

WEBINAR



NAVIGATING

EUETS

CHALLENGES TO OPPORTUNITIES



15TH FEB



11 AM - 12.30PM (CET)

ORGANISED BY:



Varuna Marine Services

SMART SUSTAINABLE SHIPPING

MODERATORS



Ms. Ipar Waili

Sustainability and Business Development Manager
Varuna Marine Services B.V.



Ms. Richa Dutt Nandan

Marketing Manager
- Varuna Marine Services B.V.

BEFORE WE START...



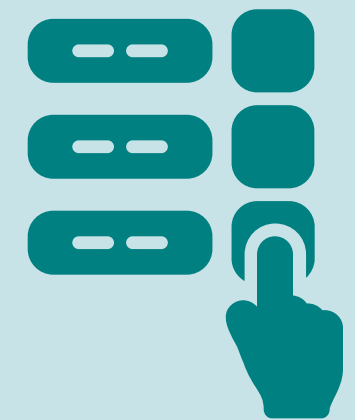
The webinar will run about 1 hour. Last 15 mins for Q&A.



The webinar will be recorded, and the recording will be shared after the webinar.



Feel free to use the Q&A function to send your questions anytime during the webinar



During the webinar, we will conduct polls to gather your opinions

OUR PANELISTS



MR. SIMEON SIMEONOV

Carbon & Commodities Trader

ACT COMMODITIES GROUP



MR. KIM DONGGI

Deputy Senior Surveyor

KOREAN REGISTER



MR. SANJEEV WEWERINKE SINGH

General Manager

VARUNA MARINE SERVICES B.V.

POLL 01

1. What is the primary objective of the EU ETS?

- To reduce greenhouse gas (GHG) emissions in the maritime industry
- To promote operational efficiency for shipping companies
- To enhance innovation and decarbonization efforts
- All of the Above

A photograph of a wooden pier extending into a calm blue sea under a bright, hazy sky. The pier is made of light-colored wooden planks and runs from the bottom center towards the horizon. The water is a deep blue with gentle ripples. The sky is a mix of light blue and white, suggesting a bright, overcast day. The overall mood is serene and contemplative.

WHAT'S NEXT??

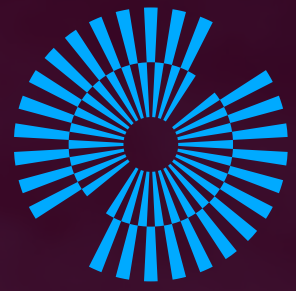
INTRODUCING OUR FIRST PANELIST



MR. SIMEON SIMEONOV

Carbon & Commodities Trader

ACT COMMODITIES GROUP



ACT

The Maritime Sector in The EU ETS





We Are ACT Group

ACT Group provides *tailor-made, end-to-end decarbonization solutions* that have helped thousands of organizations hit compliance targets, achieve their environmental goals, and navigate environmental markets, products, and policies globally for the last 14 years.

ACT's Maritime Solutions *Team*

ACT Financial Solutions

An MiFID-II regulated carbon trading firm providing you with:

- Market access & information
- Liquidity
- Procurement strategy support

We ensure you meet EU ETS obligations as efficiently as possible.

ACT Fuels

A fully vertically integrated producer and supplier of physical biofuels. We help you meet obligations by lowering your emissions with physical marine biofuels.

ACT GROUP BV
HQ Amsterdam, NLD

ACT COMMODITIES SAS
PARIS, FRA

ACT COMMODITIES BV
AMSTERDAM, NL

ACT FUELS BV
AMSTERDAM, NL

ACT COMMODITIES Co. Ltd.
SHANGHAI, CHN

ACT SOLUTIONS APAC Pte. Ltd.
SINGAPORE, SGP

ACT COMMODITIES Inc.
NEW YORK, USA

ACT FINANCIAL SOLUTIONS
AMSTERDAM, NL



THE EU ETS

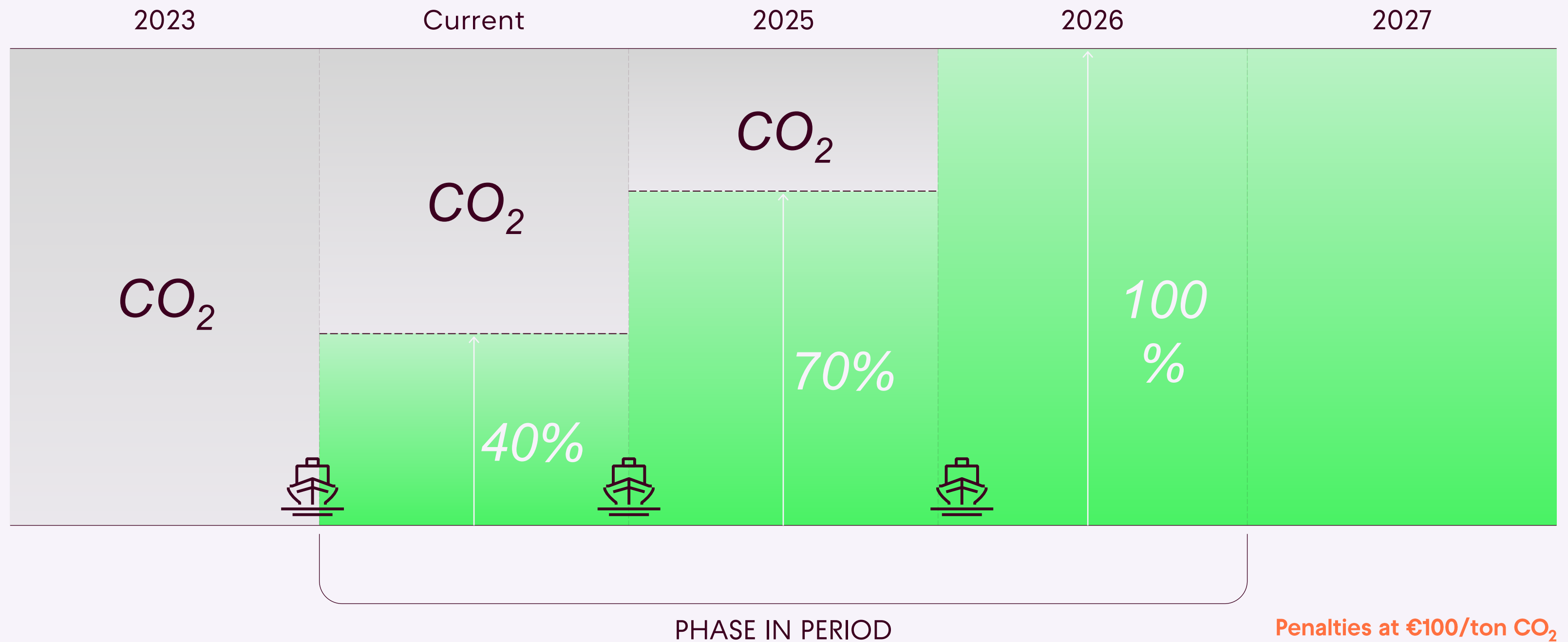
EU Emissions Trading System for Maritime Shipping

- Ships *above 5,000 GT* will be subject to EU ETS from 2024
- *Offshore ships* above 5,000 GT will be included starting in 2027
- Into & out of EU/EEA - *50%* of voyage emissions subject to EU ETS
- For intra-EU/EEA port calls - *100%* of voyage emissions subject to EU ETS
- Cargo and offshore *ships (400 - 5,000 GT)* evaluated for use of ETS by 2026



THE EU ETS

CO₂ Allowances for Vessels to Be Purchased From ETS, Starting With *40% In the First Year*





THE EU ETS

EU ETS — Overview of EUA *Market Supply*

Primary *Market Auctions*

- Daily sales of EUAs by EU MS via European Energy Exchange (EEX)
 - Clearing bank & financial services license required
- Revenues from 20 million EUAs shipping-specific projects from Innovation Fund
 - Remainder to EU MS for climate and energy-related projects

Free *Allocations*

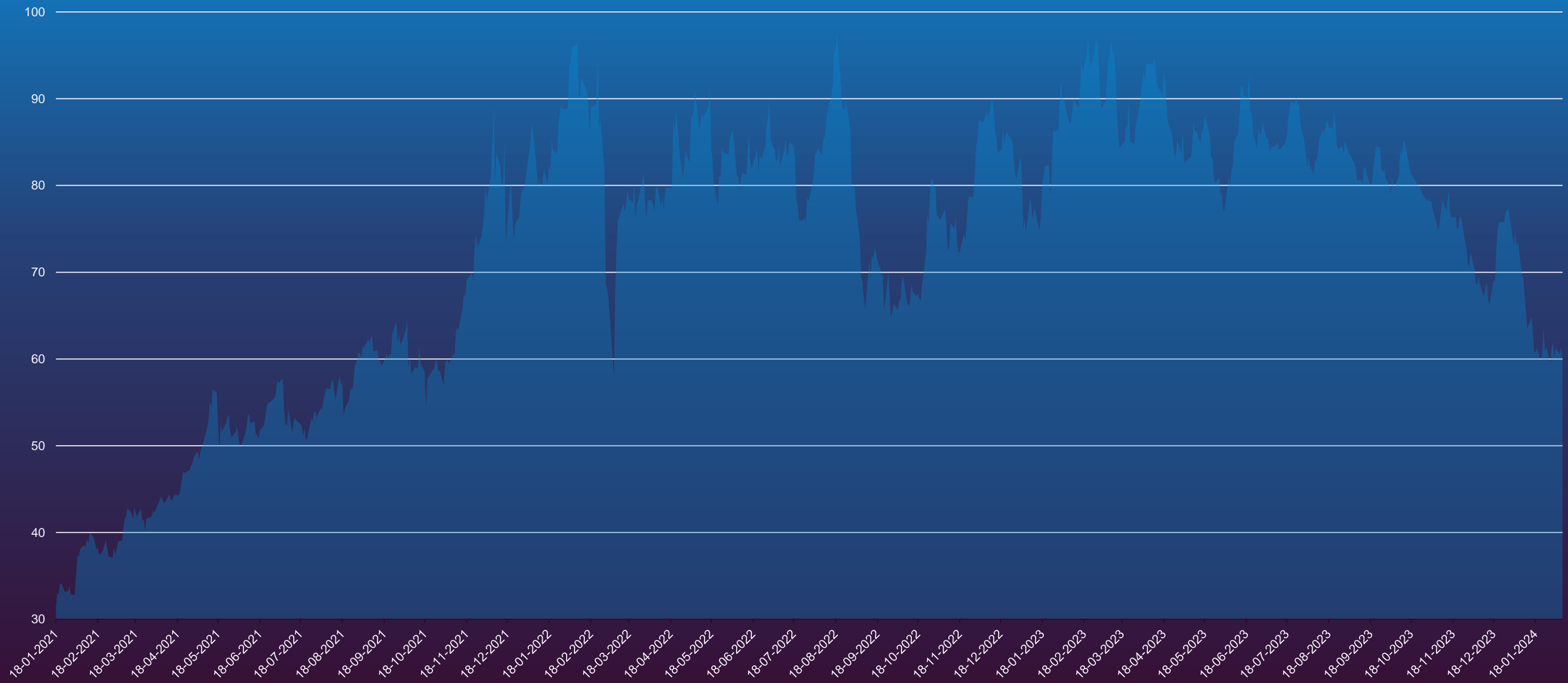
- Free allowances issued to operators
 - Prevent carbon leakage
 - Easing financial burden of green transition
- Number of free allowances lowered every year until 2035 (zero allowances available)
- Free allocations will not be issued for Maritime industry

Secondary *Market Trading*

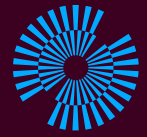
- Functions like the stock market
- EEX & ICE - secondary markets for EUAs

Price Development

2023	2024	2025	2026	2027	2030
€85.40	€72.85	€80.67	€99.63	€114.74	€144.01



1
3



The Specifics of the Maritime Industry

Who is Responsible?

The registered Ship-owner or, through contractual obligations, the Ship Management.

- For all the vessels in the fleet
- In aggregate

How to Comply?

- By surrendering the EUAs needed to cover your emissions from your Maritime Operator Holding Account to the relevant authorities.
- In aggregate for all the vessels in the fleet of the owner/ship management
- Without earmarking allowances to specific vessels.
 - Meaning: either the entire fleet is compliant or
 - The entire fleet is non-compliant



The EU ETS

BIMCO Terms

- The *Ship Owner* will monitor the emissions
- The *Charterer* will transfer the allowances to the Owners account
- On a *Monthly* basis - retroactively
- Owner and Charter will have to agree on the emissions created
- Emissions outside the agreement will need to be compensated by the Owner
- The Charterer has to transfer the allowances *7 days* after the notification



EUA Procurement Methods



NAVIGATING EUA PROCUREMENT

Procurement *Approaches*

Spot Transaction — *the simplest approach*

Most straightforward way to hedge EUA requirements.

Industry standard is to settle the payment within 2-5 business days.

Forwards — *managing cashflow*

Forward purchasing manages future budgetary risk and reduces upfront cash outlays.

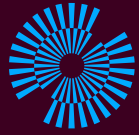
Delivery and payment for the EUAs occur at expiry.

In the meantime, you may be subject to margin payments to maintain the position.

Options — *hedging against market risks*

An effective way to hedge against market risk is through purchasing an option.

Delivery and payment for the EUA only occur after expiry and if you exercise the option.



Minimize uncertainty and administrative burden with *ACT's EUA custodial & storage services*

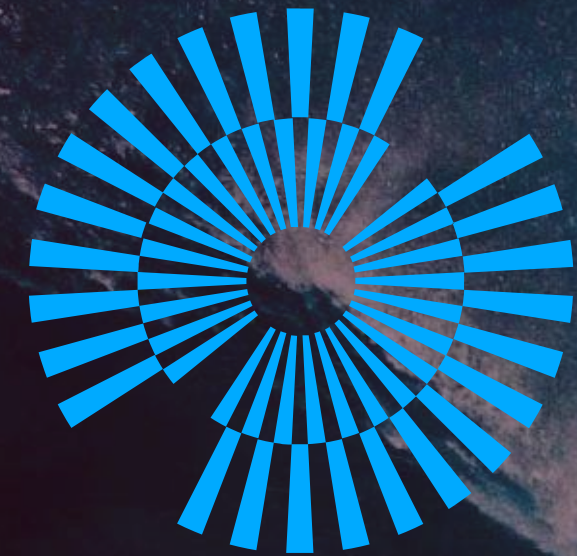
To limit the uncertainty regarding the chain of obligations, ACT offers a tailor-made solution that:

- Holds EUAs in the name of a counterparty in our custody foundation
- Proves ability to comply with contractual obligations without risking a transfer
- Safeguards their EUAs until future delivery obligations
- Eliminates their need to open an EU ETS account while still being able to facilitate transfers at any given time

Use our custody accounts for *easy EUA storage*



EUA Procurement Strategies



EUA Procurement Strategy in *3 Steps*

STEP 1

De-Risk and establish trading capabilities in the short-term

Establish an accurate representation of your carbon pricing:

- Understand what your carbon exposure is going to be
- Understand when you need to fix the carbon price

For clients that book a voyage ad hoc:

- Set up ability to quickly lock in a carbon price via RFQ with ACT.
- Send request to our traders and hedge a carbon price within seconds.

For clients that have a long term agreement:

- Try to make the best possible market reflection by building an average
- Try to establish the amount of carbon allowances needed over a period and use that period to procure daily/weekly tranches of EUAs.
- This will avoid highs and create a more realistic reflection of the carbon price during that time.



EUA Procurement Strategy in *3 Steps*

STEP 2

Optimize EUA procurement for the coming years

Set up strategy meetings with ACT professionals:

- Understand the necessity of hedging
- Inform you about regulatory changes and expected EUA movements
- Understand the price drivers and market movements of EUAs.

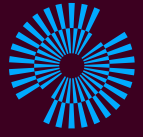
With that knowledge we can then establish suitable procurement options for the future, e.g.:

- Use of derivatives/forwards (improve usage of working capital, REPOs, Option Corridors)
- Weighted average procurement options (Use our trading capabilities)
- Long term procurement contracts for EUAs and Fuel (enable flexibility with Biofuels)



Procuring Biofuels

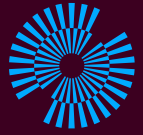
Understanding Supply and Demand Dynamics
and How to Get Ahead of The Curve



Biofuel Supply & Demand *Dynamics*

1. Sustainable biofuels are made from different types of feedstock that are a finite source
2. With RED III starting in 2024, the obligation to blend biofuels in road and aviation transport will increase
3. FuelEU maritime begins in 2025, which will make it mandatory for marine fuels to be blended with biofuels

That's why it is important to begin securing volumes *this year*



PROCURING BIOFUELS

Securing Biofuel Volumes With ACT

ACT is both a producer and supplier of physical biofuels that can significantly reduce your emissions.

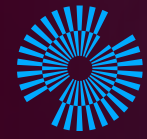
All of our drop-in biofuels are ISCC-certified and waste/residue-based.

We can guarantee long-term and reliable biofuel delivery.

We can blend the biofuels ourselves with Fuel oils and Gas oils, specified to the Shipowner's needs.

We are currently active in ARA and developing bunker operations in the Mediterranean and Singapore.

The ACT Maritime Solutions team can provide you with *flexible volumes of both EUAs and biofuels* depending on price and Shipowner preference for a holistic maritime compliance strategy.



Contact the ACT experts to get
your efficient maritime
compliance strategy started
today.

Simeon Simeonov
ssimeonov@actcommodities.com
(+31) 6 296 986 52

Thank
you

WEBINAR



NAVIGATING

EUETS

CHALLENGES TO OPPORTUNITIES



15TH FEB



11 AM - 12.30PM (CET)

ORGANISED BY:



Varuna Marine Services

SMART SUSTAINABLE SHIPPING

MEET OUR SECOND PANELIST



MR. KIM DONGGI

Deputy Senior Surveyor

KOREAN REGISTER



Exceptional
Technology
Extraordinary
Service



Dedicated to Safety, Committed to Quality

EU ETS on Maritime Sector

2024. 02. 15.

KIM Donggi
Deputy Senior Surveyor
Korean Register

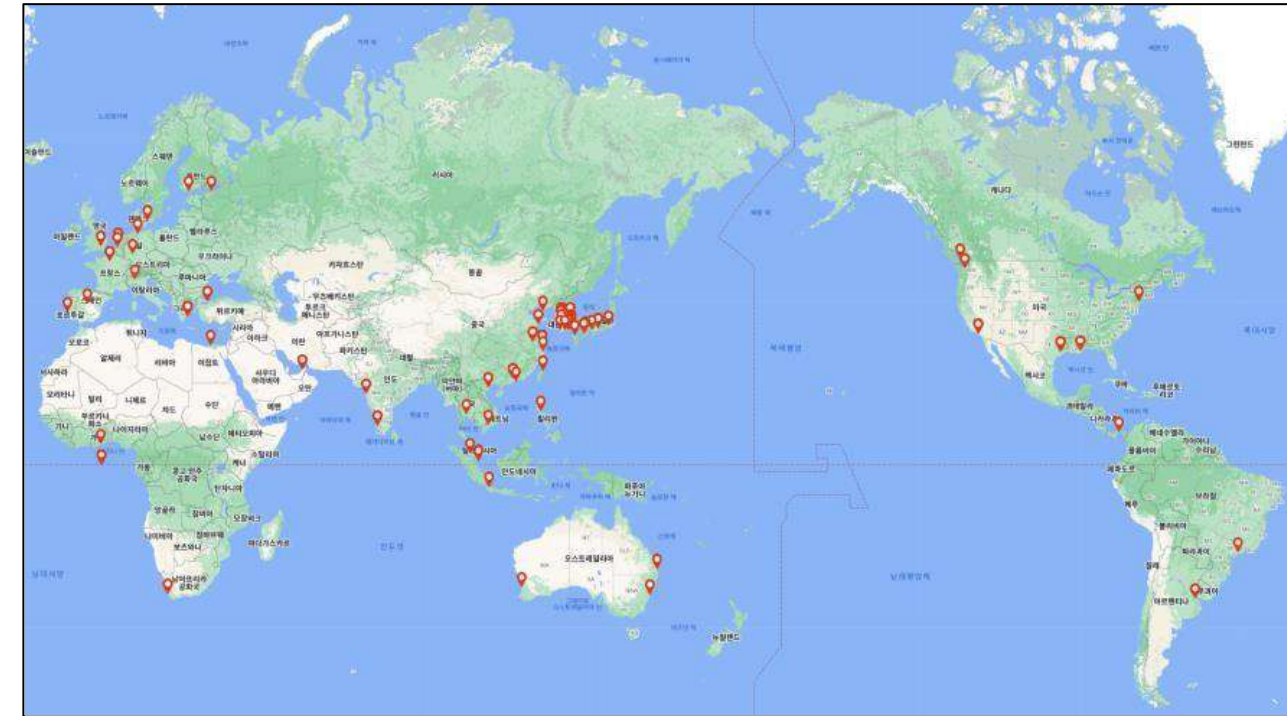
Korean Register

Introduction

- **History**
 - Founded in **1960**
 - A member of the **International Association of Classification Societies(IACS)** since **1988**
 - Authorized by over **80 flag states**

- **Services**
 - **Ship classification, environmental protection, certification, R&D, naval services, etc.**
 - Statutory surveys and certifications through its **network of over 60 offices**

- **GHG verification services**
 - KR provides the **EU MRV/ETS** and **UK MRV** verification services
 - ✓ EU MRV/ETS – accredited by DAkkS (German Accreditation Body)
 - ✓ UK MRV – accredited by UKAS (The UK Accreditation Body)
 - KR provides the **IMO DCS/CII** verification services



[KR Service network]



Maritime EU ETS

Introduction

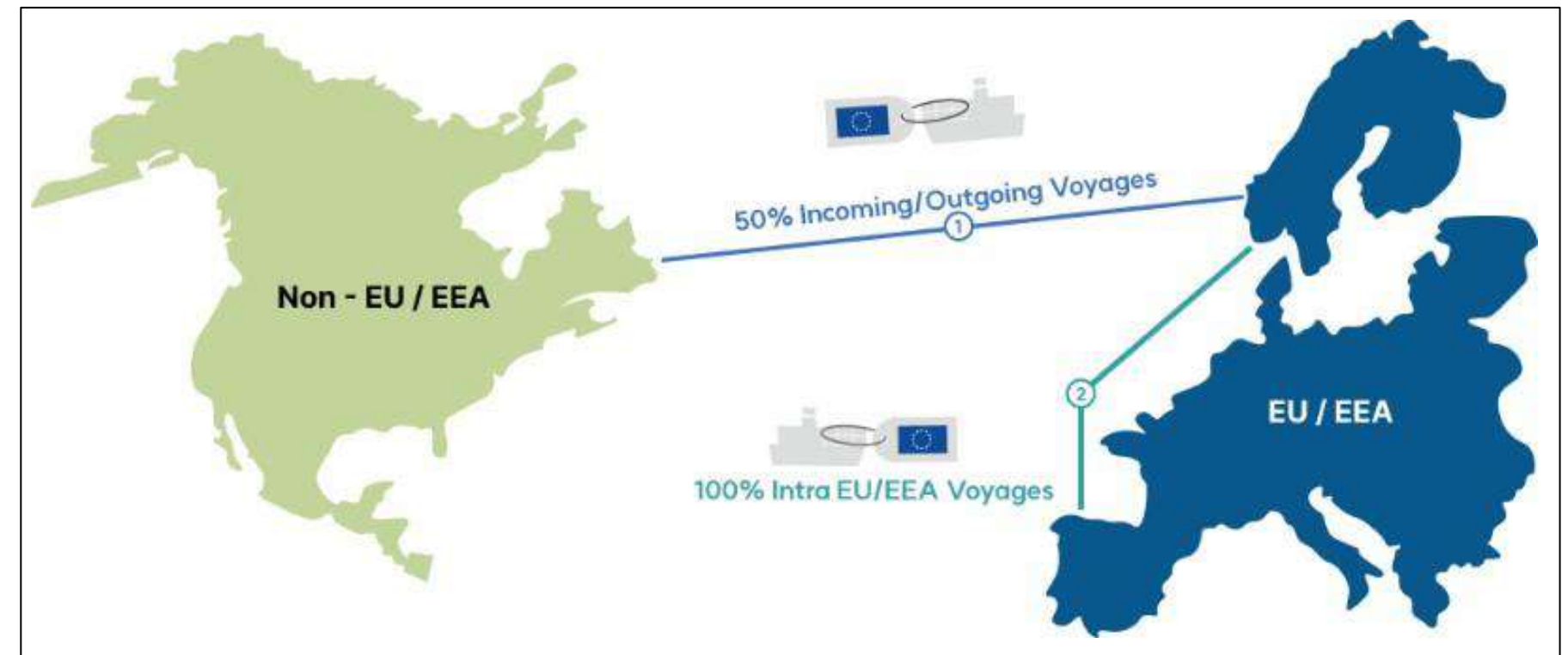
- **Applied ships**
 - Ships above **5000 GT from 2024**
 - Include **general cargo ships** and **offshore ships** above **400 GT** in **MRV from 2025**
 - Review the inclusion of **general cargo** and **offshore ships above 400 GT** in **EU ETS by 2026**

- **GHG emissions**
 - **CO2** from **2024**
 - Include **CH4** and **N2O** in **MRV from 2024** and **EU ETS from 2026**

- **Allocation of Allowances and Application of Surrender**
 - **50%** of **extra-EU** voyages and **100%** of **intra-EU** voyages

- **Surrender Allowances (to administering authority):**
 - **40%** for **2024** emissions (surrender in 2025)
 - **70%** for **2025** emissions (surrender in 2026)
 - **100%** from **2026** emissions (surrender from 2027)

- **Penalty for non-compliance**
 - **EUR 100** for tonne of CO2eq not surrendered
 - Company shall **surrender the allowances** which were not surrendered **in the following period**
 - **Member state may issue an expulsion order** for ships **violating requirements for two consecutive years**



Maritime EU ETS

Introduction

- **Administering authority (AA)**
 - Commission established a **list** of the administering authority for each shipping company **on 31 January 2024** and **update** the list **every two years**
 - ✓ A shipping company **registered** in a Member State → the **Member State**
 - ✓ A shipping company **not registered** in a Member State → the Member State **with the greatest number of port calls** performed by the shipping company in the **last four monitoring years with THETIS-MRV records**
 - ✓ A shipping company that is **not registered** in a Member State **and** that **did not carry out any voyage** in the preceding four monitoring years → the Member State where a ship of the shipping company has **arrived or started its first voyage**
- **Responsibility of ETS and MRV**
 - **Shipping Company (ship owner or ISM company)**
- **Passing on the ETS costs**
 - **Member States** shall take the necessary **measure** to ensure that the shipping company is entitled to **reimbursement** from that entity for the costs arising from the **surrender of allowances**
 - ✓ **(Another Entity)** entity has the ultimate responsibility for the **purchase of the fuel** and/or the **ship operation** (cargo carried and/or route and speed)
- **Neighbouring container transshipment ports**
 - **East Port Said(Egypt)** and **Tanger Med(Morocco)** were designated
 - Stops of **containerships** in a neighbouring container transshipment are **excluded from “Port of Call”**
 - ✓ Exceeds 65% of the total container traffic during the twelve-month period
 - ✓ Ports located outside EU but less than 300 nautical miles
 - ✓ Unloaded from a ship to the port for the sole purpose of loading containers on another ship

Maritime EU ETS

Relevant issues

- **Calculation of GHG emissions (MRV)**

$$GHG_{MRV} = CO_{2MRV} + CH_{4MRV} \times GWP_{CH_4} + N_2O_{MRV} \times GWP_{N_2O}$$

$$CO_{2MRV} = \sum_i (M_i - M_{i,NC}) \times EF_{CO_2,i} \quad CH_{4MRV} = \left[\sum_i (M_i - M_{i,NC}) \times EF_{CH_4,i} \right] + CH_{4S} \quad N_2O_{MRV} = \sum_i (M_i - M_{i,NC}) \times EF_{N_2O,i}$$

$M_{i,NC}$	Total mass of fuel i not combusted, but released into the atmosphere. $M_{i,NC} = \sum_j \sum_k M_{i,j} \times C_j / 100$
CH_{4S}	Amount of CH_4 not combusted but released into the atmosphere. For the purpose of determining such amount, companies shall apply the following formula: $CH_{4S} = M_{i,NC}$

- **Emissions factor**

- Existing Fuels: **TtW** factor and **fugitive and slipped** emissions of **FuelEU Maritime**
- Biomass: If meet **Sustainability** and **GHG Saving** Criteria, emission factor is **Zero (0)**
- **RFNBO & RCF**: Determined in accordance with **implementing acts**

* RFNBO: Renewable Fuels of Non-Biological Origin / RCF: Recycled Carbon Fuel

- **CCUS(Carbon Capture, Utilization and Storage)**

- CO2 emissions captured by CCUS to be **deducted**

- **Special Rules and Derogations**

- Ice Class Vessels (IA, IA Super or equivalent class, until Dec 31st, 2030) : Surrender **5% fewer allowances**
- Island Connectivity & Transnational Public Services Obligation (By **Ro-pax, passenger ship**, until Dec 31st, 2030) :
 - ✓ **No allowances for emissions** voyage and port stays for island-to-mainland
- **Outermost Regions** : **No allowances for emissions** voyages between a port in an outermost region and a port in same EU Member State

Maritime EU ETS

Timeline of compliance

(Company, within 40 business days from 31 Jan 2024) Request to open **MOHA(Maritime Operator Holding Account) to administering authority** with supporting documents

* **for shipping companies not included in the AA list, within 65 working days** of the first port of call falling within the scope of the ETS Directive

(Company, by Mar 2024) Update and assessment of **monitoring plan** for each ship including CH4 and N2O by verifier, **Assessed monitoring plan** to be submitted to AA

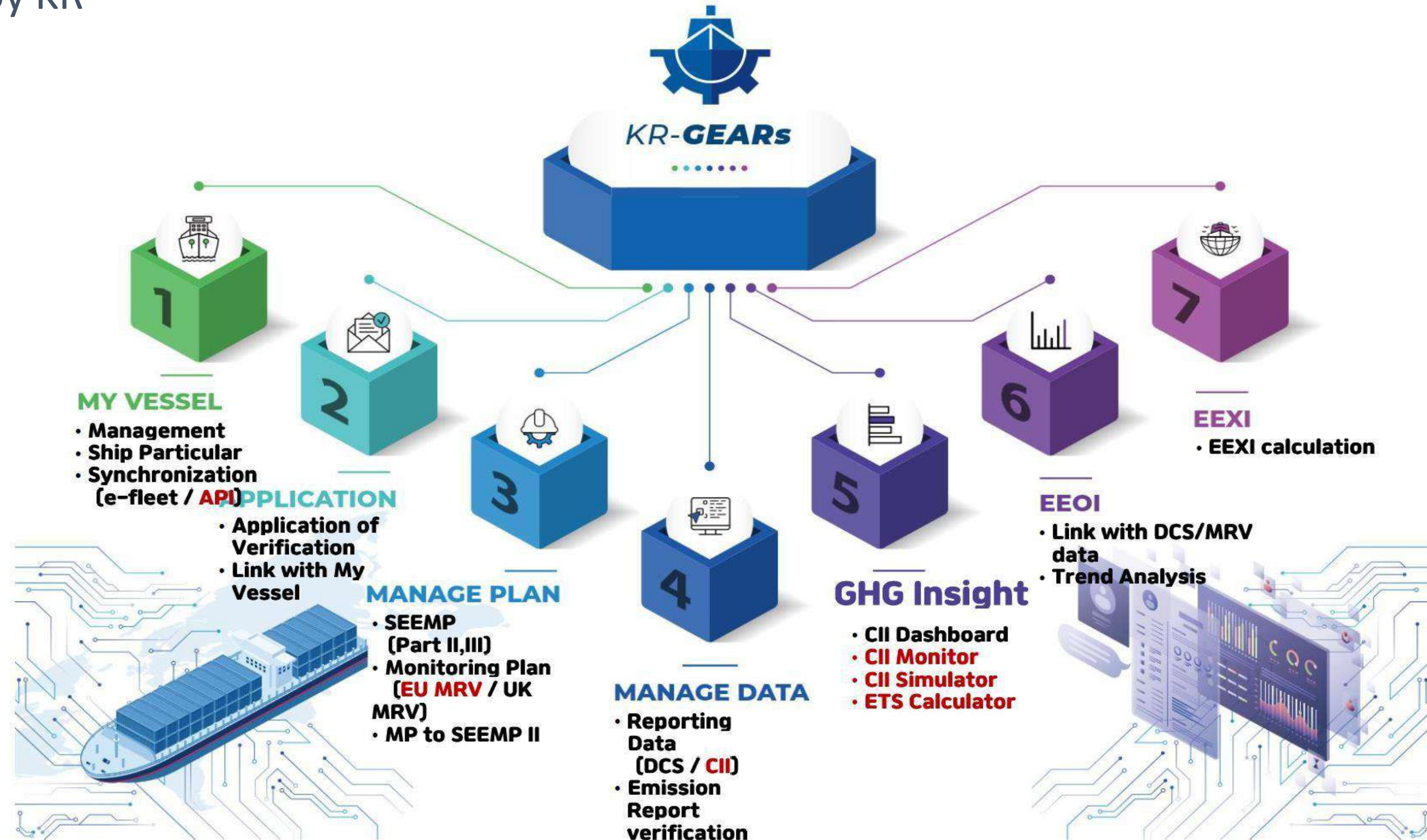
(Company, From 2025 and by Mar) Submission of **verified emission report (CO2, CH4 and N2O)** in previous reporting period for each ship and **at company level** to administering authority etc.

(Company, From 2025 and by Sep) Surrender of **allowances equal to emissions** at company level in previous reporting period

- In 2025, 40% of verified emission reported for 2024 (only CO2)
- In 2026, 70% of verified emission reported for 2025 (only CO2)
- From 2027, 100% of verified emission reported for 2026 and each year thereafter (CO2, CH4 and N2O)

KR GEARS

Services by KR



KR GEARs - EU ETS

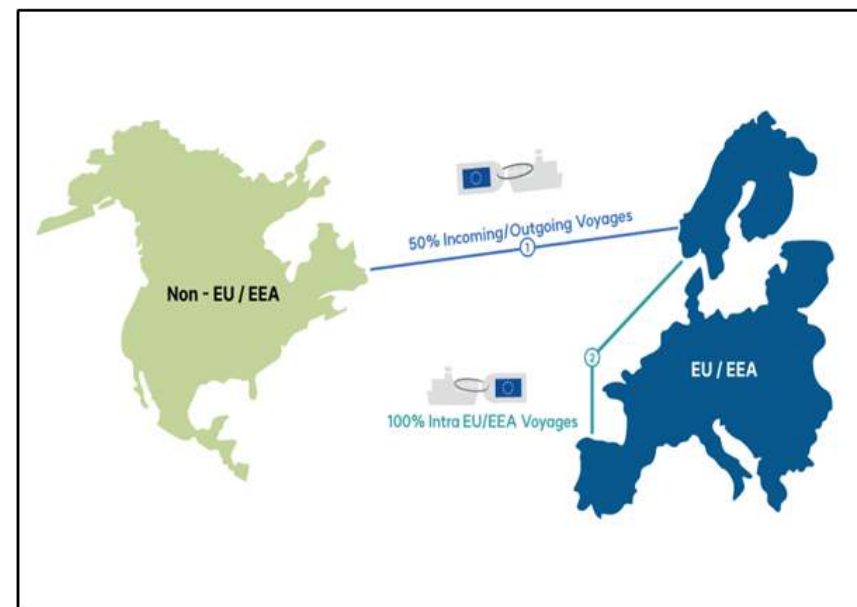
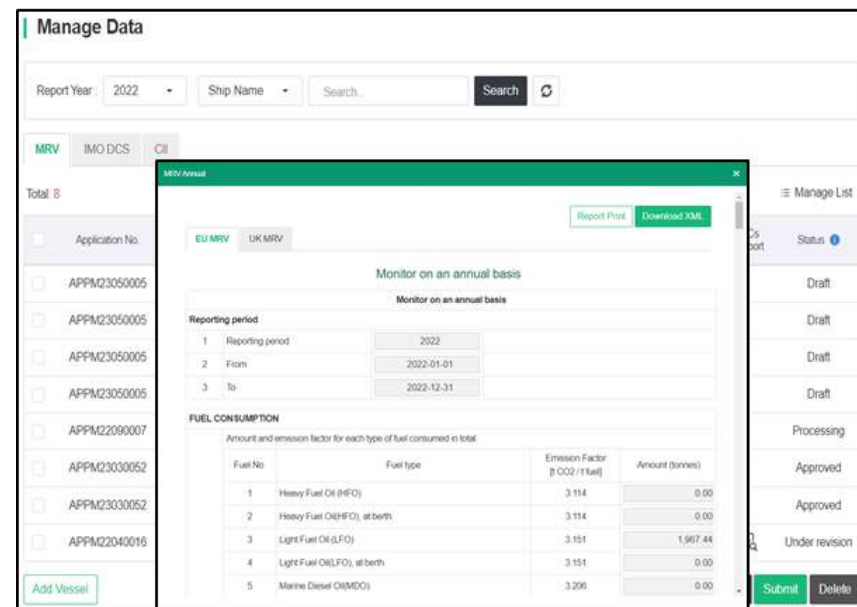
ETS emissions and Company Emission Report

Requirements

- **GHG emissions accounting**
 - EU MRV: **100%** of extra-EU and intra-EU voyage
 - EU ETS: **50%** of extra-EU voyage and **100%** of intra-EU voyage
- **Company Emission Report**
 - Company shall submit emission report for each ship and **at company level**

KR GEARs Solutions

- With your EU MRV data, GEARs can **automatically** calculate **GHG emissions for EU ETS** considering each voyage type and create **Company Emission Report**



Parameters		
1	Total fuel consumption (Tons)	1,736.88
2	Total CO2 emissions (Tons)	5,516.07
3	CO2 emissions from all voyages between ports under a Member State's jurisdiction (Tons):	59.96
4	CO2 emissions from all voyages which departed from ports under a Member State's jurisdiction (Tons):	2,448.53
5	CO2 emissions from all voyages to ports under a Member State's jurisdiction (Tons):	2,126.92
6	CO2 emissions which occurred within ports under a Member State's jurisdiction at berth (Tons):	880.66
7	Total distance travelled (nm):	11,409.30
8	Regular navigation (nm):	11,409.30
9	Through ice (nm):	0.00
10	Total time spent at sea (hours):	971.40
11	Regular navigation (hours):	971.40
12	Through ice (hours):	0.00
13	At anchorage (hours):	313.00
14	Total transport work (tn*nm):	221,955.20

Average energy efficiency		
1	Fuel consumption per distance (kg/nm):	152.23
	Fuel consumption per transport work (g/tn*nm):	7,825.36
	CO2 emissions per distance (kg/nm):	483.47
	CO2 emissions per transport work (g CO2 / tn*nm):	24,852.18

KR GEARs - EU ETS

ETS costs

Requirements

- **Surrender Allowances**
 - **40%** for **2024** emissions (surrender in 2025)
 - **70%** for **2025** emissions (surrender in 2026)
 - **100%** from **2026** emissions (surrender from 2027)

KR GEARs Solutions

- GEARs provides estimated **EU ETS costs** and allowance **prices database**

The screenshot displays the KR GEARs web application interface. On the left, the 'EU ETS Simulation' section includes input fields for 'Year' (set to 2023), 'MRV Company', and 'Ship'. Below these, it shows 'CO2 emissions for EU-ETS' as 0. Further down, there are fields for 'Date' (2023-10-17) and 'Price' (81.92). At the bottom of this section, the 'Estimated Cost (€)' is displayed as 0.00. On the right, the 'EU Allowances prices' section features a dropdown menu set to 'Spot' and an 'Export' button. Below this is a table of settlement prices and a corresponding line chart.

Date	2023-10-11	2023-10-12	2023-10-13	2023-10-14	2023-10-15	2023-10-16	2023-10-17
Settlement Price	83.43	84.53	85.26	Holiday (no data)	Holiday (no data)	82.68	81.92

By selecting reporting year, GHG emissions to surrender and costs are automatically calculated

Export historical data for allowance prices (spot, future) from 2019

KR GEARs - EU ETS

Voyage Statement

Requirements

- **Reimbursement of ETS Costs**
 - Shipping company is entitled to **reimbursement** from another entity for **ETS costs**

KR GEARs Solutions

- GEARs provides **Voyage Statement** to discuss ETS costs with another entity

Manage Data

Report Year: 2022 | Ship Name: | Search...

MRV | IMO DCS | CII

Application No.	IMO No	Ship Name	Flag	Reporting Type	Calculated Result	DOC	Status
APPM23020001	2023030	MRVTEST	PANAMA	Daily	Voyage statement		Draft

Voyagestatement

Total: 2

No	Ship name	IMO No	Voyage No.	Port Name		Status	Statement
				Dep	Arr		
1	LAB VESSEL	1234567	1	ISKENDERUN	PONTA DA MADEIRA	Approved	view
2	LAB VESSEL	1234567	INPORT	PONTA DA MADEIRA	PONTA DA MADEIRA	Approved	view

Voyage STATEMENT

This is to confirm that the reported voyage data has been found to satisfactory according to MRV regulations by Korean Register.

Particulars of Ship

Name of Ship	Ship name
IMO Number	9999999
Ship type	Ship's type
Deadweight	XXXXX
Gross Tonnage	XXXX
Company	Company name
Address	36, Myeongji ocean city 9-ro Gangseogu, Busan, Republic of Korea

Voyage summary

Number of voyages	XX
Total distance [nm]	XXXX.XX
Total CO2 emissions [mt]	XXXX.XX
Total CO2 equivalent emissions [mt]	XXXX.XX
EU Allowances (If applicable)	XXXXX

CII summary

Required CII	XX
Attained CII without correction	XXXX.XX
Attained CII with correction	XXXX.XX
CII Rating	XXXX.XX

Issued at **Busan** on the **XXth** day of Month **20XX**.

KOREAN REGISTER

Lee Hyunju

Shipping MRV Auditor
(LEE Hyunju)

KOREAN REGISTER

Appendix - Information of single voyage

No. 1 Voyage

Start date / time [UTC]	2023.XX.XX XX:XX
End date / time [UTC]	2023.XX.XX XX:XX
Departure port	XXXX.XX
Arrival port	XXXX.XX
Distance [nm]	XXXX.XX
CO2 emissions [mt]	XXXX.XX
CO2 equivalent emissions [mt]	XXXX.XX

No. 1 In port

Start date / time [UTC]	2023.XX.XX XX:XX
End date / time [UTC]	2023.XX.XX XX:XX
Departure port	XXXX.XX
Arrival port	XXXX.XX
Distance [nm]	XXXX.XX
CO2 emissions [mt]	XXXX.XX
CO2 equivalent emissions [mt]	XXXX.XX

KOREAN REGISTER

KR GEARs - EU ETS

Monitoring Plan

Requirements

- **Update monitoring plan**
 - By Mar 2024, update and approval of **monitoring plan** for each ship including CH4 and N2O emissions

KR GEARs Solutions

- GEARs provides the **latest template** and **clear guidance**

Manage Plan

Ship Name: [Search...] Search

MP | SEEMP II | SEEMP III

Total: 1 Manage List

Application No	IMO No	Ship Name	Flag	Attach (Evidence only)	DOC	NCs Report	Status
APPM23040006	9325555	KR DAILY	PANAMA				Draft

Buttons: Add Vessel, Copy, MP to SEEMP, Submit, Delete

EU MRV Monitoring Plan Close

Part A. Revision record sheet | Part B. Basic data | **Part C. Activity data** | Part D. Data gaps | Part E. Management | Part F. Further information

Table C.2.5. Procedures for recording, retrieving, transmitting and storing information regarding measurements
[Recording, retrieving, transmitting and storing information regarding measurements]

There is a documented Procedure in place

Description of MRV procedures if not already existing outside the MP:

Name of person or position responsible for this procedure:

Location where records are kept:

Name of IT system used(where applicable):

Table C.2.7. Level of uncertainty associated with fuel monitoring

Method A: BDN and periodic stocktakes of fuel tanks
Method B: Bunker fuel tank monitoring on-board
Method C: Flow meters for applicable combustion processes
Method D: Direct CO2 emissions measurement

Total: 0


Monitoring method	Approach used	Value(s %)
Select		
<input type="checkbox"/> Select All		
<input type="checkbox"/> Method A		
<input type="checkbox"/> Method B		
<input type="checkbox"/> Method C		
<input type="checkbox"/> Method D		

KR GEARS - EU ETS

Technical information

Initial implementation guidelines for EU ETS

- https://www.krs.co.kr/eng/Exclusive/Tech_ETC_View.aspx?MRID=546&TechCode=7&NO=3567



TECHNICAL INFORMATION

36 Myeongji ocean city 9-ro,
Gangseo-gu , Busan, 618-814
Republic of Korea

Phone : + 82-70-8799-8770
Fax : +82-70-8799-8774
E-mail : krgst@krs.co.kr
Person in charge: Kim Donggi

No : 2024-ETC-01
Date : 2024.02.01

Title: Initial implementation guidelines following the introduction of EU ETS in the maritime sector

In pursuit of its commitment to reduce greenhouse gas emissions, the European Commission (EC) unveiled the 'EU Fit for 55' package in July 2021. This legislative initiative aims to achieve a 55% reduction in greenhouse gas emissions by 2030, compared to 1990 levels. Notably, within the 'Fit for 55' package, the European Union Emission Trading System (EU ETS) has been introduced, particularly impacting the international maritime sector.

From January 1, 2024, ships with a gross tonnage of 5,000 or more, irrespective of their flag state, calling at ports within the jurisdiction of a Member State of the European Economic Area (EEA) are obligated to purchase EU Allowances (EUA) corresponding to the greenhouse gas emissions generated during their EU MRV voyages on an annual basis. These EUA must be submitted to the administering authority for each shipping company. Non-compliance may result in fines and measures such as a prohibition on entering ports within the EEA territory.

Therefore, the Korean Register has issued a technical information to provide details related to the application of EU ETS in the maritime sector, the process of purchasing emission allowances, and opening accounts for the submission of emission allowances. We encourage stakeholders to refer to this information for guidance on relevant procedures.

* Attachment
1. Commission Implementing Decision (EU) 2024/411

KR
Page 1 / 18(E)

2) EU ETS Calculator

- Based on EU MRV data entered or verified in KR GEARS, KR provide a simulation function for the expected purchase cost of emission allowances by year in connection with emission allowances price information (EUA Spot/Future Price).

3) Voyage Statement

- Separate from the regular verification service, KR provides a verification service that frequently issues Voyage Statements on greenhouse gas emissions for some EU MRV voyages or periods of a ship. As a technical service for shipping companies voluntary implementation of EU ETS regulations, we issue statements to settle emission allowances costs between stakeholders such as ship managers, registered owners, charterers, and shippers.

※ As a follow-up to this technical document, our classification society plans to develop and distribute technical documents on EU-ETS and EU MRV regulations (new and revised).

Distributions : KR Surveyors, Ship owners, Other relevant Parties

Disclaimer :
Although all possible efforts have been made to ensure correctness and completeness of the contents contained in this information service, the Korean Register is not responsible for any errors or omissions made herein, nor held liable for any actions taken by any party as a result of information retrieved from this information service.

KR
Page 18 / 18(E)

Providing the **best services**,
Creating a **better world**

Thank you very much

KIM Donggi

kimdg@krs.co.kr

+82-(0)70-8799-8770

WEBINAR



NAVIGATING

EUETS

CHALLENGES TO OPPORTUNITIES



15TH FEB



11 AM - 12.30PM (CET)

ORGANISED BY:



Varuna Marine Services

SMART SUSTAINABLE SHIPPING

POLL 02

2. Which ships are required to acquire and surrender emission allowances under the EU ETS directive?

- All ships regardless of their size and type
- Ships above 5,000 gross tons (GT) transporting cargo or passengers within the EU
- Offshore ships between 400 – 5,000 GT
- Only ships flying the EU flag

PRESENTING OUR NEXT PANELIST



MR. SANJEEV WEWERINKE SINGH

General Manager

VARUNA MARINE SERVICES B.V.



Varuna Marine Services
Smart Sustainable Shipping



EU EMISSIONS TRADING SYSTEM

www.varunamarine.eu

2024

ABOUT US



Location: Based in Amsterdam, Netherlands, with local offices in India, Singapore, Malaysia, Australia, and the United States



Expertise: Maritime professionals with over 100 years of combined experience in technical and commercial operations



Clients: Ship Owners, Charterers, Brokers, Marine Insurers, Flag States, and P&I Clubs



Innovation: Dedicated to innovation by blending commercial and technical expertise, leveraging information technology



Team: Comprises Master Mariners, Chief Engineers, Naval Architects, Cargo Surveyors, Ship Recycling experts, Hazmat Experts, and Cyber Security Experts. In-house team of software developers supporting IT offerings.



OUR SERVICES

IN A NUTSHELL



EU ETS, EU MRV, IMO DCS, CII, SEEMP II and III



Worldwide US-EPA VGP Compliance



Ballast Water Treatment System - Compulsory
IMO D2 Commission Testing



Ballast water treatment system Installation
and Retrofitting consultancy



Worldwide Marine Consultancy, Surveying,
and Inspection



Global Green Ship Recycling Supervision



Inventory of Hazardous Materials (IHM)



Managed IHM Lifecycle Maintenance



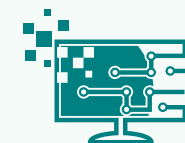
Worldwide Asbestos Removal, abatement, and
asbestos management plan



Maritime Cyber Security Compliance - IMO
MSC.428(98) and IACS UR ER 26 and ER 27



Flexible Maritime Communication - STARLINK,
VSAT, FBB, IRIDIUM, and 4G/5G Connectivity



CyberSmart - Artificial Intelligence Engine

THE EU ETS: OVERVIEW

The EU ETS is an emissions system that aims to reduce greenhouse gas (GHG) emissions by setting a limit, or cap, on GHG emissions for certain sectors of the economy.



Cap-and-trade' system.



Cap reduces annually, targeting 62% emission reduction by 2030.



Emission allowances: one allowance = one ton of CO₂eq.

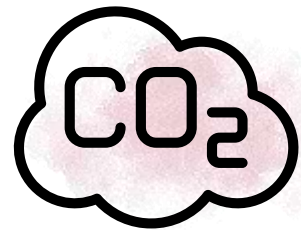


Heavy fines for exceeding allowances.

The Rules entered in force since June 5, 2023. The EU ETS will be extended to maritime emissions from 2024.

MRV REGULATION & EU ETS COVERAGE

EU MRV covers:



Carbon dioxide

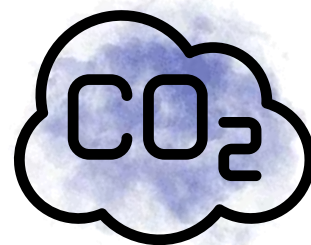


Methane
as of 2024



Nitrous oxide
as of 2024

EU ETS covers:



Carbon dioxide

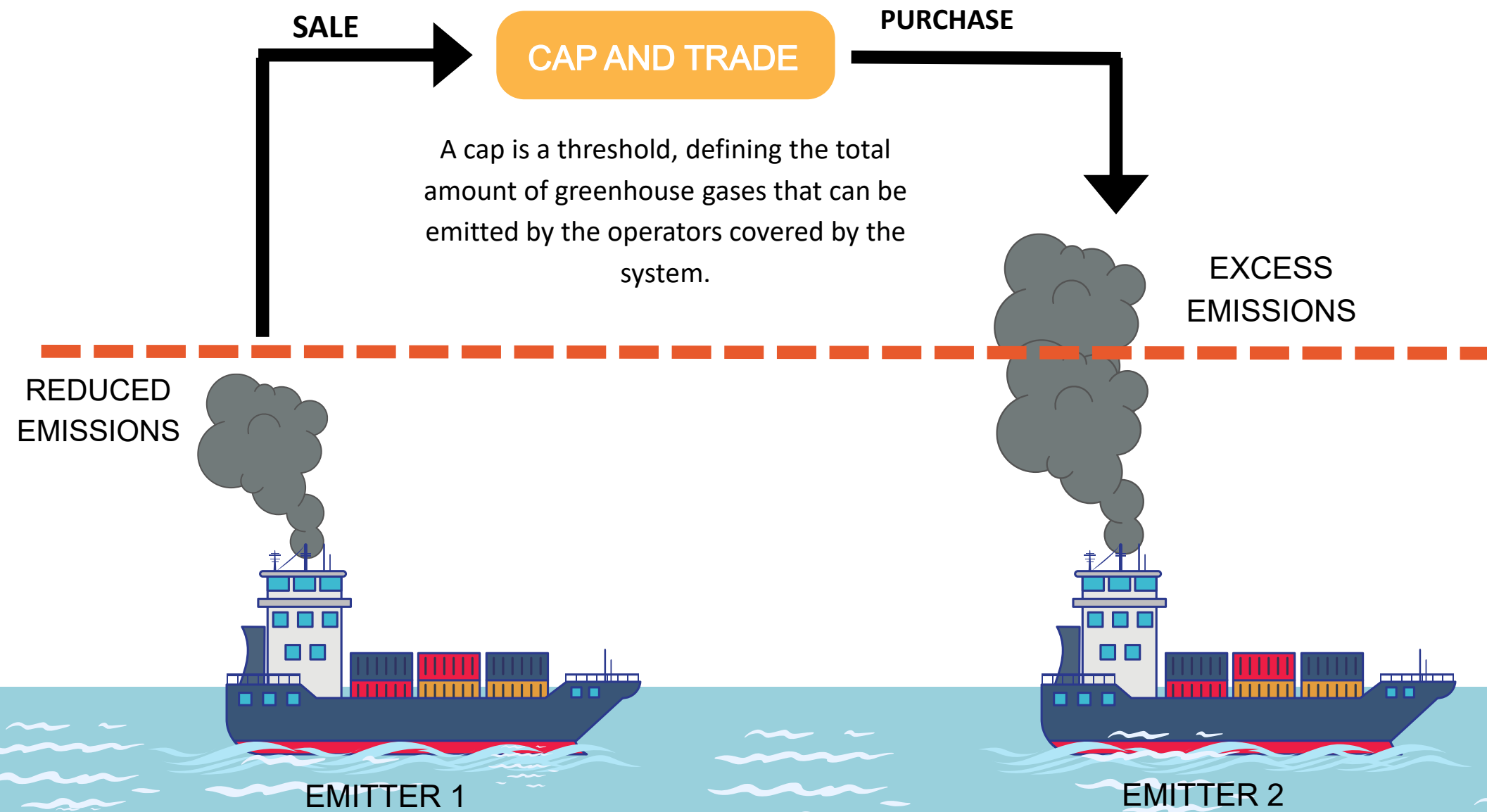


Methane
as of 2026



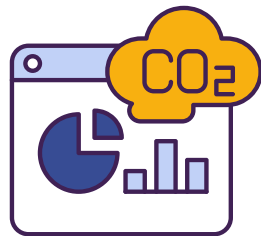
Nitrous oxide
as of 2026

How cap-and-trade system works?



HOW ARE EMISSIONS MONITORED, REPORTED AND VERIFIED?

Emissions Monitoring (EU ETS):



- Approved monitoring plan required.
- Annual ship and company-level reports.

Verification and Allowance Surrender:



- Accredited verifier by March 31.
- Allowance surrender by September 30.

MRV Regulation (Since 2018):



- Obligations for shipping companies.
- Data reported via THETIS-MRV.
- Facilitates reliable emissions data publication.

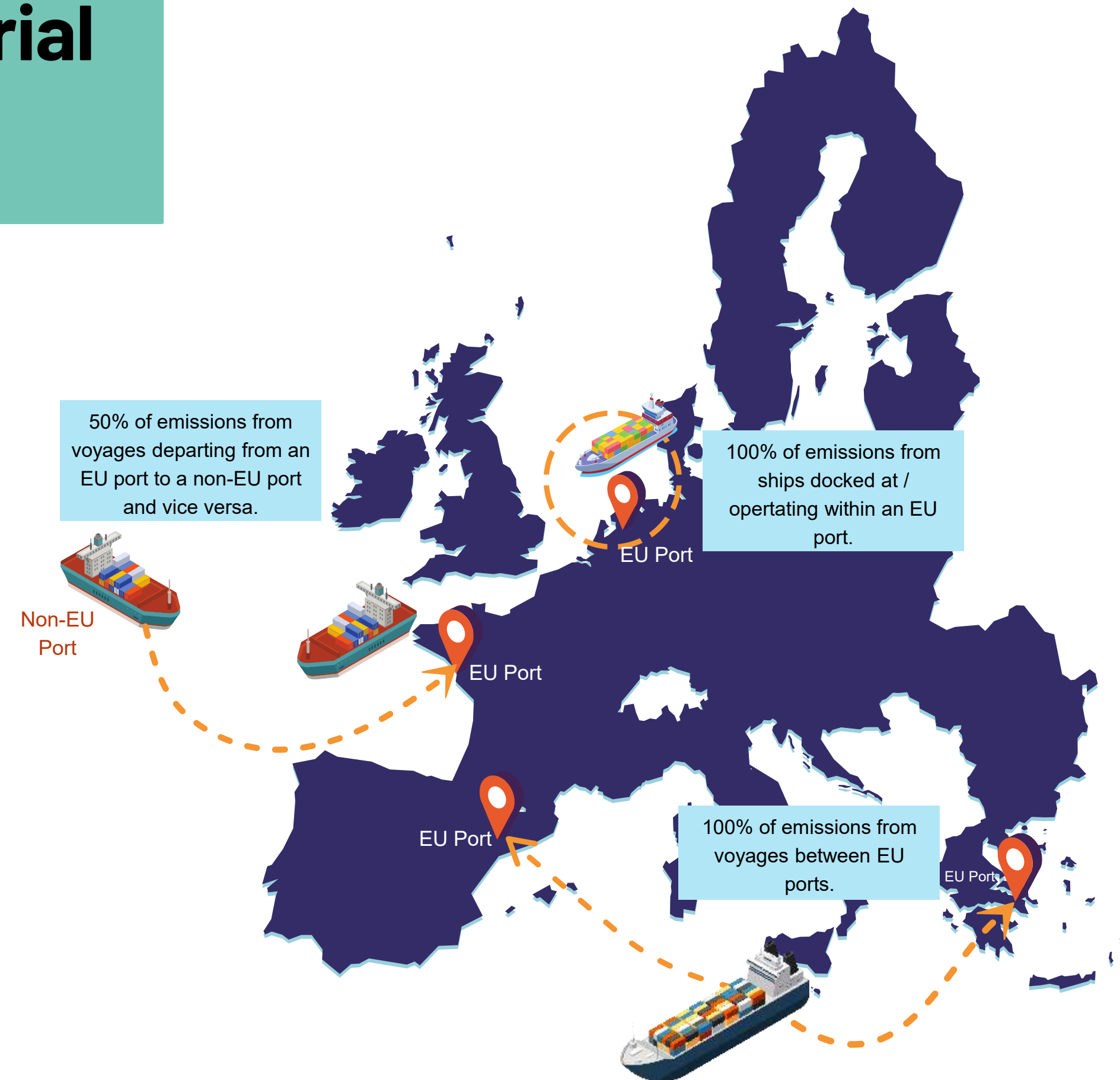
Carbon pricing and extraterritorial application

Carbon pricing in the EU ETS is determined based on vessels rather than cargo. Alongside introducing carbon pricing for vessels traveling between EU countries, the law also has extraterritorial application.

- 50% of emissions from voyages departing from an EU port to a non-EU port and vice versa.
- 100% of emissions from voyages between EU ports.
- 100% of emissions from ships docked at an EU port.

The law specifically targets non-EU ports near the EU with a high share of transshipment.

For these ports, the ETS effectively extends the length of voyages to address concerns about carbon leakage.



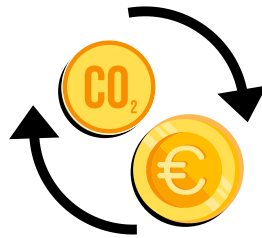
WHAT ARE EU ALLOWANCES (EUAS)?

Definition and Purpose:



- EU Allowances (EUAs) are carbon credits in the EU ETS.
- Each EUA permits emission of one ton of CO₂e.
- EU ETS is a 'cap and trade' system to combat climate change.

Cap-and-Trade Mechanism:



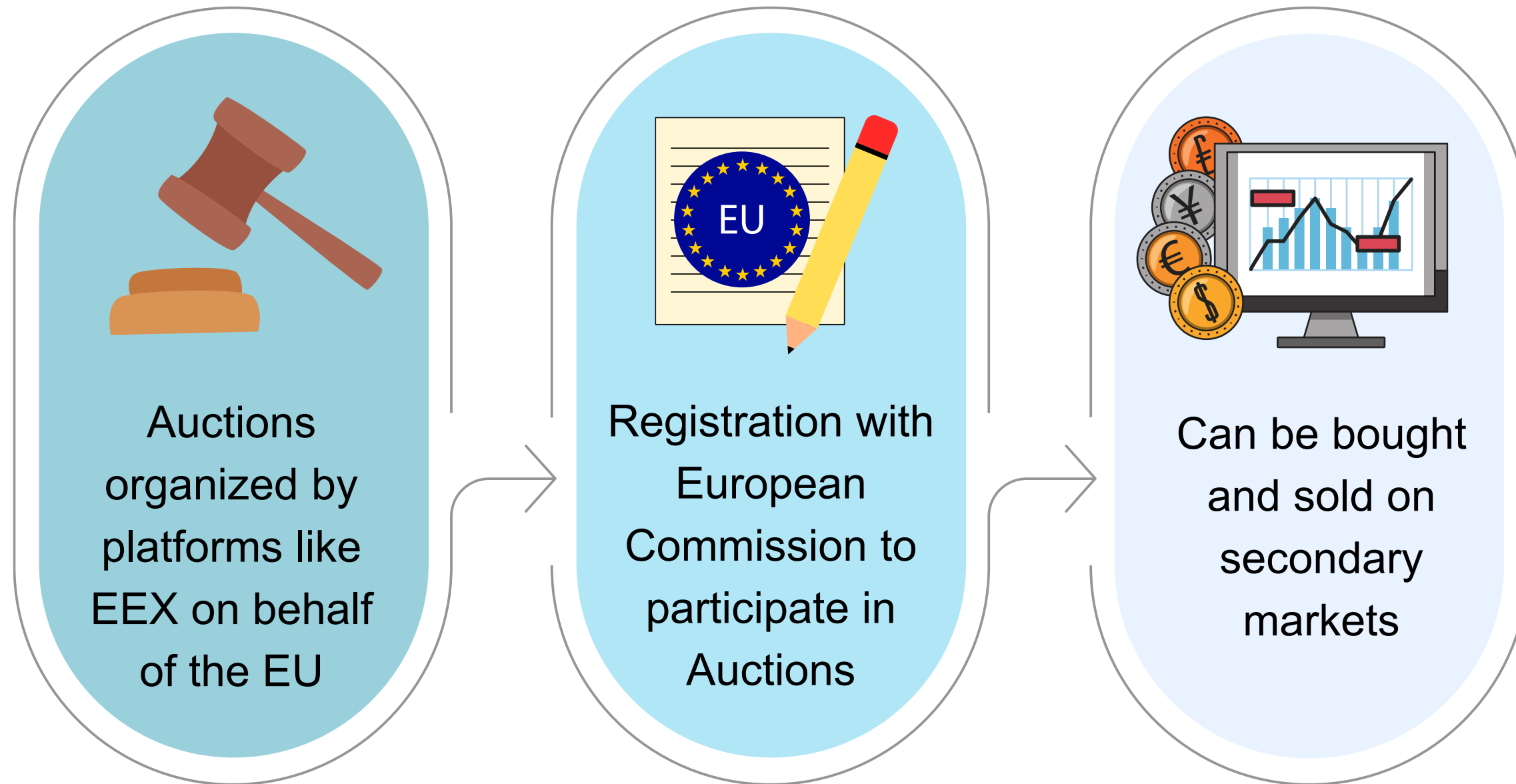
- Total allowances capped, reducing over time.
- Aligns with EU's climate goals.
- Companies receive, buy, and trade allowances.

Compliance:



- Companies need enough allowances for their emissions.
- Exceeding allowances results in heavy fines.

HOW AND WHERE TO PROCURE EUAS?



ACQUIRING ALLOWANCES

Starts with transparency about prices

investing.com

Carbon Emissions Futures - Dec 23 (CFI223)

85.56 +0.08 (+0.09%) ▲

Day's Range: 84.71 - 85.89
52 wk Range: 84.10 - 88.43

General Chart News & Analysis Technical Forum

eex

MARKETS MARKET DATA ACCESS TRAINING SERVICES EEX AG

The presentation of market data covers the last 45 days.

EEX EUA SPOT

2023-09-25

Spot	Last Price	Last Volume	End of Day Index	Volume Exchange	Volume Trade Registration
2021-2030					

barchart

Search for a Symbol... OR Select a Commodity

Stocks Options ETFs Futures Currencies Investing

QUOTES Price Overview Performance Report

CHARTS Interactive Chart Snapshot Chart

CME EUA Futures Dec '23 (EVZ23)

85.48s +1.34 (+1.59%) 09/22/23 [NYMEX]

QUOTE OVERVIEW for Fri, Sep 22nd, 2023

Product	Currency	Bid	Ask	Last close	Last close date	Last trading day	Price time
EUA SPOT	EUR	84.72	84.88	84.53	2023-09-22		2023-09-25 10:39
EUA DEC23	EUR	85.66	85.74	85.48	2023-09-22	2023-12-18	2023-09-25 10:39
EUA DEC24	EUR	89.91	89.99	89.72	2023-09-22	2024-12-16	2023-09-25 10:39
UKA SPOT	GBP	34.30	34.68	36.13	2023-09-22		2023-09-25 10:37
UKA Dec 23	GBP	34.88	35.14	36.62	2023-09-22	2023-12-18	2023-09-25 10:37
UKA Dec 24	GBP	37.36	38.21	39.12	2023-09-22	2024-12-16	2023-09-25 10:37



What is considered as a “port of call” for the purpose of the EU ETS?

A port of call is the port where a ship stops to load or unload cargo, to embark or disembark passengers, or where an offshore ship stops to relieve the crew.

The following stops are excluded:

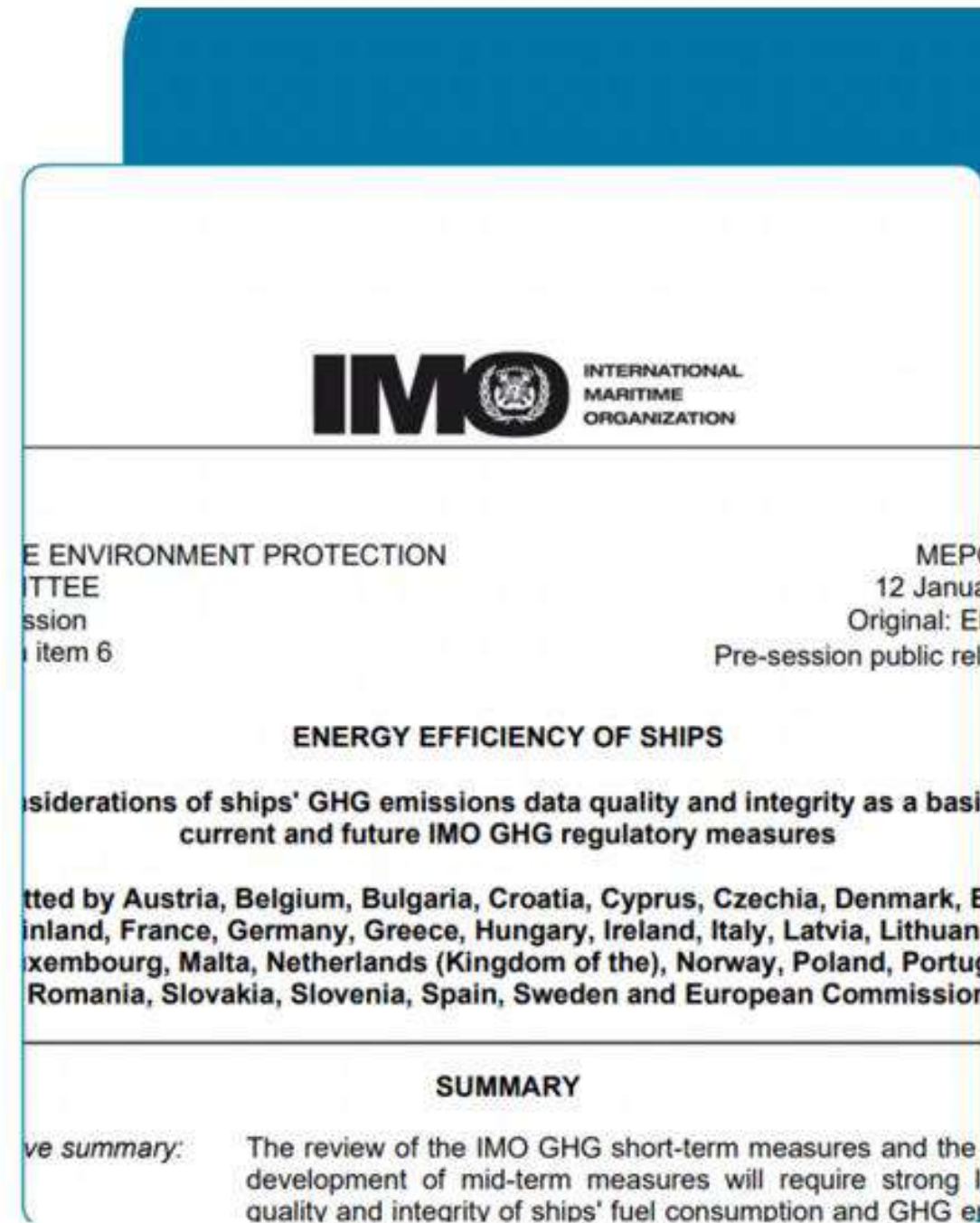
- stops for the sole purposes of refueling,
- stops for obtaining supplies,
- stops for relieving the crew (other than an offshore ship),
- stops for going into dry-dock or making repairs to the ship and/or its equipment,
- stops in port because the ship needs assistance or in distress,
- ship-to-ship transfers carried out outside ports,
- stops for the sole purpose of taking shelter from adverse weather or rendered necessary by search and rescue activities,
- stops of containerships in the neighboring container transshipment ports listed in the implementing act to be adopted by the end of 2023

Challenges and Complexities

Challenges in data collection and cleaning for accurate results and forecasting

EU Submission to IMO (MEPC 81/6/5)

- Risk of data gaps impossible or very difficult to correct due to the operators being unable to determine the value to be reported retroactively
- Risk of monitoring and/or reporting errors that would go undetected
- Risk of fraudulent misreporting, such as "underreporting", to reach regulatory compliance
- Risk of failure of the verification process
- Risk of insufficient or unsuitable internal data management procedures within the IMO Secretariat.



Most common mistakes

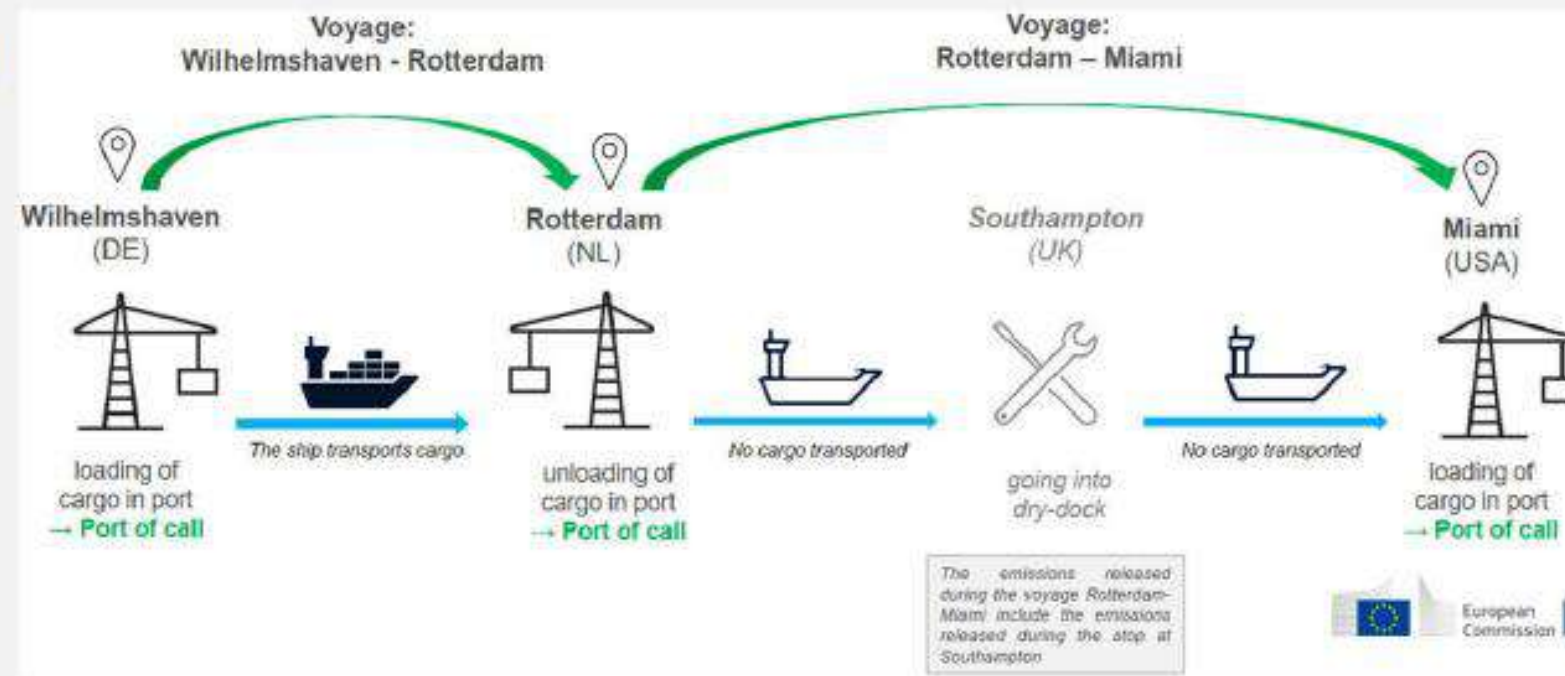
- Report sequence (Departure-Noon-Arrival) not followed correctly
- Reports are not consecutive (gaps)
- Port activity not properly identified
- Time at sea and anchorage bigger than elapsed time
- ROB between reports don't match
- Sailed distance and time at sea don't match
- ETS/MRV Voyages not correctly identified
- Data gaps on fields mandatory for regulations
- Missing enclosures (BDN, bill of lading, ..)



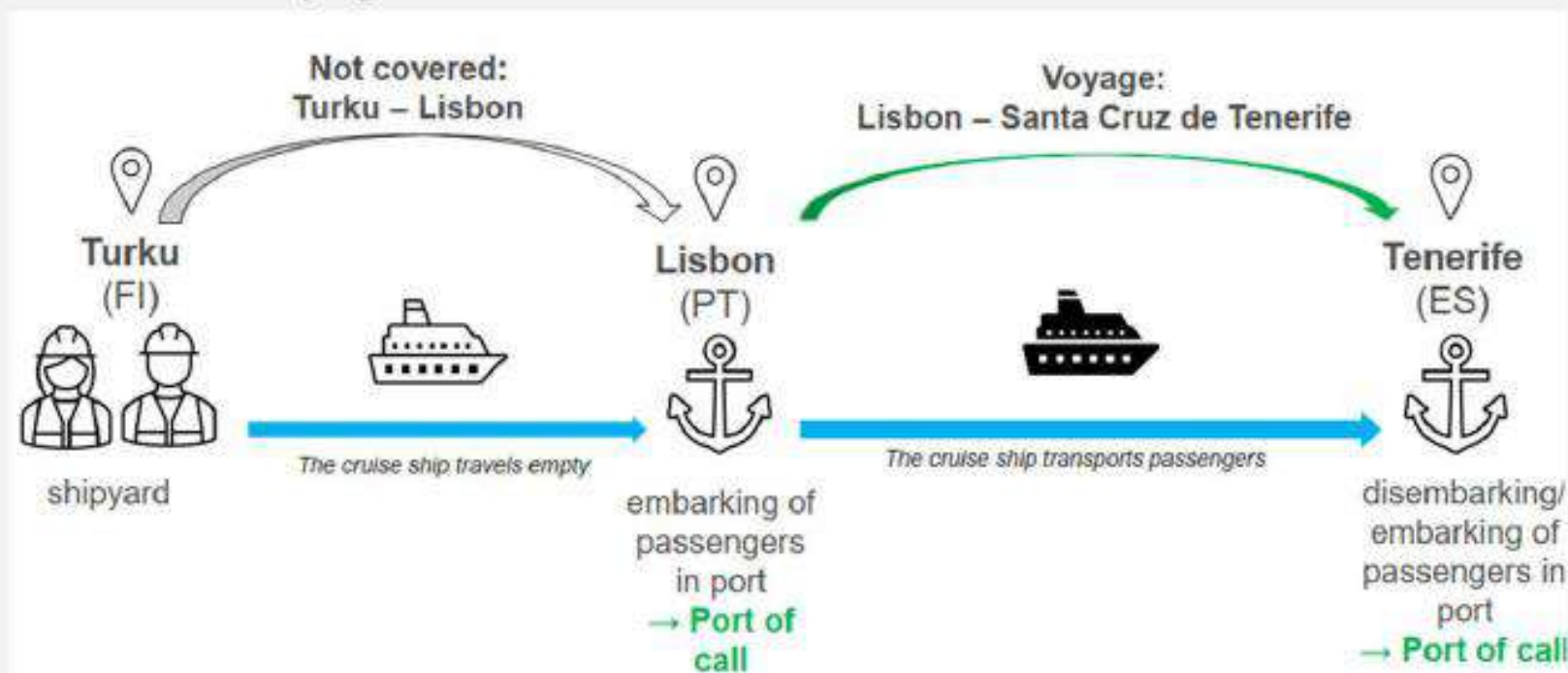
Implementation of MRV Reg. and Dir. ETS

DG CLIMA Clarifications on voyages/emissions

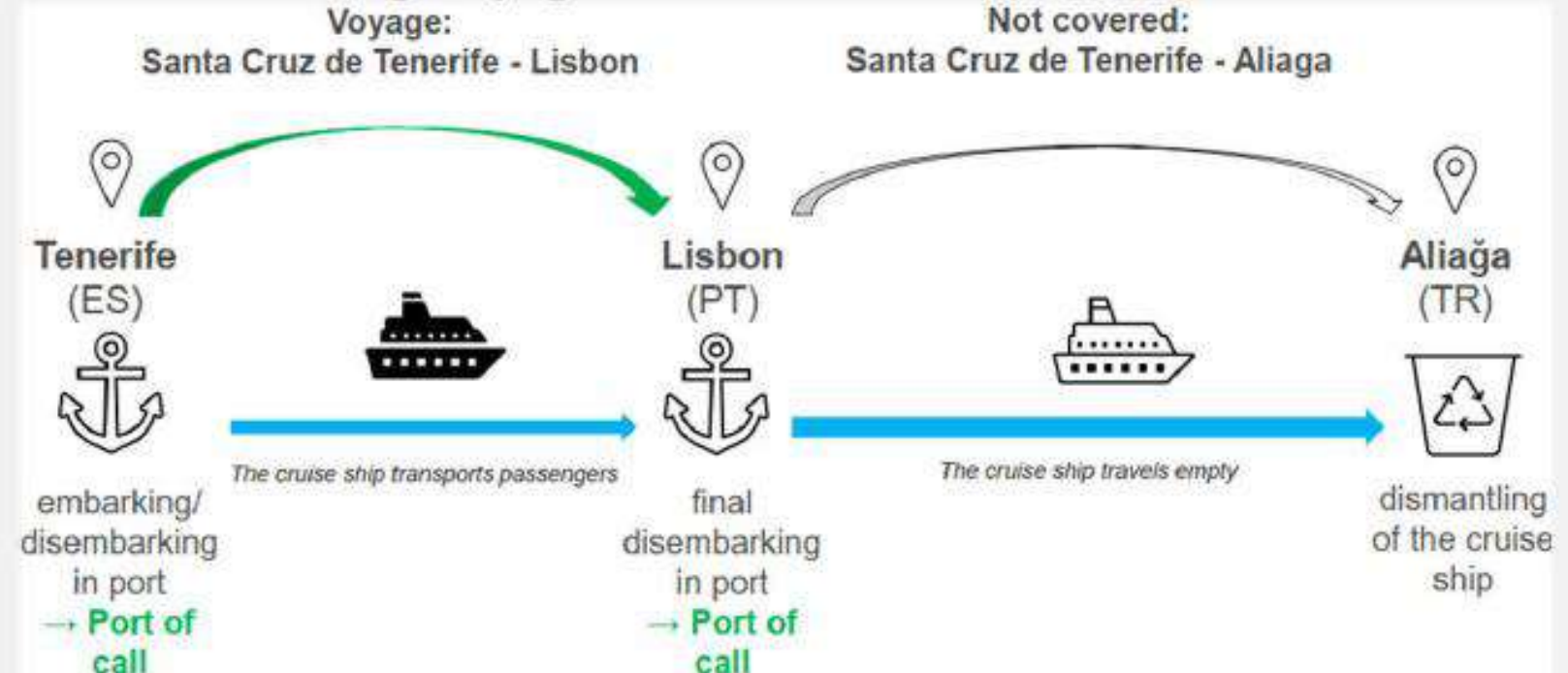
Dry-dock



Maiden voyage



Decommissioning voyage



Implementation of MRV Reg. and Dir. ETS

Derogations

- **Ice class ships** (IA or IA Super) to surrender **5% fewer allowances** until 31 December 2030
- **Derogation**: until 31 December 2030, emissions excluded from voyages by:
 - ships to/from **EU outermost region** from/to a port of the same EU MS State (including ports within and between the outermost regions of the same MS)
 - passenger or ro-ro passenger ships performed under a **transnational public service contract/obligation**
 - passenger ships, other than cruise passenger ships, and by ro-ro passenger ships, to/from ports of **EU islands with permanent population of less than 200.000 residents**



Implementation of MRV Reg. and Dir. ETS Exclusions



COMMISSION DELEGATED ACT ON REVISED MRV

1.2 Derogation from the general principle and use of emission factors pursuant to Article 14 of Directive 2003/87/EC

By way of derogation from point 1.1, companies shall not apply the rules laid down in Part A of Annex I to this Regulation as regards the determination of the CO₂ emission factors where the company uses **a fuel complying with the sustainability criteria and greenhouse gas emission saving criteria for the use of biomass established by Directive (EU) 2018/2001 of the European Parliament and of the Council**, with any necessary adjustments for application as set out in Implementing Regulation (EU) 2018/2066. In such cases, **the CO₂ emission factor of the biomass fraction of the fuel shall be zero.**

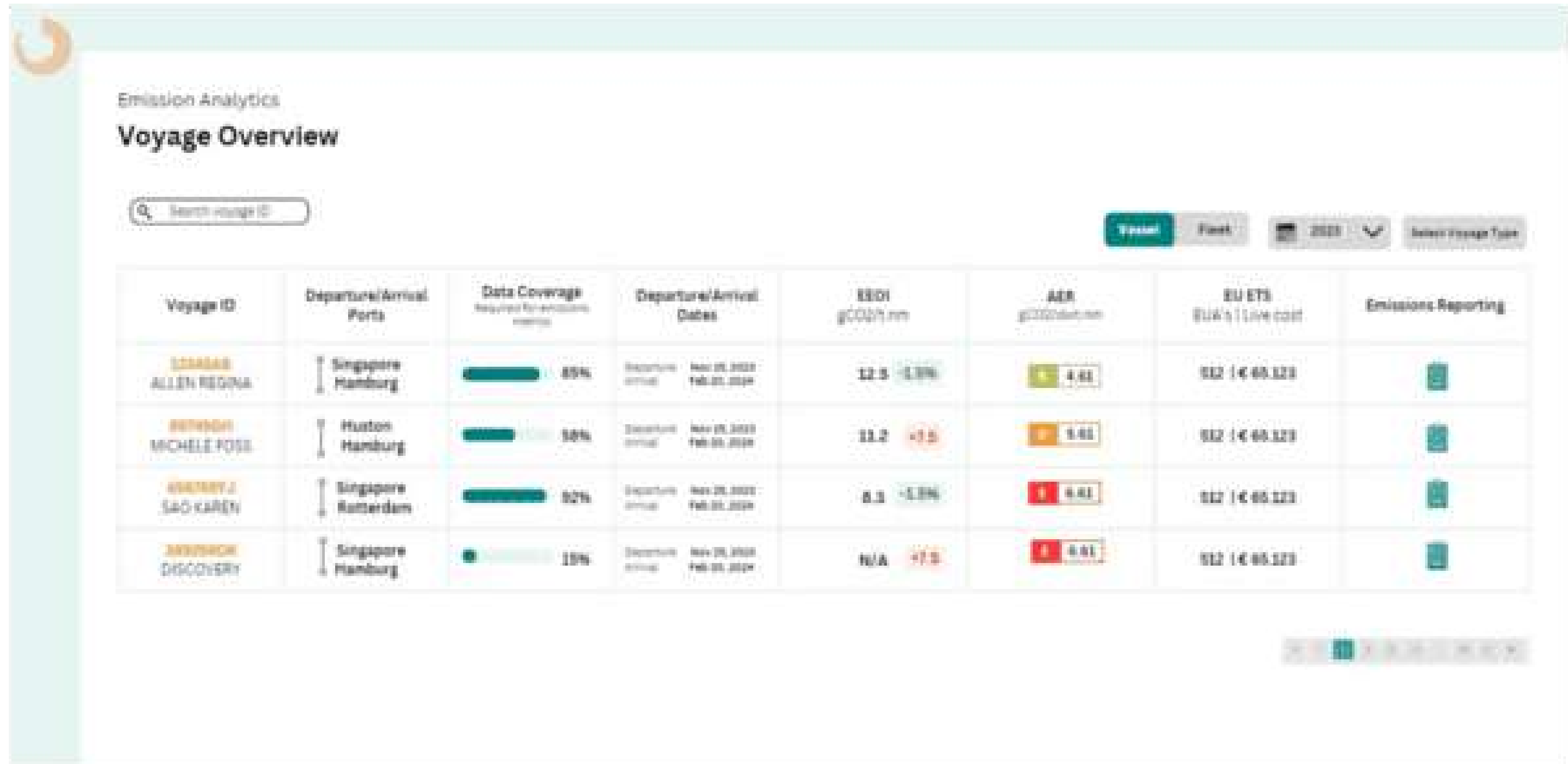
By way of derogation from point 1.1, companies shall not apply the rules laid down in Part A of Annex I to this Regulation as regards the determination of the CO₂ emission factors where the company uses Renewable Fuels of Non-Biological Origin (RFNBO) and Recycled Carbon Fuel (RCF). In such cases, the CO₂ emission factor shall be determined in accordance with Implementing Regulation (EU) 2018/2066.

How to solve this ?



Smart EMRV

- CyberSmart's Smart EMRV simplifies the collection of emissions metrics for all voyages, streamlining the report generation and verification process for various compliance standards.
- Human machine interface powered by LLM to ensure best accuracy in data cleaning.
- Plug and play web-based portal, compliant with EU GDPR regulation
- Hosted on EU servers and regularly checked against best Cyber Security framework for Web based application.
- Flexibility of raw data collection via APIs , CSV and Excel etc.
- The platform also offers a comprehensive fleet-level overview, ensuring efficient and thorough management of environmental compliance across your maritime operations.



Event Log - Voyage

All Events (4)

Errors (2)

Warnings (2)

VOYAGE ID	DATE/TIME	VOYAGE INFO	VOYAGE STAGE	EVENT	TIME ELAPSED	DISTANCE	FUEL CONSUMPTION	ROB	ACTION
12345A	28 Jan, 2024 12:00	Riga - LVRIX Vierow - DEVIW	Ballast	Departure	22.5	46.50	1600.50	4200.50	
12345A	28 Jan, 2024 12:00	Tallinn - EETLL Ust Luga - RUULU	Laden	Arrival	22.5	46.50	1700.50	4500.00	
<input checked="" type="checkbox"/> 12345A	28 Jan, 2024 12:00	Riga - LVRIX Vierow - DEVIW	Laden	Departure	22.5	46.50	1800.50	4100.00	
12345A	28 Jan, 2024 12:00	Tallinn - EETLL Ust Luga - RUULU	Ballast	Departure	22.5	46.50	1900.50	4600.00	
12345A	28 Jan, 2024 12:00	Riga - LVRIX Vierow - DEVIW	Ballast	Noon (Position)	22.5	46.50	2000.50	4700.50	
12345A	28 Jan, 2024 12:00	Tallinn - EETLL Ust Luga - RUULU	Ballast	Departure	22.5	46.50	2100.50	4300.50	
12345A	28 Jan, 2024 12:00	Riga - LVRIX Vierow - DEVIW	Ballast	Noon (Position)	22.5	46.50	2200.50	5100.50	
12345A	28 Jan, 2024 12:00	Tallinn - EETLL Ust Luga - RUULU	Ballast	Departure	22.5	46.50	2500.50	4900.00	

Edit Event Log - Voyage



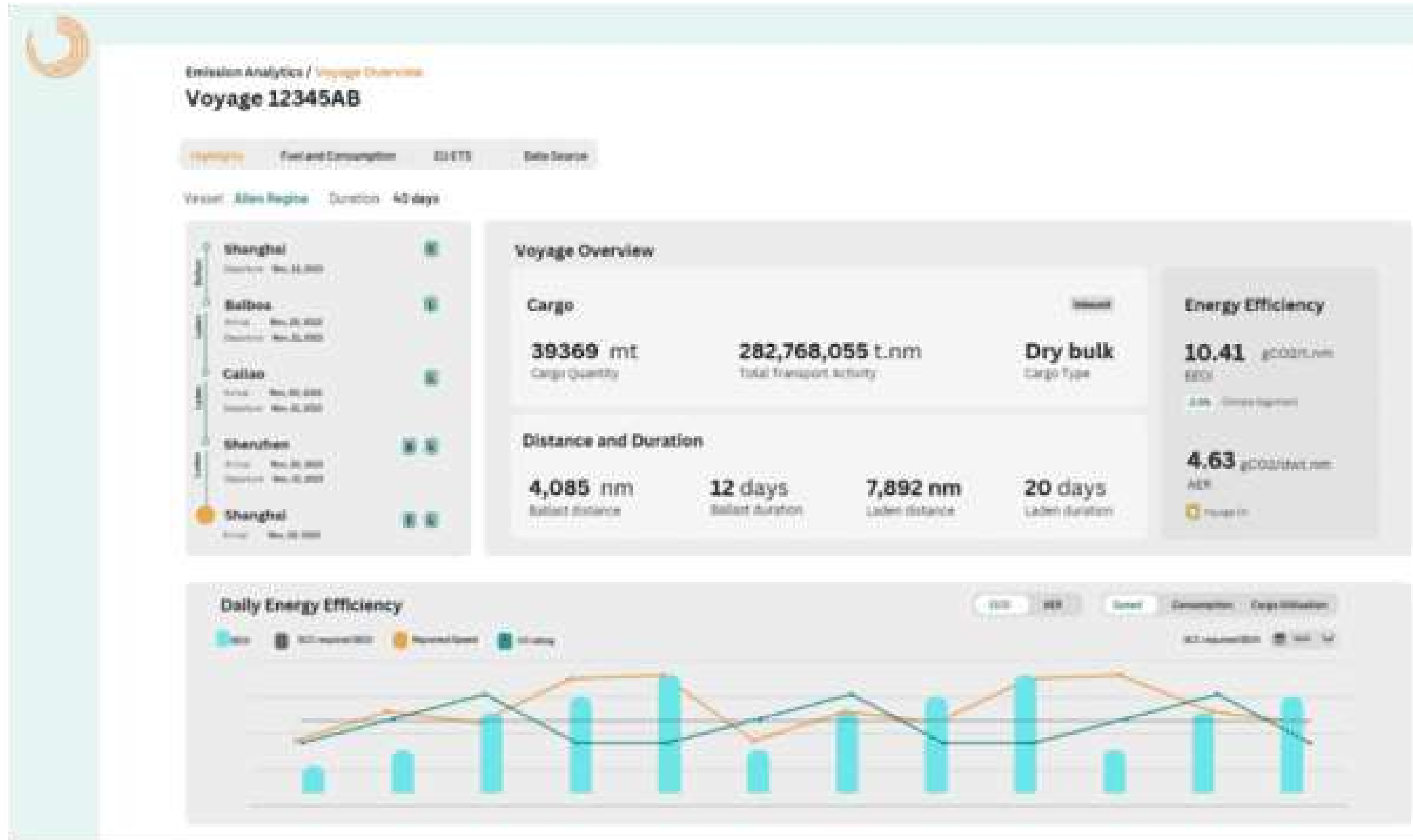
VOYAGE ID	DATE / TIME	VOYAGE INFO	VOYAGE STAGE	EVENT	TIME ELAPSED	DISTANCE	FUEL CONSUMPTION	ROB
12345A	Jan 28, 2024 10:00	Riga - LVRIX Vierow - DEVIW	Ballast	Departure	22.5	46.50	1600.50	4200.50

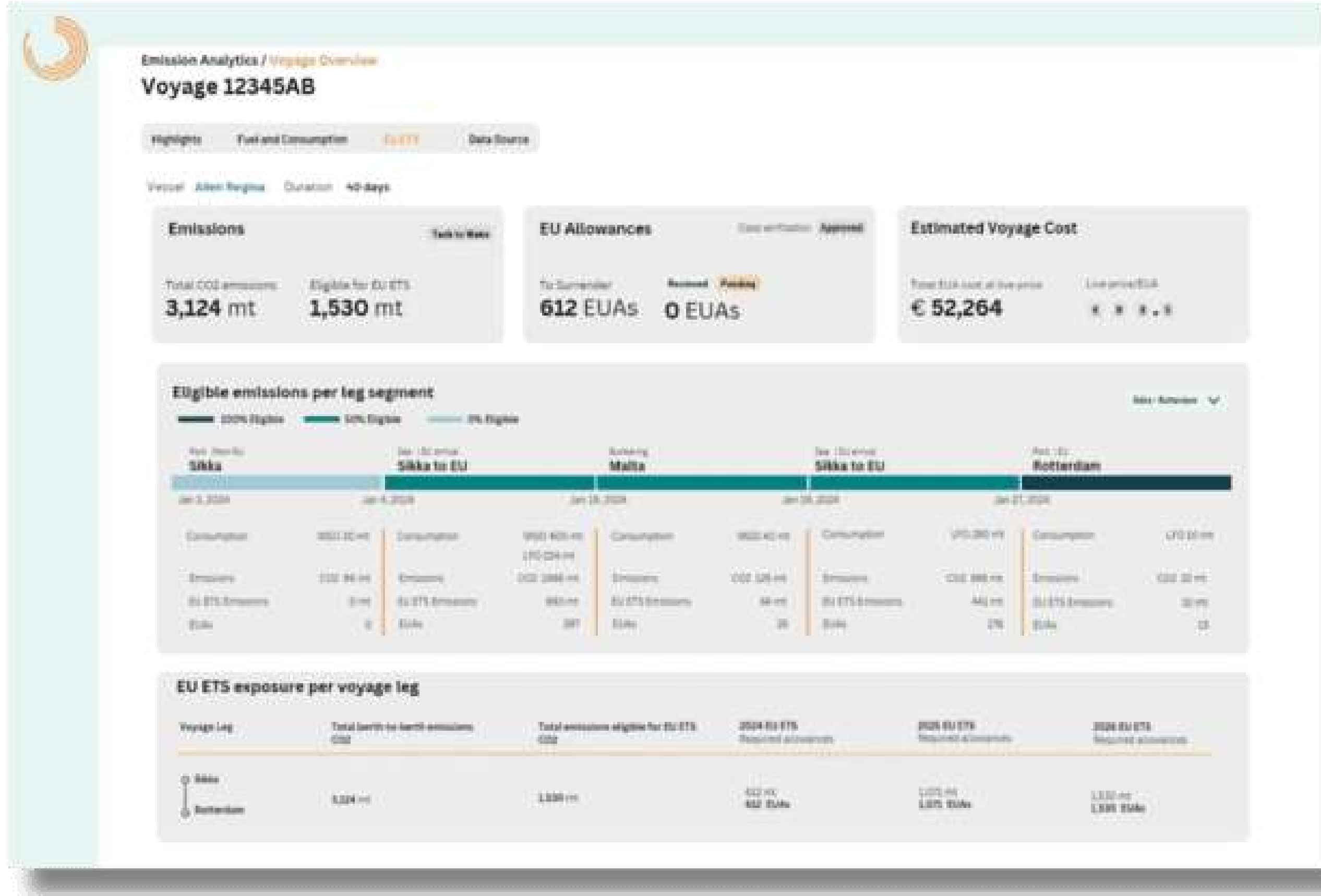
Main Engines ▼

HFO	LFO	MGO	MDO	LPG-P	LPG-B	LNG	Methanol	Ethanol	Other Fuel Consumption	Other Fuel Type
18.5	12.5	10.0	4.5	3.0	2.0	0.0	0.5	0.0	0.0	0.0

footer

Submit





CHARTING THE COURSE AHEAD

with Varuna Marine Services B.V.

Varuna Marine Services B.V. can assist you in crafting a strategy to either gain exposure to the carbon market or achieve budgetary goals, managing the passing on of costs.

Our services include:

- Accuracy in data processing via HMI powered by LLMs.
- Voyage level overview and reporting right in the dashboard
- Web based portal and plug and play data collection via APIs, CSVs, Excels etc.
- Access to EUA via primary and secondary markets
- Guidance in setting up an EU Registry Account

OUR TEAM LOCATIONS



THANK YOU

We look forward to hearing from you soon!

Thanks for going through the presentation and appreciate your time taken!



Varuna Marine Services
Smart Sustainable Shipping

Address

H.J.E. Wenckebachweg 58,
1114 AD, Amsterdam-Duivendrecht,
The Netherlands

Phone

+ 31 107 640 935


Email


info@varunamarine.eu

Website

www.varunamarine.eu

Follow us on:

 /varunamarineservices

 @Varunamarine

WEBINAR



NAVIGATING

EUETS

CHALLENGES TO OPPORTUNITIES



15TH FEB



11 AM - 12.30PM (CET)

ORGANISED BY:



Varuna Marine Services

SMART SUSTAINABLE SHIPPING

POLL 03

3. How are emissions accounted for under the EU ETS during voyages?

- 100% of emissions for all voyages within the EU/EEA
- 50% of emissions for voyages into or out of the EU/EEA
- 50% of emissions for container vessels stopping in transshipment ports near EU/EEA
- All of the above

WEBINAR



NAVIGATING

EUETS

CHALLENGES TO OPPORTUNITIES



15TH FEB



11 AM - 12.30PM (CET)

ORGANISED BY:



Varuna Marine Services

SMART SUSTAINABLE SHIPPING



WEBINAR



NAVIGATING

EUETS

CHALLENGES TO OPPORTUNITIES



15TH FEB



11 AM - 12.30PM (CET)

ORGANISED BY:



Varuna Marine Services

SMART SUSTAINABLE SHIPPING

POLL 04

4. When do shipping companies need to start using allowances to cover their emissions under the EU ETS?

- Immediately upon joining the EU ETS
- Starting from 2024
- After reaching a specific emissions threshold
- Only if they exceed a certain fleet size



**KEY
TAKEAWAYS**

Thank You



Varuna Marine Services

SMART SUSTAINABLE SHIPPING

CONTACT US AT:



info@varunamarine.eu

marketing@varunamarine.eu



www.varunamarine.eu



+ 31 107 640 935

FOLLOW US

ON:



@Varunamarine



@varunamarineservice

S

WEBINAR



NAVIGATING

EUETS

CHALLENGES TO OPPORTUNITIES



15TH FEB



11 AM - 12.30PM (CET)

ORGANISED BY:



Varuna Marine Services

SMART SUSTAINABLE SHIPPING