



**BUREAU
VERITAS**

— EU ETS IMPACT WHAT IF TUGS..?

**EUROPEAN TUGOWNERS ASSOCIATION
ANNUAL MEETING**

HELSINGØR, 13TH JUNE 2024

KEY FIGURES



€5.9
billion

CA EN 2023



83 000
employees*



400,000+
clients



~1 600
offices &
laboratories

IN 140 COUNTRIES

AT BV, WE SUPPORT OUR CLIENTS IN COMPLYING WITH

REGULATIONS, MANAGING RISKS AND IMPROVING PERFORMANCE...

RESOURCES & PRODUCTION

- › **Renewables & alternative energies - energy transition**
Onshore and offshore Wind Farms, Solar Power Plants from Project to Asset Management, Biofuel and Hydrogen certifications
- › **Sustainable use of natural resources**
Agribusiness harvest monitoring and Precision Farming, Responsible Fishing, Forest Certification and Maritime Pollution Prevention
- › **Industry carbon footprint**
Carbon footprint monitoring, Energy saving verification, Industrial environmental control and testing and emissions control

CONSUMPTION & TRACEABILITY

- › **Sustainable supply chains, food certification**
Product component testing, organic certification, supply chain resilience audit, circular economy verifications and ESG supply chain audits

BUILDINGS & INFRASTRUCTURE

- › **Construction & refurbishment**
Green building certification, project management for infrastructure improvement in developing countries and infrastructure life-cycle asset management in mature countries

NEW MOBILITY

- › **E-mobility, alternative propulsion**
Batteries, charging station, connectivity testing, alternative-fuels ships (new build, conversion)

SOCIAL, ETHICS & GOVERNANCE

- › **Social practices**
Social audits, health, safety, hygiene and inclusion protocols
- › **CSR strategy**
Policy monitoring, Management systems improvement, Reporting verification
- › **Ethics & business practices**
Human rights assessment, supplier assessment, anti-bribery certification, Data Privacy and Cybersecurity certifications

... ALL ALONG A PORTFOLIO
OF SERVICES & SOLUTIONS

MARINE & OFFSHORE

MISSION

Bureau Veritas protects its clients' people and assets, passengers and the marine environment

EXPERTISE

Verifying the conformity of ships (under construction and in service) to classification rules and standards that mainly concern structural soundness & reliability of the machinery on-board

Service type	— FOR —	Asset type
<ul style="list-style-type: none"> ▮ Design review ▮ New construction and in-service surveys ▮ Marine and offshore equipment certification 		<ul style="list-style-type: none"> ▮ Merchant ships ▮ Passenger ships ▮ Offshore/Work vessels ▮ Offshore units, including marine renewable energy

KEY ASSETS

- ▮ **Nearly 200 years of classification expertise** protecting lives and assets in challenging marine operating environments
- ▮ Leading expertise in the **complex sectors**, including **chemical tankers, LNG, offshore, tugs & dredging, ice classed vessels**
- ▮ Strong expertise in **smart ship technology and advanced services** for cyber security and resilience
- ▮ **Committed to minimizing impact** on oceans and atmosphere



DIVERSIFIED FLEET – BROAD EXPERTISE

11,800 CLASSED SHIPS – #1 MARKET POSITION

TANKERS

1,380+ tankers
13% market share chemical



DRY BULK

1,190+ bulk carriers
10% market share



CONTAINER

550+ container ships
1st LNG-fueled ULCS



OFFSHORE/WORK

3,560+ offshore/work vessels,
#1 position tugs & dredgers



TOWAGE

1,500+ tugs
300+ AHTS



GAS

330+ gas carriers
leading expertise, #1 position LNG bunkering



DRY CARGO

1,220+ cargo ships
24% market share



PASSENGER

380+ cruise ships & ferries
35% market share expedition cruise



Proportions shown reflect gross tonnage (GT) – Total BV classed fleet on 16.04.2024: 11,832 vessels, 150.8m GT

ON HAND WORLDWIDE TO MEET OUR CLIENTS' CHALLENGES LOCALLY



2,900

Marine & Offshore experts

180

Survey Centers

19

Local Plan approval Offices

6

Marine Operations Centers

8

Remote Survey Centers



01.

EU MRV & ETS

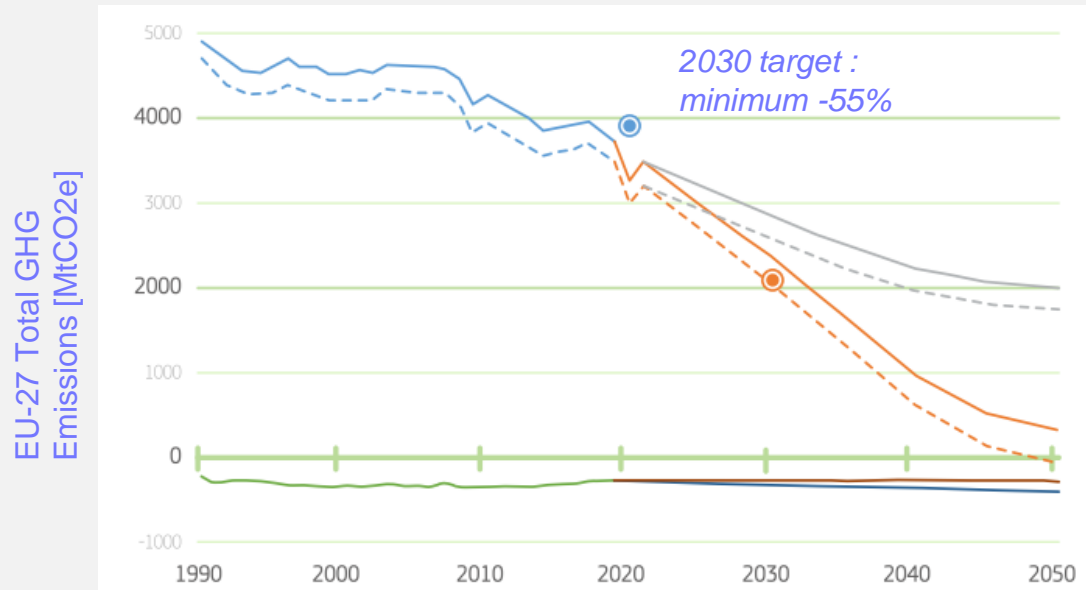
Basic principles



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EU FIT FOR 55

- › Package “EU Fit for 55” proposed in July 2021 by European Commission : Reduce EU net GHG emissions by at least 55% by 2030, compared to 1990 levels
- › Inclusion of Shipping in the European Union Emission Trading System (EU ETS) was proposed as part of the Fit for 55 package



EU MRV

EU Regulation 2015/757, better known as the EU MRV, concerns the monitoring, verification and reporting of **CO₂ emissions from maritime transport**

Entering into force in July 2015, EU MRV became mandatory in 2017

Targeted vessels

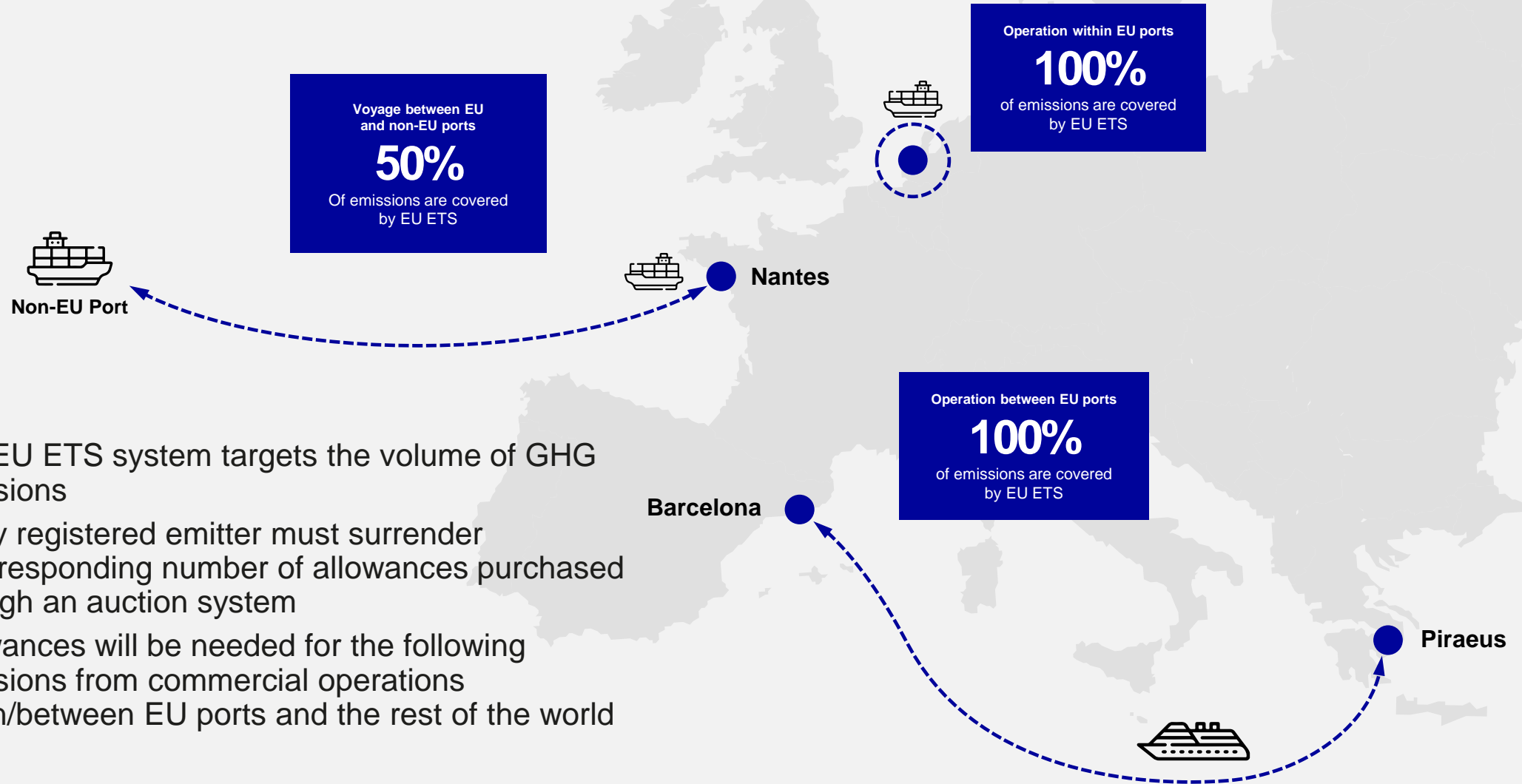
EU MRV is applicable to **commercial vessels of more than 5,000 GT calling at EU ports, regardless of their flag**
This includes both ships traveling between EU ports (intra-EU) and those traveling to or from ports outside the EU (extra-EU)

Relation to EU ETS

Data gathered for the EU MRV underpins other GHG monitoring in the EU ETS, and will enable shipowners to collect allowances from the EU Emissions Trading System (EU ETS)



EU ETS PRINCIPLE



- › The EU ETS system targets the volume of GHG emissions
- › Every registered emitter must surrender a corresponding number of allowances purchased through an auction system
- › Allowances will be needed for the following emissions from commercial operations within/between EU ports and the rest of the world

**'VOYAGE' MEANS
ANY MOVEMENT OF
A SHIP THAT
ORIGINATES FROM
OR TERMINATES IN A
PORT OF CALL**



WHAT CONSTITUTES A PORT OF CALL?

Stops for the purpose of:

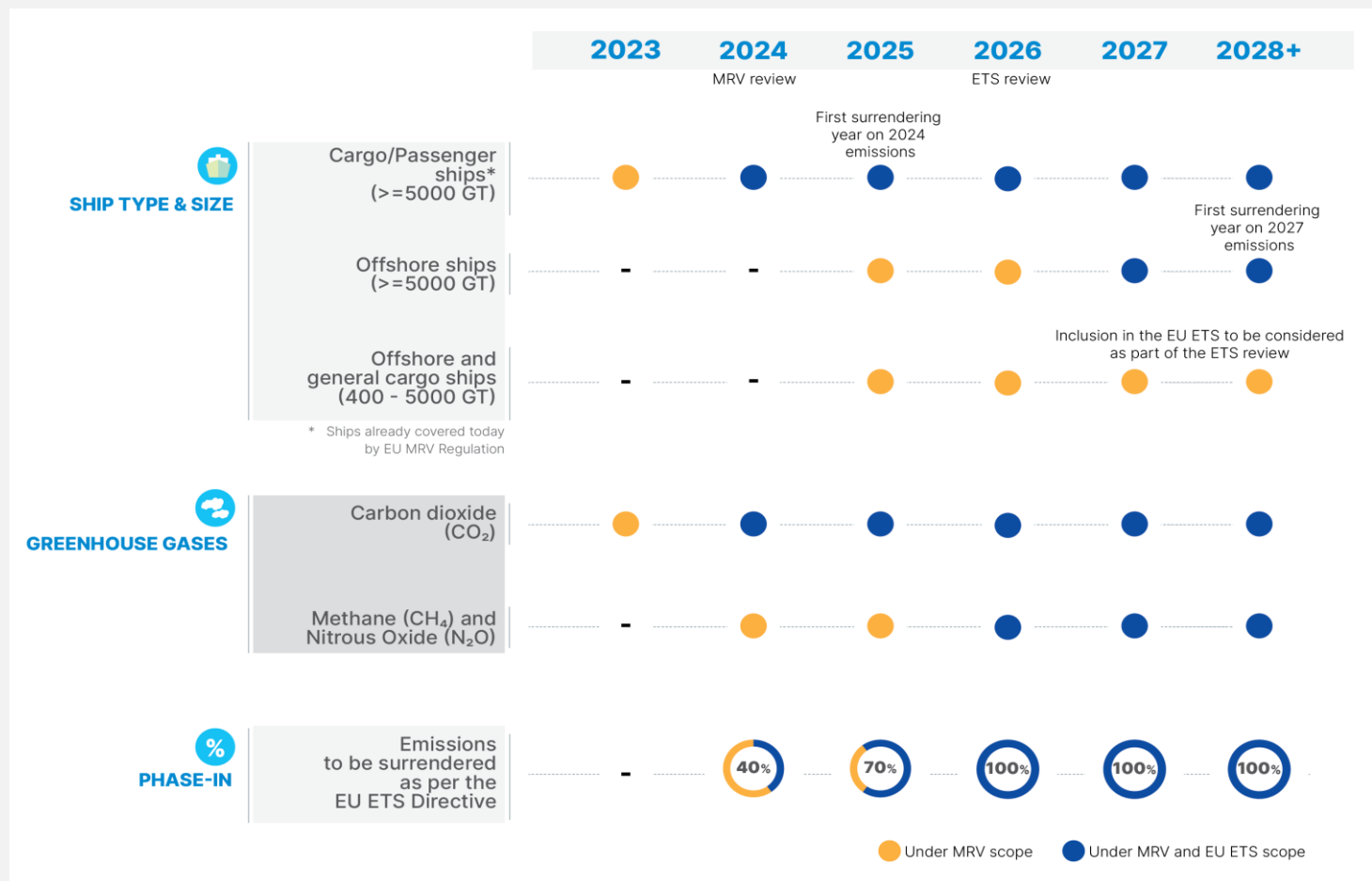
1. Load or unload cargo
2. Embark or disembark passengers
3. Relieve of crew from offshore ships

Not Included:

1. Refueling
2. Obtaining supplies
3. Relieving the crew (other than an offshore vessel)
4. Going into dry dock or making repairs to ship, equipment, or both
5. Stops in ports for ships in need of assistance or in distress
6. Ship-to-ship transfer carried out outside ports
7. Taking shelter from adverse weather
8. Stops of containerships in a **neighboring container transshipment** port listed in the implementing act

MRV EVOLUTION & ETS PHASE-IN

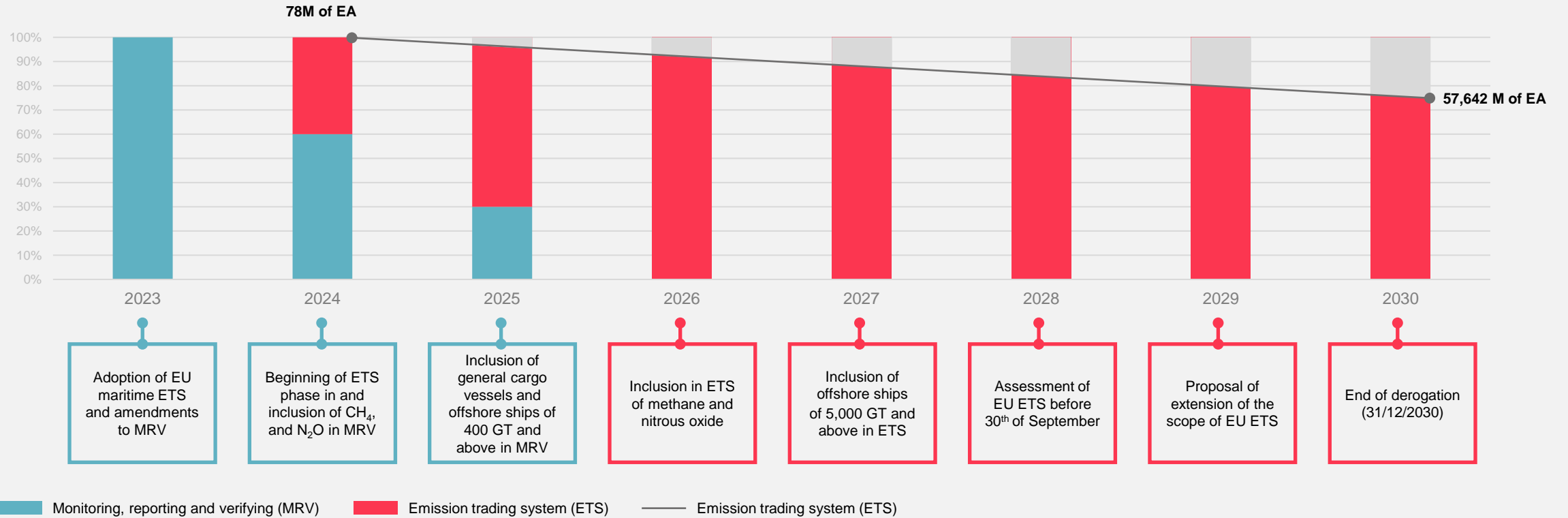
- › As of 1 January 2024, CH₄ and N₂O emission need to be monitored and reported
- › As of 1 January 2025, MRV will also apply to offshore ships of 400 GT and above
- › From 2027 ETS will apply to offshore ships of 5,000 GT and above
- › Inclusion of offshore ships between 400 and 5,000 GT in ETS is considered as part of ETS review



Source: EMSA

FROM MRV TO AN MRV/ETS SYSTEM

MARITIME EMISSION VOLUMES



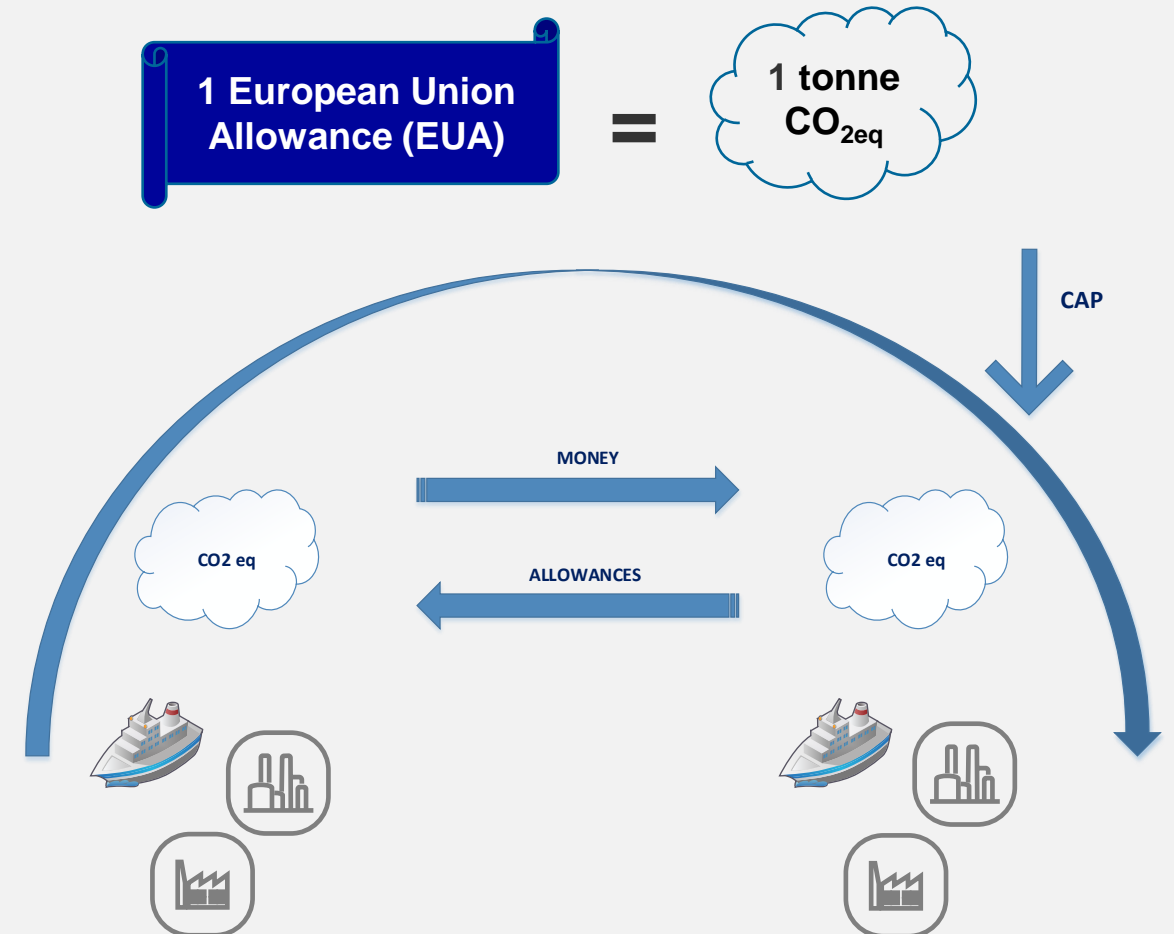
The cap is reduced on an annual basis.

The reduction linear factor for GHG emissions allowances will be – 4.3% from 2024 to 2027 and – 4.4% from 2030.

SOURCING OF ALLOWANCES

MARKET ACCESS

- › Allowances obligation triggered by the MRV data, one may source EUA via different channels:
 - › Primary Market - EEX platform
 - › Secondary Markets – Other Market Players
- › EUAs do not expire and may be banked for future years



NON-COMPLIANCE PENALTIES

- › In case of non-surrender of sufficient allowances to cover emissions
 - › Payment of a penalty of 100 EUR for each tonne of CO₂eq non surrendered
 - › Obligation to surrender missing EUAs
 - › Publication of name of companies in breach with the requirements
- › In case of failure to comply for two or more consecutive years
 - › Expulsion/Detention order may be issued for any ships of the non-complying company



02. EU ETS

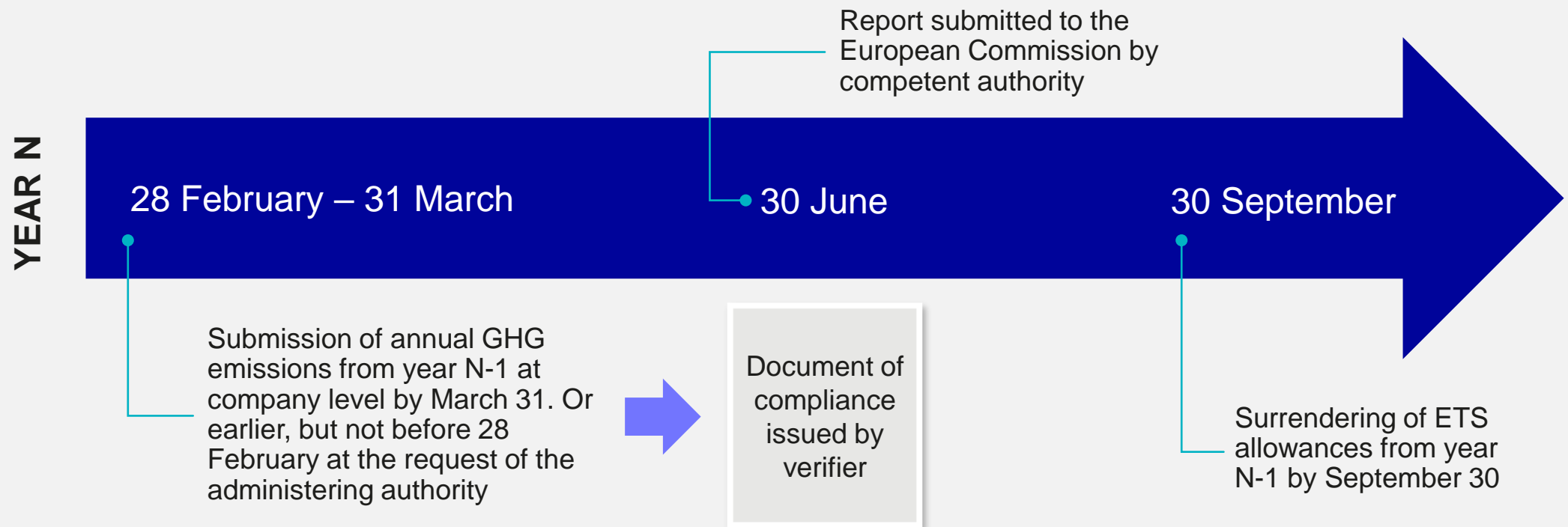
Compliance cycle



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COMPLIANCE CYCLE

- › The annual procedure for monitoring, reporting and verifying (MRV), together with all the associated processes, is known as the ETS compliance cycle



SUBMISSION OF MONITORING PLAN

- › Ships calling at EU ports are required to have a verified monitoring plan onboard. European Commission provides Monitoring plan templates
- › For a ship that falls within the scope of the MRV Maritime Regulation and ETS Directive for the first time after 1 January 2024, the shipping company must submit the monitoring plan to the administering authority within three months after the ship's first port of call in a port under the jurisdiction of a Member State
- › The monitoring plan should have already been assessed by an independent accredited verifier before submission to the administering authority

Table C.2

Monitoring of greenhouse gas emissions and fuel consumption

C.2.1. Methods used to determine greenhouse gas emissions and fuel consumption of each emission source:

Emissions source reference No ⁽¹⁾	Name of the emissions source	Emissions source type ⁽²⁾	Chosen method(s) ⁽³⁾

⁽¹⁾ As reported under Table B.3.

⁽²⁾ Select one of the following categories: 'Main engines', 'Auxiliary engines', 'Gas turbines', 'Boilers', 'Inert gas generators', 'Fuel cells', 'Waste incinerators', 'Other'.

⁽³⁾ Select one or more of the following categories: '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' or 'Method D: Direct greenhouse gas emissions measurement'.

C.2.2. Procedures for determining fuel bunkered and fuel in tanks:

Title of procedure	Determining fuel bunkered and fuel in tanks
Reference to existing procedure	
Version of existing procedure	
Description of procedure (a brief description of the procedure can be provided if already existing outside the monitoring plan)	
Name of person or position responsible for this procedure	
Location where records are kept	
Name of IT system used (where applicable)	

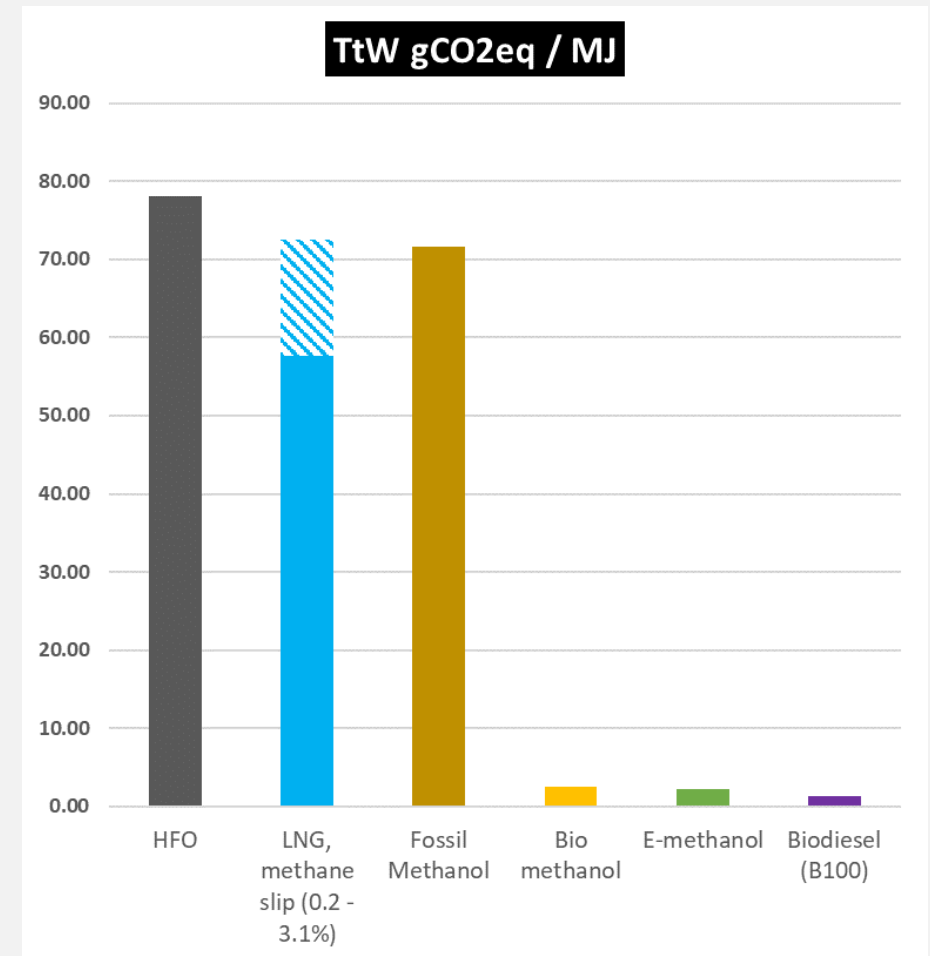
C.2.3. Regular cross-checks between bunkering quantity as provided by BDN and bunkering quantity indicated by on-board measurement:

Monitoring plan template extract

Source: EC – IMPLEMENTING REG (EU) 2023/2449

GHG EMISSION CALCULATION

- › The calculation is GHG emissions to be reported is based on revised formulas and emission coefficients including CH₄ and N₂O emissions and methane slippage
- › CO₂ emission factor of Zero when using RED II certified biofuels
- › Captured CO₂ may be excluded from EUAs purchases, if captured for the purpose of being permanently stored or permanently chemically bounded in another material



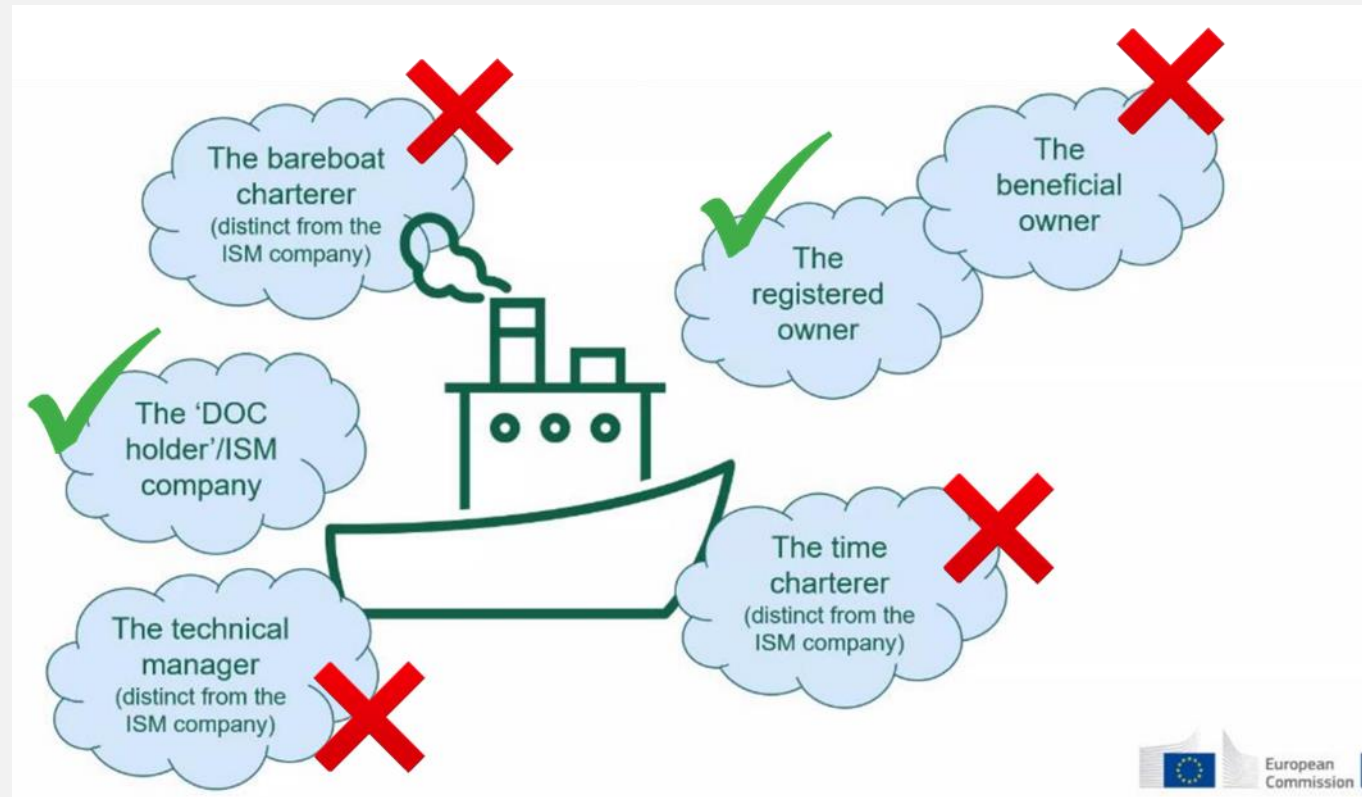
FUNCTIONING OF EU UNION REGISTRY

- › The Union Registry is an IT system similar to online banking, used for the
 - › Accounting of ETS allowances
 - › Record of annual verified GHG emissions
 - › Transfer of allowances between parties
- › Each shipping company needs to [open a Maritime Operator Holding Account](#) to:
 - › Submit annual GHG emission at company level by March 31 or earlier, but not before 28 February at the request of the administering authority
 - › Surrender allowances by September 30
- › Applications to open a MOHA within 65 working days of the first part of call within the scope of the ETS Directive



WHO IS RESPONSIBLE FOR COMPLIANCE?

- › The same entity is responsible with compliance with ETS and MRV obligations
- › The “shipping company” is the entity responsible for ETS/MRV compliance in respect to the emission from a given ship
- › The shipping company can be either the registered owner or the ISM Company
- › The registered owner is the entity responsible by default – in case the ISM company takes responsibility, a signed document between both entities needs to be submitted to the administering authorities



03.

EU ETS & TUGS

Potential impact



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QUIZ TIME: IS A TUG AN OFFSHORE SHIP?

› Yes

assuming that the regulator's intention is to include all maritime non-transport ships in the EU scope under the general name *offshore ships*, and/or considering that tugs may be engaged in offshore operations (= support for or involvement in activities in a [...] sea or areas [...] used for offshore civil engineering, exploration or production of hydrocarbons, production of energy from water, wind or other emerging energy technologies – ref. UK MCA MGN 516)

› No

tugs are not considered as (other) offshore (supply) ships under the (revised) harmonized reporting procedures on marine casualties and incidents (ref. IMO MSC-MEPC.3/Circ.3)

› Pfff.... dunno

seagoing tugs can be deployed in both the offshore sector as well as other maritime segments, so it's really unclear



AFFECTED FLEET (POSSIBLY...)

	GT	400-499	500-999	1,000+	TOTAL
Global		2,174	734	195	3,103
Manager in EU/EEA		332	90	23	445
EU/EEA flag		294	71	20	385

Source: IHS Sea-web

- › *Includes harbor/terminal tugs, coastal/offshore engineering support tugs and ETVs, excludes tugs engaged in anchor handling and offshore supply*
- › Some EU/EEA managed tugs on term contract in non-EU/EEA terminals (e.g. Australia)
- › UK tugs expected to also call EU ports
- › **Estimate affected tugs: 400 to 425**

- › Estimate affected (AH)T(S): 200 to 230



ETS CHALLENGES AND CONCERNS

- › How to account for dual-service model (offshore vs maritime transport) within the ETS?
- › Tugs typically carry out high frequency/short duration trips. As ETS regulates on a per-voyage basis, this will likely lead to significant administrative burden/cost
- › ETS definition of port call i.c.w. crew change may cause unintended effects for (offshore) tugs
 - › Avoiding crew changes in EU/EEA ports
 - › Shifting of home port/operating base outside EU/EEA countries (where operationally feasible)
- › A 400 GT cut-off is rather arbitrary for tugs, raising questions of fair treatment (for tugs with similar operational characteristics and emission profile)

TO ETS OR NOT TO ETS?



- › 32 m ASD tug
- › 5,050 kW / 85 t BP
- › 450 GT



- › 28 m ASD tug
- › 5,050 kW / 85 t BP
- › 380 GT

CASE STUDY

70T BP TUG 400-500 GT / IMO TIER III

Task	Power demand [KW]	Time spent [h/year]	Consumption [l/h]	Emissions [t CO ₂ eq/y]
Sail to meet vessel	1,741	198	445	247
Spin vessel 180 degrees	3,446	198	811	456
Shift into berth	2,174	300	541	449
Push to hold for lines	1,119	600	303	524
Return to basin	1,755	198	449	249
Sail to loaded vessel at berth	1,741	198	445	247
Push to hold for lines	1,114	600	301	522
Shift vessel off dock	3,446	96	811	221
Escort out 1nm	1,741	198	445	247
Return to basin dock	1,755	198	449	249
Total		2,784		3,410

3,455
tonnes
CO₂ eq

=

3,455 European
Union Allowance
(EUA)

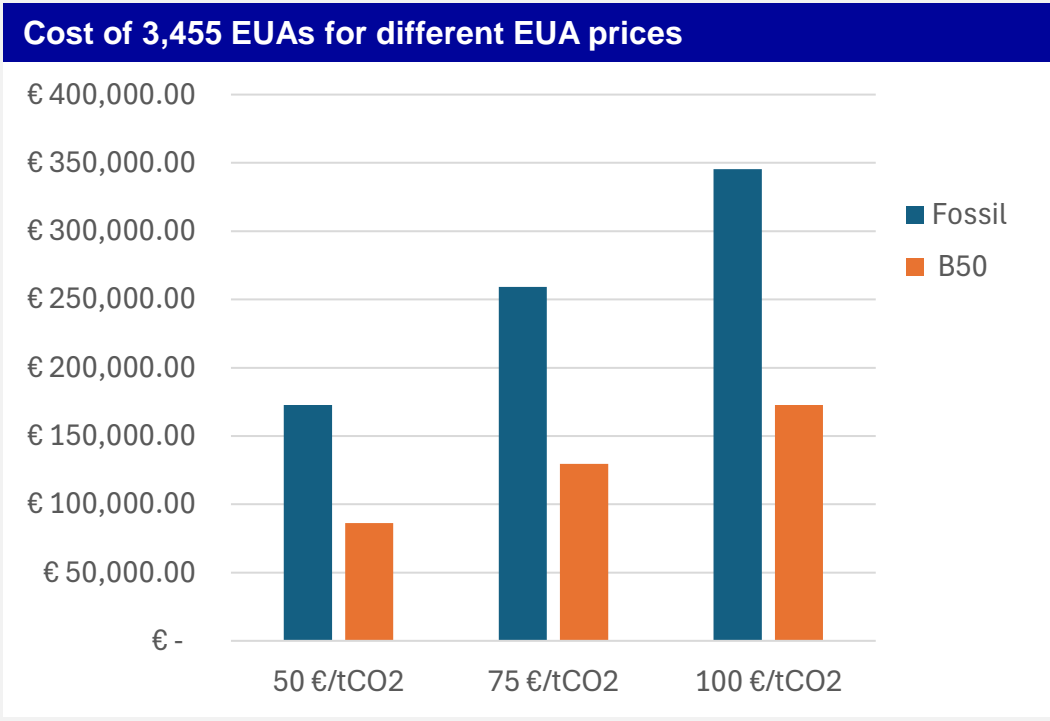
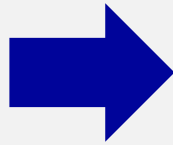
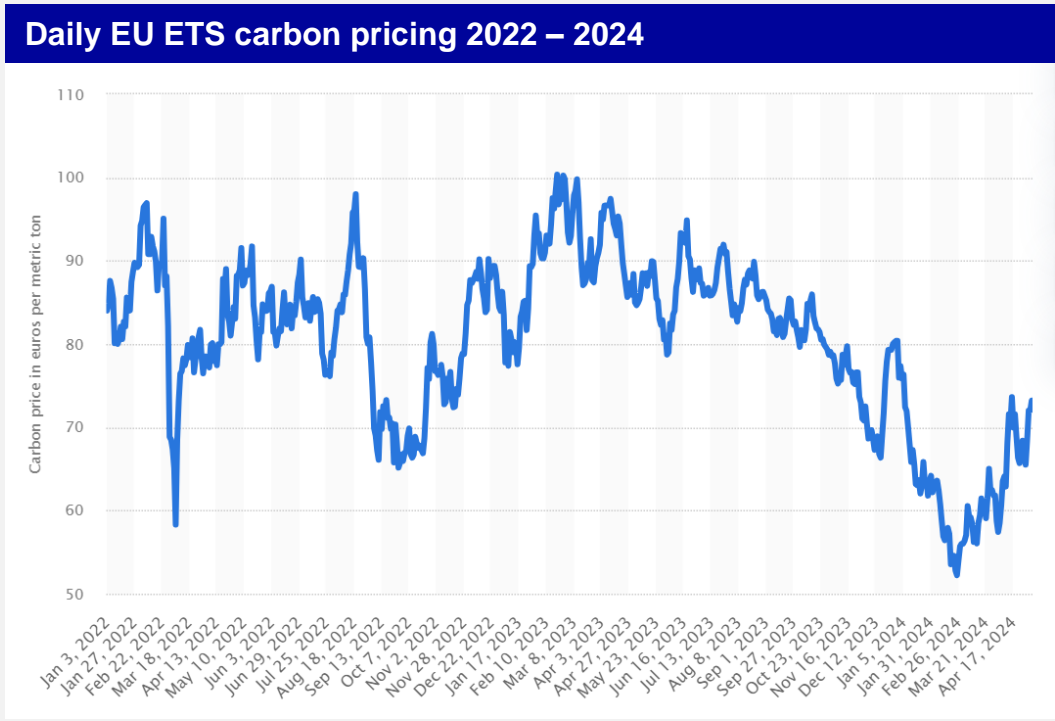
Operational profile example based on anonymous dataset

Dataset only includes CO₂ emissions: factor 1.013 applied for conversion to CO₂ eq – no fuel slip included

Courtesy of Robert Allan Ltd

CASE STUDY

70T BP TUG 400-500 GT / IMO TIER III



Source: Statista

*EUAs can be purchased in advance and do not expire
 EUA management strategies can be implemented to minimize cost*

A NEW ERA FOR FUEL HEDGING STRATEGIES?

- › The EUA “burden” can represent an important share of the total cost associated with use of fossil fuel

MFO + associated EUA simplified spot price
= 465 USD/t + (3.11*95) USD/t = 760 USD/t – about 19 USD/GJ

- › Cost of EUA could represent about 60% of nominal price per GJ



**THANK YOU
FOR YOUR
ATTENTION**



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**BUREAU VERITAS
MARINE & OFFSHORE**