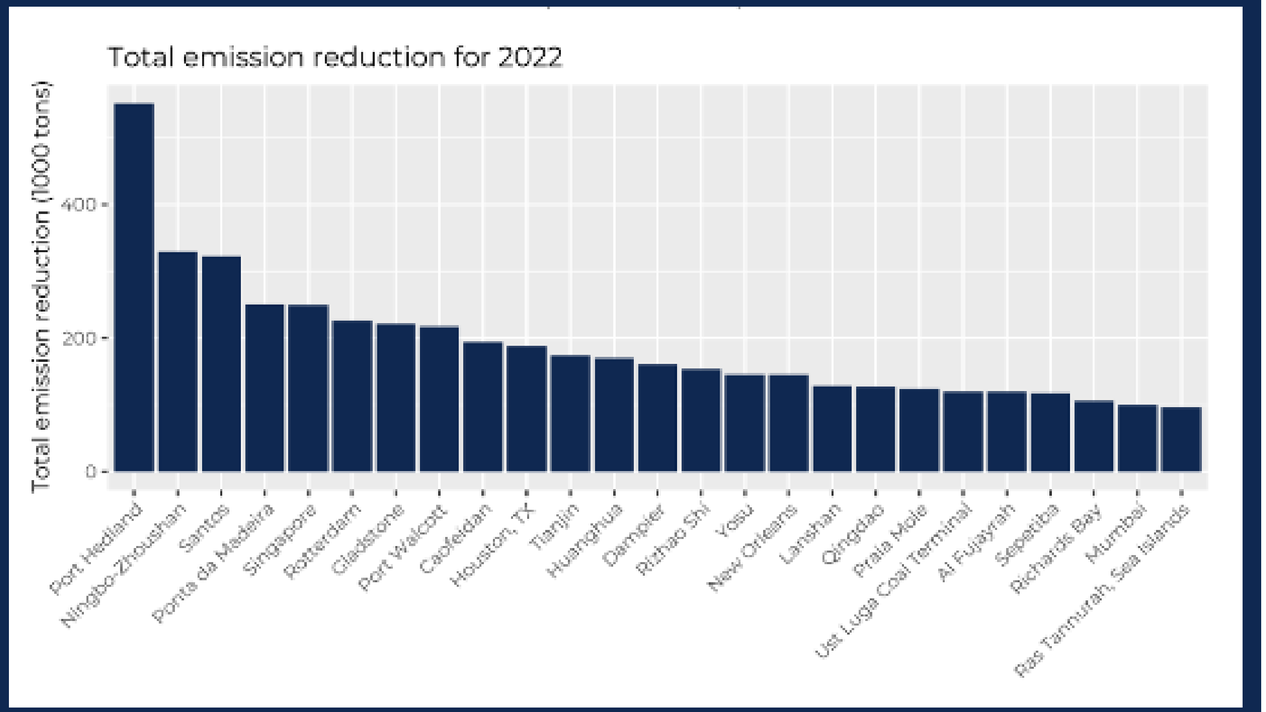
- Common operations
- Common software
- Common AEF methodology
- Common financial sharing methodology
- Compatible contracts

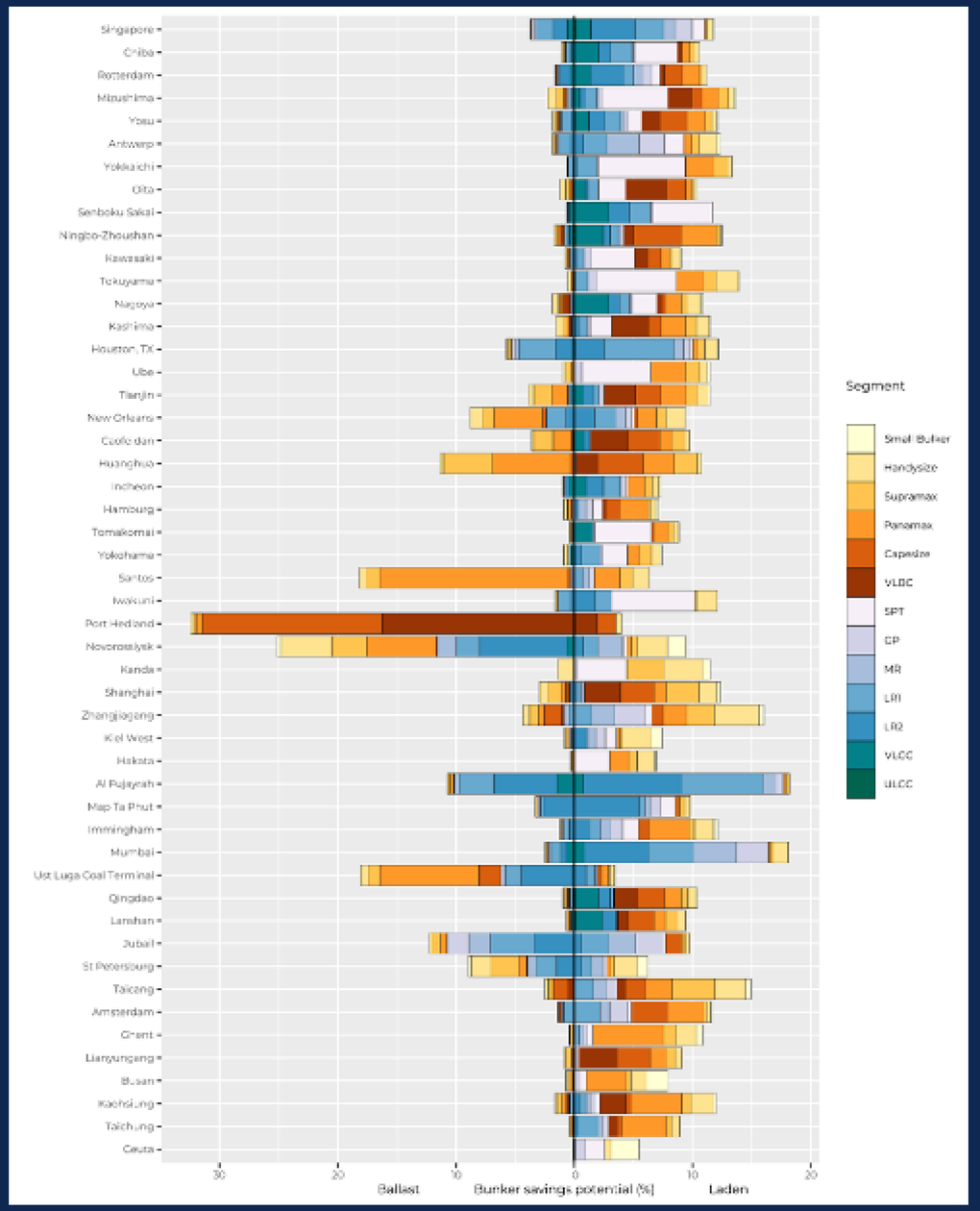
BLUE VISBY SOLUTION

The metrics



BLUE VISBY
SOLUTION





BLUE VISBY
SOLUTION

How does the Blue Visby Solution work?

BLUE VISBY
SOLUTION

The components of the Blue Visby Solution

Contracts & Governance

- Bilateral
- Multilateral

Data, Algorithms & Software

- Systemic
- Dynamic
- Optimisation
- Of the ocean passage

Operations & Communications

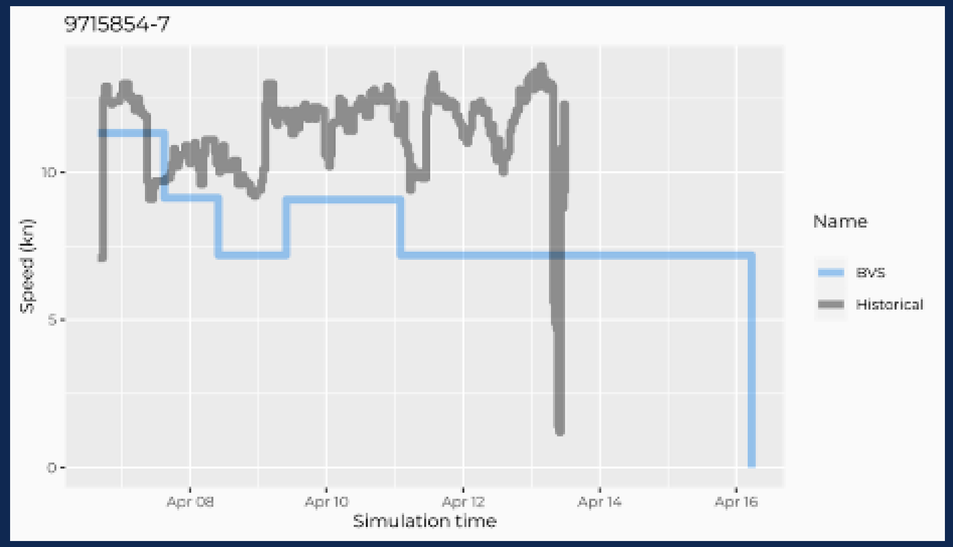
- Preservation of berthing order
- Requested Time of Arrival

Benefit-sharing mechanism “Blue GA”

- Fuel
- Ocean Passage prolongation
- Market rates
- Across contracts

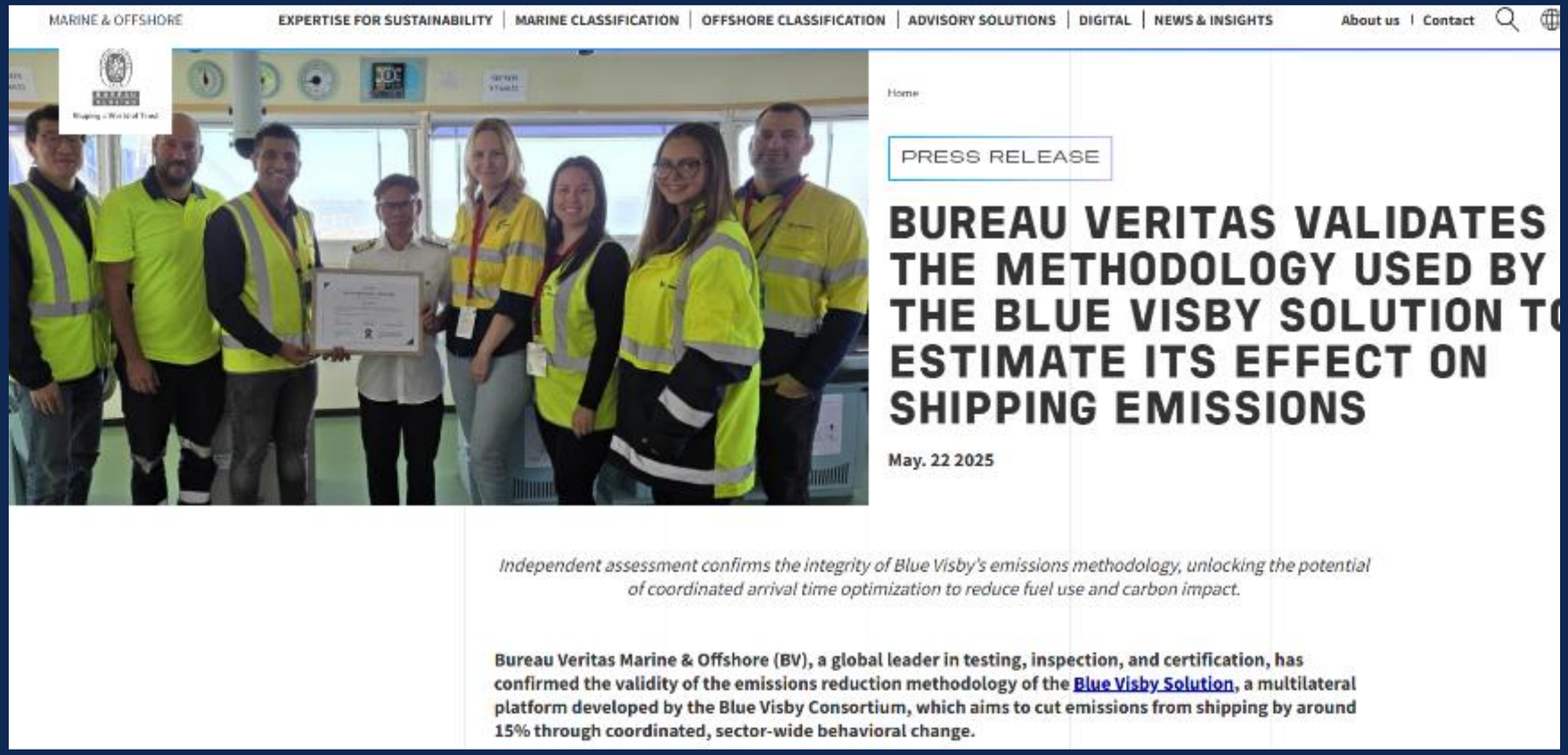
BLUE VISBY SOLUTION

System Integration
Contracts – Software – Operations



BLUE VISBY
SOLUTION

Bureau Veritas validates the BVS methodology



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PRESS RELEASE

BUREAU VERITAS VALIDATES THE METHODOLOGY USED BY THE BLUE VISBY SOLUTION TO ESTIMATE ITS EFFECT ON SHIPPING EMISSIONS

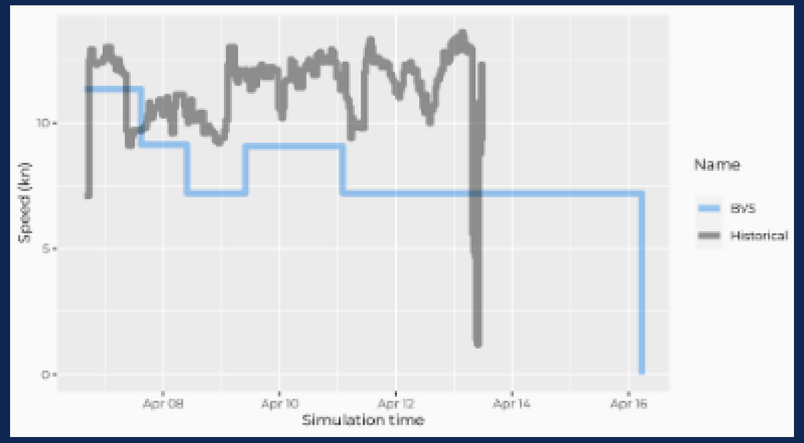
May. 22 2025

Independent assessment confirms the integrity of Blue Visby's emissions methodology, unlocking the potential of coordinated arrival time optimization to reduce fuel use and carbon impact.

Bureau Veritas Marine & Offshore (BV), a global leader in testing, inspection, and certification, has confirmed the validity of the emissions reduction methodology of the Blue Visby Solution, a multilateral platform developed by the Blue Visby Consortium, which aims to cut emissions from shipping by around 15% through coordinated, sector-wide behavioral change.

BLUE VISBY SOLUTION

System Integration
Contracts – Software – Operations
+ Financial Consequences



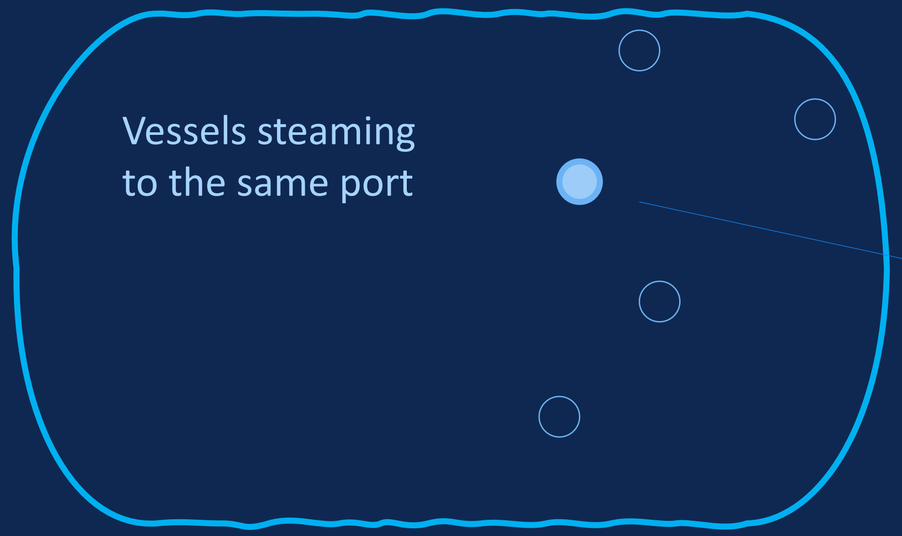
The delayed arrival at the anchorage has financial consequences, which differ depending on the type of contract.

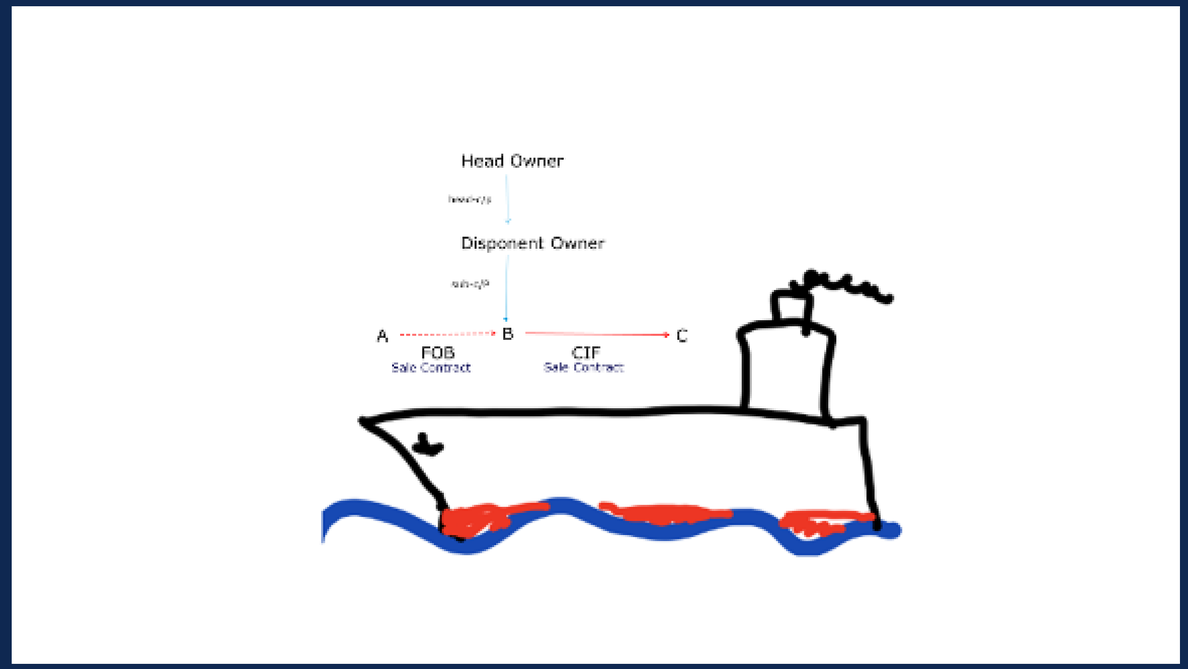
The carbon inefficiency of SFTW is a profit opportunity under some contracts.

The problem of split incentives is best addressed through a transparent system for sharing costs and benefits.

BLUE VISBY
SOLUTION

Overcoming “split incentives” through a benefit-sharing mechanism inspired by general average





BLUE VISBY
SOLUTION

Blue GA – the sharing mechanism

Who shares Blue GA?

- Per voyage
- Owners
- Charterers
- Cargo interests (if appropriate)

How is Blue GA shared?

- Equally along the charterparty chain (if appropriate)
- Equally along the sale contract chain (if appropriate)

What is shared as Blue GA?

- Fuel savings (at bunker market rates)
- Notional cost of the prolongation of the ocean passage (if appropriate) (at TCE market rates)

- Contract rates not shared and confidentiality respected.

BLUE VISBY SOLUTION

Example of financial impact

Segment	Speed reduction kn	CO2 reduction tons / % / new CII			Fuel savings USD*	Ocean Passage Prolongation days / USD**	
Supramax	1.65	109	30%	3.26	21,633	1.0	23,127
Panamax	1.82	105	22%	2.57	19,620	1.5	28,381
Capesize	1.31	178	21%	1.59	33,993	1.6	23,187
LR2	1.28	170	26%	1.80	32,850	0.7	25,966
VLCC	0.33	789	19%	1.71	121,851	1.0	43,281

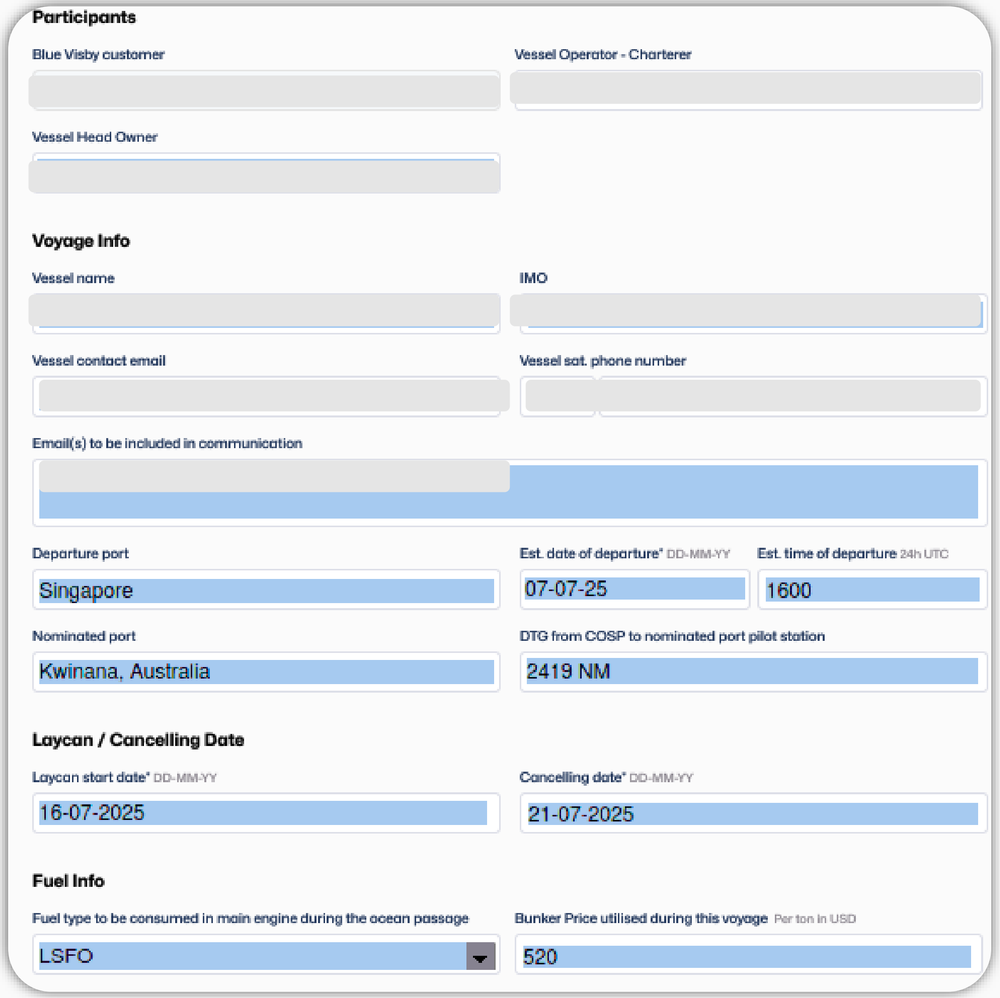
*Globally average bunker prices for LSFO and MGO on a monthly level

**TC rate estimated using five-day average around the departure date using Baltic Exchange reference voyages:
Supramax – 10TC Weighted Timecharter Average
Panamax – 5TC Weighted Timecharter Average
Capesize – Route C10
LR2 – Average of Aframax routes TD7, TD8, TD14, TD19, TD25
VLCC – Average of VLCC routes TD26 TD3C, TD15, TD22

An example from the deployment in Australia

BLUE VISBY
SOLUTION

Blue Visby Questionnaire



Participants

Blue Visby customer

Vessel Operator - Charterer

Vessel Head Owner

Voyage Info

Vessel name

IMO

Vessel contact email

Vessel sat. phone number

Email(s) to be included in communication

Departure port: Singapore

Est. date of departure* DD-MM-YY: 07-07-25

Est. time of departure 24h UTC: 1600

Nominated port: Kwinana, Australia

DTG from COSP to nominated port pilot station: 2419 NM

Laycan / Cancelling Date

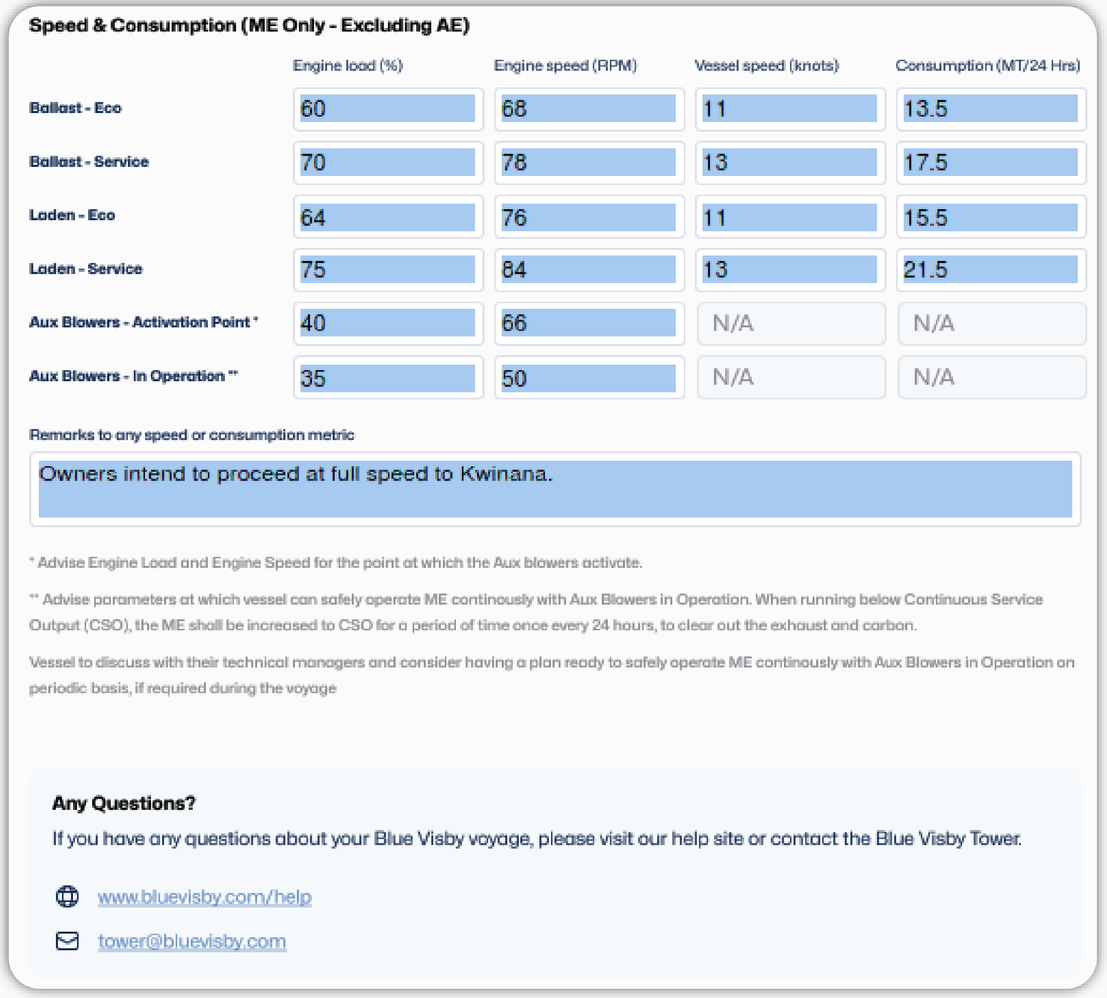
Laycan start date* DD-MM-YY: 16-07-2025

Cancelling date* DD-MM-YY: 21-07-2025

Fuel Info

Fuel type to be consumed in main engine during the ocean passage: LSFO

Bunker Price utilised during this voyage Per ton in USD: 520



Speed & Consumption (ME Only - Excluding AE)

	Engine load (%)	Engine speed (RPM)	Vessel speed (knots)	Consumption (MT/24 Hrs)
Ballast - Eco	60	68	11	13.5
Ballast - Service	70	78	13	17.5
Laden - Eco	64	76	11	15.5
Laden - Service	75	84	13	21.5
Aux Blowers - Activation Point *	40	66	N/A	N/A
Aux Blowers - In Operation **	35	50	N/A	N/A

Remarks to any speed or consumption metric

Owners intend to proceed at full speed to Kwinana.

* Advise Engine Load and Engine Speed for the point at which the Aux blowers activate.

** Advise parameters at which vessel can safely operate ME continously with Aux Blowers in Operation. When running below Continuous Service Output (CSO), the ME shall be increased to CSO for a period of time once every 24 hours, to clear out the exhaust and carbon.

Vessel to discuss with their technical managers and consider having a plan ready to safely operate ME continously with Aux Blowers in Operation on periodic basis, if required during the voyage

Any Questions?

If you have any questions about your Blue Visby voyage, please visit our help site or contact the Blue Visby Tower.

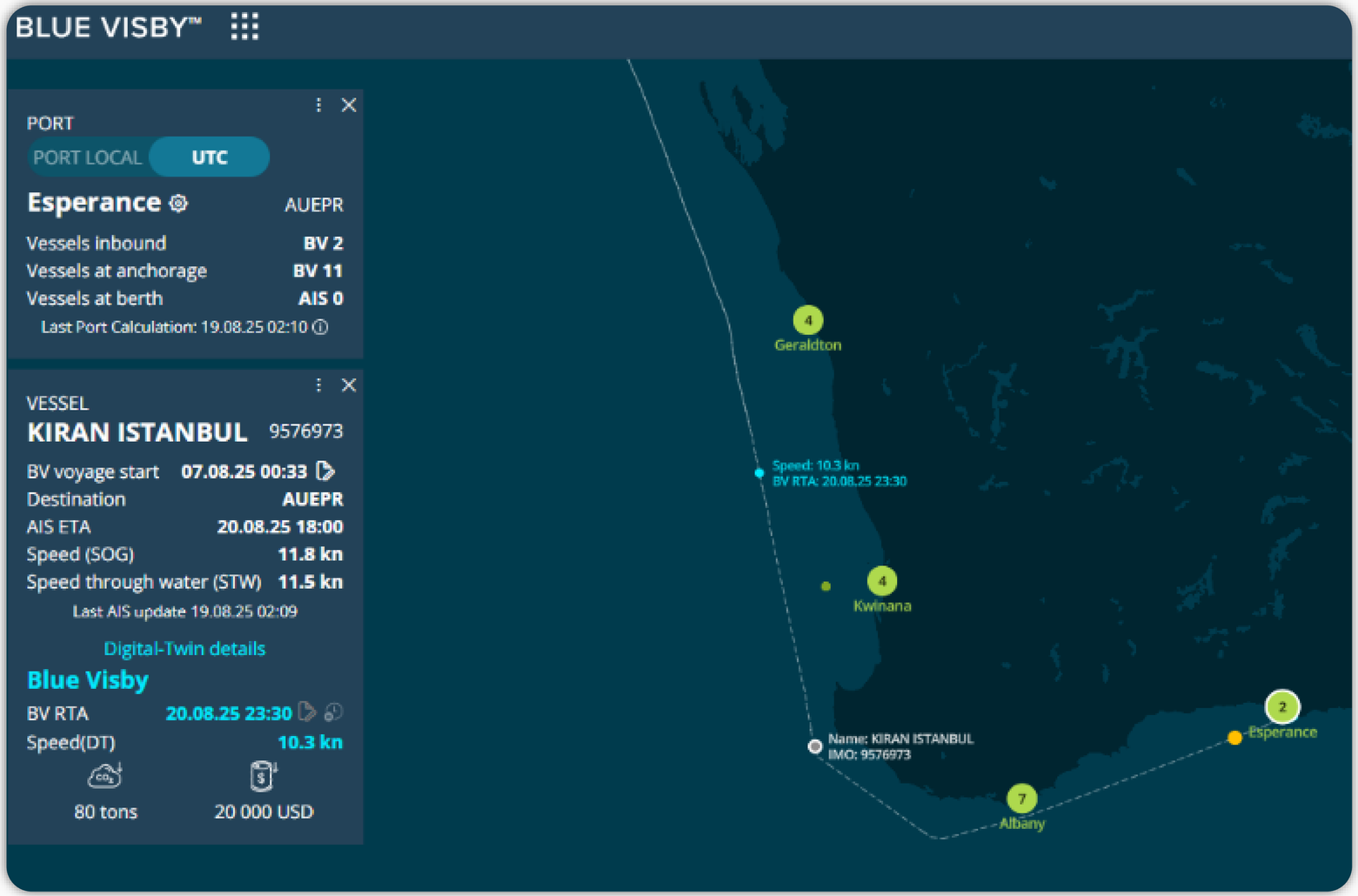
www.bluevisby.com/help

tower@bluevisby.com

BLUE VISBY SOLUTION

Digital Twin Creation using BVQ Information.

Digital Twin follows BAU.



BLUE VISBY
SOLUTION

Blue GA Statement – Voyage Results

BLUE VISBY SOLUTION

BLUE GA - STATEMENT OF OPERATIONS

1. PARTICIPANTS	
Customer (Charterer)	CBH Group
Vessel Owner (Operator)	
Vessel Head Owner	

2. LAYCAN	
Laycan Start Date	16 Jul 2025
Cancelling Date	21 Jul 2025

3. KEY VOYAGE INFO	
Voyage ID	
Customer Reference	
Vessel name	
IMO	
Departure Port	Singapore
Destination Port	Kwinana
Statement Issued by BV Team	21 Jul 2025

4. BLUE VISBY VOYAGE METRICS	
Average Speed	10.1 Knots
Distance Sailed by Vessel	1,629 NM
Commencement of BV Voyage	09 Jul 2025 at 17.30 LT
Completion of BV Voyage	16 Jul 2025 at 10.29 LT
Length of BV Voyage	6.7 Days
AER (CII)	2.86 (A)

5. BUSINESS AS USUAL DIGITAL TWIN METRICS*	
Speed Utilised to Calculate BAU Digital Twin	12.1 Knots
Distance Sailed by BAU Digital Twin	1,629 NM
Commencement of BAU Digital Twin Voyage	09 Jul 2025 at 17.30 LT
Completion of BAU Digital Twin Voyage	15 Jul 2025 at 07.38 LT
Length of the BAU Digital Twin Voyage	5.6 Days
AER (CII)	3.42 (A)

* Business as Usual is calculated based on the Blue Visby Solution Methodology

6. VOYAGE RESULTS	
CO2 Emissions Saved	**65 MT**
AER Improvement (CII)	**16.4 % (A)**
Bunker Fuel Saved Percentage	**18.4 %**
Bunker Fuel Saved Quantity	**20.56 MT**
Ocean Passage Prolongation (Total Days)	**1.12 Days**
Ocean Passage Prolongation within Laydays	**0.44 Days**

Blue GA – Financial Statement in a voyage charterparty

9. BUNKER INFORMATION AS PER BVQ	
Bunker Price	USD 510
Bunker Index Used	N/A
Fuel Type	HFO

10. OCEAN PASSAGE PROLONGATION INFORMATION	
OPP Rate	16844
TCE Index Used	N/A
TCE Rate Used	N/A

11. FINANCIAL RESULTS	
Value of Bunkers Saved	**USD 18,105**
Blue GA Value of Bunkers Saved at 50% (a)	**USD 9,053**
Ocean Passage Prolongation Time After Commencement of Laycan (i)	**0.86 Days**
Ocean Passage Prolongation Rate (ii)	**USD 16,844**
Blue GA Value of Ocean Passage Prolongation (i x ii) = (b)	**USD 14,486**
Amount* (a - b) to be settled between Vessel Owner (Operator) and Charterer	**USD -5,433**

Commercial Deployment – summary of deployment results since December 2024

27.6 MT

Fuel Saved

Average per vessel

$15,043

Cost Savings

Average per vessel

17%

Fuel Savings

Overall reduction

17%

CO_2 Savings

Overall reduction

87.7 MT

CO_2 Avoided

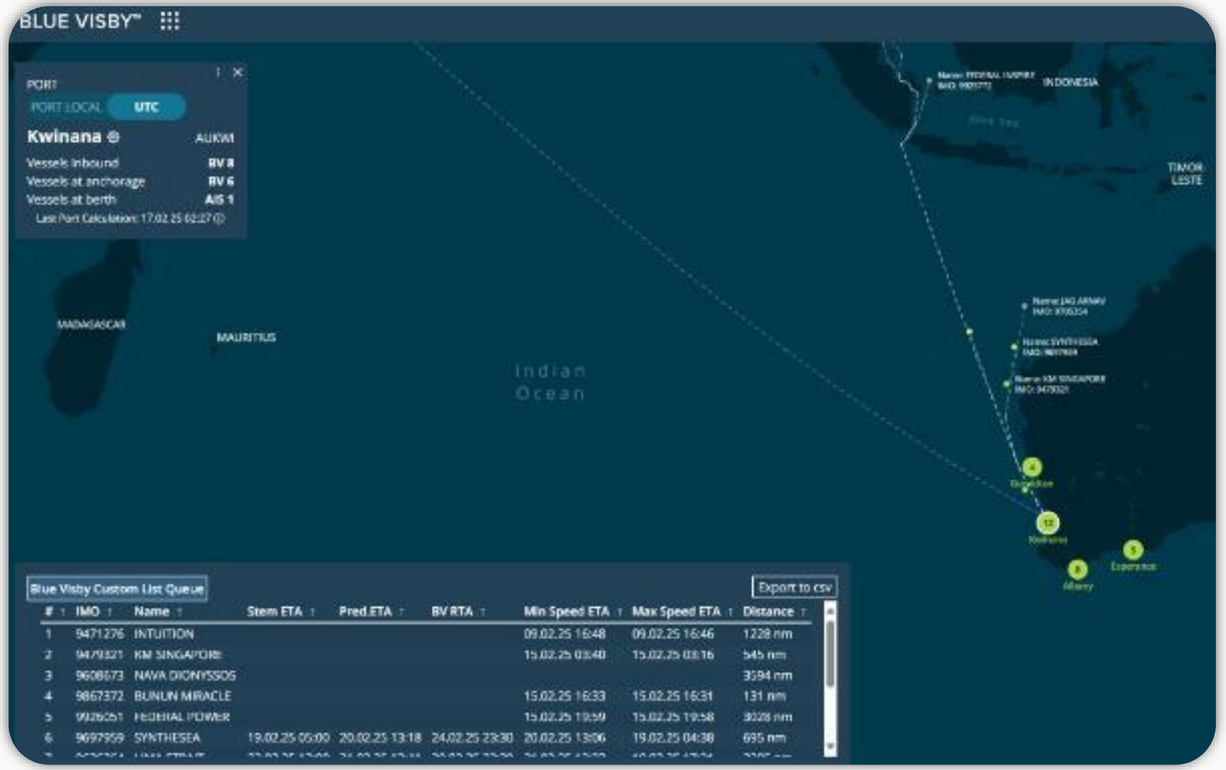
Average per vessel

1.42 days

Anchorage Time

Saved per vessel

- Operating with CBH Terminals at Kwinana, Geraldton, Albany & Esperance.
- 12 Vessels have completed the Blue Visby Voyage under the Program
- **1052 MT of CO2 Emissions Avoided** = Gasoline Powered vehicle driving **108 times** around the Earth



BLUE VISBY SOLUTION

The benefits of the Blue Visby Solution

BLUE VISBY
SOLUTION

Blue Visby Solution – The Benefits

For shipowners

- 15-20% CII improvement without capex – in addition to any other improvements through voyage planning and retrofits.
- EEOI improvement
- Share of Blue GA, improving P&L

For charterers and cargo shippers and receivers

- 15-20% improvement in Scope 3 emissions
- EEOI/SCC improvement
- Share of Blue GA, improving P&L

For the environment

- 15-20% GHG reductions
- 15% carbon budget reduction (Manchester **University)**
- 40% reduction in whale strike risk and 45% reduction in noise pollution (Ocean Conservancy)
- Global air pollution reduction and mortality improvements (Hong Kong University of Science & Technology)

For ports

- Safety improvement through reduction in anchorage congestion
- Local air pollution reduction
- Improvement in Scope 3 emissions

BLUE VISBY SOLUTION

From concept to deployment

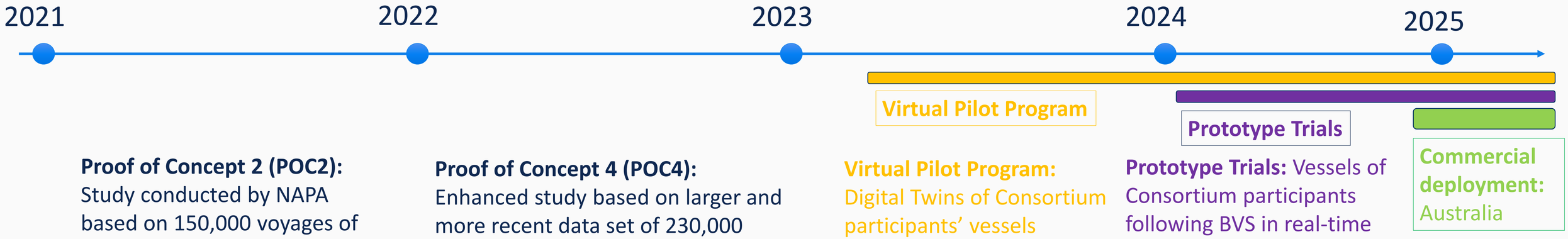
BLUE VISBY
SOLUTION

Blue Visby R&D stages, leading to commercial deployment in Q1 2025

Proof of Concept 1 (POC1): Academic study based on 14,000 voyages in 2018.

Proof of Concept 3 (POC3): Series of studies of the fleet of Consortium members, compared against the benchmark of POC2.

Proof of Concept 5 (POC5): Series of studies of the fleet of Consortium members, compared against the benchmark of POC4.



Proof of Concept 2 (POC2): Study conducted by NAPA based on 150,000 voyages of 14,000 ships in 2019 in real operating conditions.

Proof of Concept 4 (POC4): Enhanced study based on larger and more recent data set of 230,000 voyages of 21 000 ships in 2021-23.

Virtual Pilot Program: Digital Twins of Consortium participants' vessels simulated following BVS in real-time.

Prototype Trials: Vessels of Consortium participants following BVS in real-time and real-life, with contracts amended and Blue GA operating

Commercial deployment: Australia

BLUE VISBY SOLUTION

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CBH and Blue Visby forge landmark partnership for sustainable shipping

18/12/2024

The CBH Group has marked a significant milestone in sustainable shipping by becoming the first global customer of the Blue Visby Solution.

The partnership follows CBH and Blue Visby's successful trial in early 2024, which achieved significant carbon emissions reduction results of up to 28 per cent.

It signals Blue Visby's transition from research and development into commercial deployment, setting the stage for an innovative approach to maritime transport that promises significant environmental and operational benefits.

The collaboration will initially involve a portion of this year's CBH Marketing & Trading shipments from Kwinana Grain Terminal, covering a variety of commodities.

By adopting the Blue Visby Solution, CBH aims to optimise shipping operations, reduce costs, and achieve measurable CO_2 reductions. The partnership aligns closely with CBH's broader sustainability goals, emphasising its commitment to minimising greenhouse gas emissions throughout its supply chain.

"We're proud to be at the forefront of this initiative," said CBH's Head of Shipping Pia Van Wyngaard.

"Partnering with Blue Visby is a milestone in our ongoing commitment to sustainability, operational efficiency, and safety. This technology not only enhances our shipping processes but also reinforces our dedication to reducing greenhouse gas emissions."

The test of reality

The first company to adopt Blue Visby to optimise vessel arrivals at its ports tells **Ariane Morrissey** what ending 'sail fast then wait' to reduce GHG emissions looks like in real-life operations

January 2025: a bulk carrier arrives at CBH's Kwinana grain export terminal, on Australia's West Coast. Nothing unusual at first glance, but the moment is nonetheless significant. The vessel has become the first to implement, in commercial operations, a new system that vows to end the practice of 'sail fast then wait' to reduce greenhouse gas (GHG) emissions from shipping.

That system is called the Blue Visby Solution. In a nutshell, it gives the ship's captain an optimal time of arrival, updated daily, which takes into account the levels of congestion at the port and other vessels sailing to the same destination. This enables the vessel to slow down, thereby reducing its fuel consumption and associated GHG emissions, and spend less time at anchorage before loading its grain cargo.

This first commercial use of Blue Visby is being spearheaded by CBH Group, a Western Australian co-operative of grain growers, which charters the vessels and also owns the export terminals. The organisation has deployed the system on a portion of its shipments since the start of the year, after a series of prototype trials in 2024 achieved emissions reductions of up to 28%, and 17% on average.

The Head of Shipping at CBH, Pia Van Wyngaard, is pleased with the early results of real-life operations. 'From the first look, what we can say is that the reductions are in line with what was predicted, which we're super happy with,' she said. 'The voyages we've done so far seem to be very much in line with what we were hoping for.'

A SMALL-SCALE START

The company started using Blue Visby on a small scale, she explained, by working with a handful of shipowners on selected inbound ballast voyages to its busiest port, Kwinana.

Like all CBH ports, the terminal was already operating a 'stem' system which gives incoming vessels the order in which they will be loaded. The aim was for Blue Visby to integrate with the stem and give each ship an optimal arrival time, which is updated in real time if operations at the terminal are delayed by bad weather, for example. This enables ships to adjust their speed throughout their voyage and ultimately spend less time at anchorage, whilst ensuring that they don't lose their place in the queue and are ready for hold inspection and then grain loading when the port is ready to berth them.

'We need to ensure that the grain gets out and we are not interfering with the stem. This is the priority,' Van Wyngaard emphasised. 'So, we've been quite selective on which voyages we are taking up into the Blue Visby programme.'

The initial voyages went smoothly, and the system was soon implemented in other CBH ports, including Geraldton and Albany. Today, the company's Head of Shipping sees a difference in the numbers of vessels idling outside terminals, which has gone down. 'It has eased the waiting times of vessels sitting there and doing literally nothing,' she said.

Whilst the plan was always to limit Blue Visby to a minority of ship owners this year, she would like to see it extended to all CBH shipments eventually. 'I'm being quite careful on not overwhelming everyone,' Van Wyngaard explained.

ALL PARTIES 'BETTER OFF'

The masters, owners and operators of the vessels chartered by CBH have broadly embraced the concept, Pia Van Wyngaard reported. 'We've had good feedback.'

What has been driving this uptake, according to her, is the sharing mechanism at the heart of Blue Visby, which allows the fuel savings resulting from slower sailing speeds to be shared between all parties.

'Everyone can see a benefit in this,' she highlighted. 'It's very hard for someone who is commercially driven to say "No, we don't want to be part of this" because it does make sense.'

'Overall, everyone is financially better off with that system,' she added. 'We've learned that with just operational tweaks, by doing things a bit better than you would do, you can have great outcomes and achievements, not just in emission savings, but also on the P&L, so regarding cost savings.'

'Everyone can see a benefit in this. It's very hard for someone who is commercially driven to say "No, we don't want to be part of this" because it does make sense'

BLUE VISBY SOLUTION

“The shipping industry should do two things: adopt electronic bills of lading and adopt the Blue Visby Solution”

Nikolaus H. Schues, BIMCO President
interview with Lloyds List, September 2023

The Blue Visby Solution delivers meaningful reductions in CO_2, while making sure that “all parties are better off” financially.

BLUE VISBY
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Presentation to IUMI
3 September 2025

Thank you!

✓ Feedback survey

✓ next Webinar 24 September 2025:
Loss Prevention in Charterers' Liability

✓ Masterclass Cargo & Hull Insurance October 2025
– registration still open.