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Monitoring and reporting – MRV/ETS

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What are the changes?

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Existing EU MRV
Regulation (EU) 2015/757

EU MRV Plan

Emissions of CO_2

Yearly reporting period only

Ship's emission report

Verified report submitted to European Commision by end of April

Revised EU MRV
Regulation (EU)2023/957 amending Regulation (EU) 2015/757
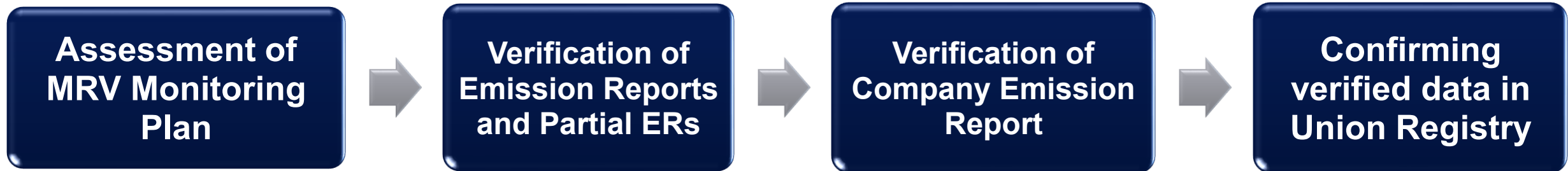
Extended EU MRV Plan

Emissions of CO_2, N_2O and CH_4

Partial MRV report + Yearly report

Company level emissions combining ships' emission reports

Verified company report submitted to Administering Authority by end of March and EC

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Shipping Company – Verifier interactions

Assessment of MRV Monitoring Plan → **Verification of Emission Reports and Partial ERs** → **Verification of Company Emission Report** → **Confirming verified data in Union Registry**

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Revised EU MRV Monitoring plan

Additional inclusion:

✓ Emission factors for CH_4 and N_2O

✓ Procedures related to determining the emission factors for biofuels, RFNBOs (renewable fuels of non-biological origin) and RCFs (recycled carbon fuels)

✓ Emission source class and slippage coefficient values for LNG-fuelled ships

✓ Detailed information on the shipping company

✓ Information on application of carbon capture and storage technologies

✓ Procedures covering data flow activities and risk assessment.

Regulation (EU) 2023/2449
Published 6th Nov 2023

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Revised EU MRV

Regulation (EU)2023/957 amending Regulation (EU) 2015/757

Scope of emissions

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

GHG_{MRV}	Greenhouse gas emissions to be reported under this Regulation, expressed in tonnes CO_2 equivalent, where 'CO$_2$ equivalent' means the metric measure used to compute the emissions from CO_2, CH_4 and N_2O on the basis of their global warming potential, by converting amounts of CH_4 and N_2O to the equivalent amount of carbon dioxide with the same global warming potential.
$CO_{2\,MRV}$	Total aggregated CO_2 emitted within the scope of this Regulation
$CH_{4\,MRV}$	Total aggregated CH_4 emitted within the scope of this Regulation
N_2O_{MRV}	Total aggregated N_2O emitted within the scope of this Regulation
GWP_{CH_4}	Global warming potential of CH_4 over 100 years as referred to in Commission Delegated Regulation (EU) 2020/1044 **(28)**
GWP_{N_2O}	Global warming potential of N_2O over 100 years as referred to in Commission Delegated Regulation (EU) 2020/1044 **(265)**

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Fossil fuels – emission factors

1	2	3	4	5	6
Fuel Class	**Type of Fuel**	EF_{CO_2} $\left[\frac{gCO_2}{gFuel}\right]$	EF_{CH_4} $\left[\frac{gCH_4}{gFuel}\right]$	EF_{N_2O} $\left[\frac{gN_2O}{gFuel}\right]$	C_j As % of the mass of the fuel used by the emissions source
Fossil	HFO ISO 8217 Grades RME to RMK	3,114	0,00005	0,00018	-
	LFO ISO 8217 Grades RMA to RMD	3,151	0,00005	0,00018	-
	MDO MGO ISO 8217 Grades DMX to DMB	3,206	0,00005	0,00018	-
	LNG	2,750	0	0,00011	3,1% for LNG Otto (dual fuel medium speed)
					1,7% for LNG Otto (dual fuel slow speed)
					0,2% for LNG Diesel (dual fuel slow speed)
					2,6% for Lean-Burn Spark-Ignited (LBSI)

LNG fuel consumption must be reported at least **per group of consumers** with one **slippage coefficient value**

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Change of company – EU MRV

Article 11.2 amendment of Regulation (EU) 2015/757

```
┌─────────────────────┐                                          ┌─────────────────────┐
│  Previous Company   │──────────────────────────────────────▶  │ Partial Emission Report │
│    the same year    │      Data covering period of             └─────────────────────┘
└─────────────────────┘      company's responsibility
```
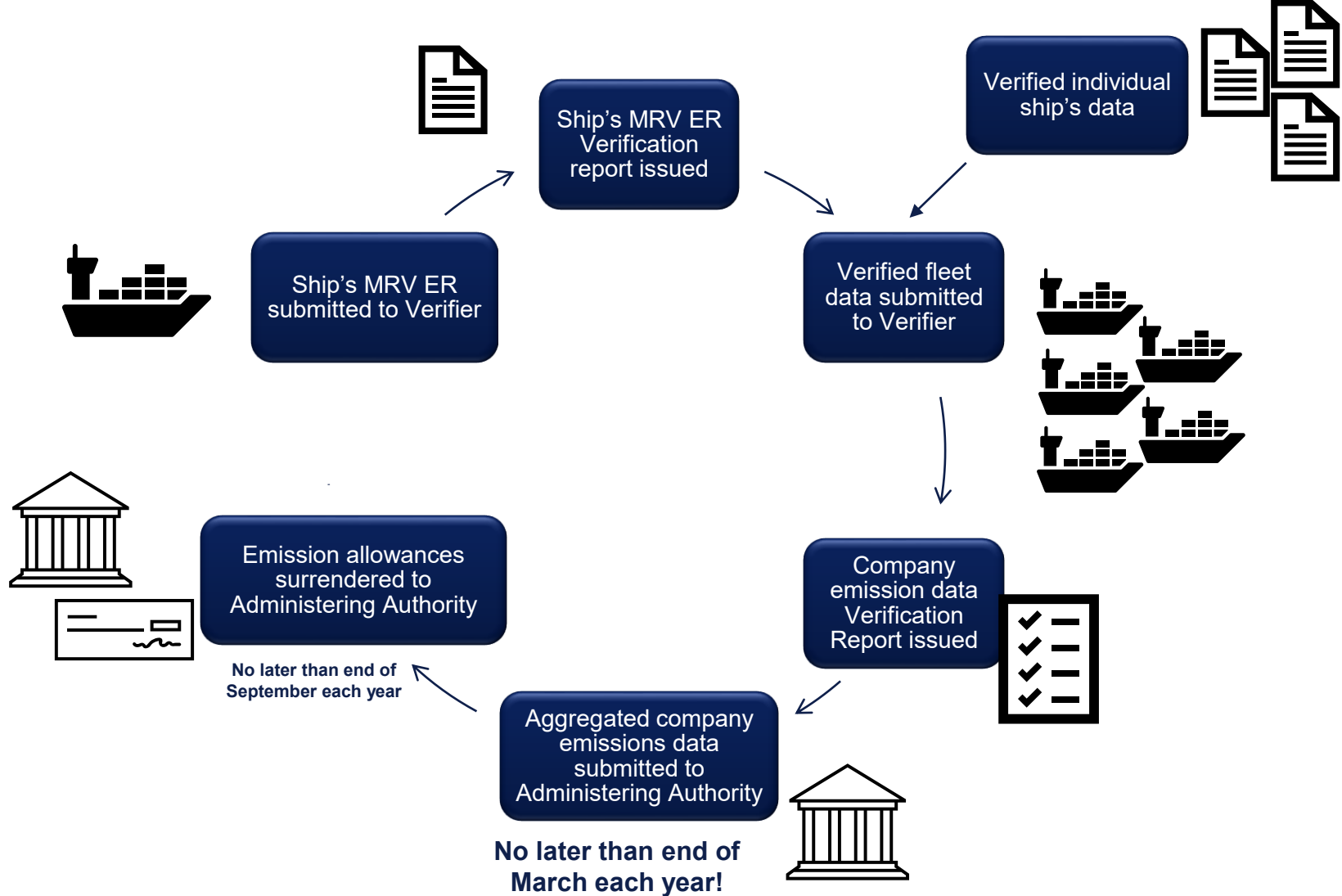
*Where there is **a change of company**, the previous company shall submit to the administering authority responsible, to the authorities of the flag States concerned for ships flying the flag of a Member State, to the new company and to the Commission, as close as practicable to the day of the completion of the change and no later than three months thereafter, **a verified report** covering the same elements as the emissions report referred to in paragraph 1, but limited to the period corresponding to the activities carried out under its responsibility.*
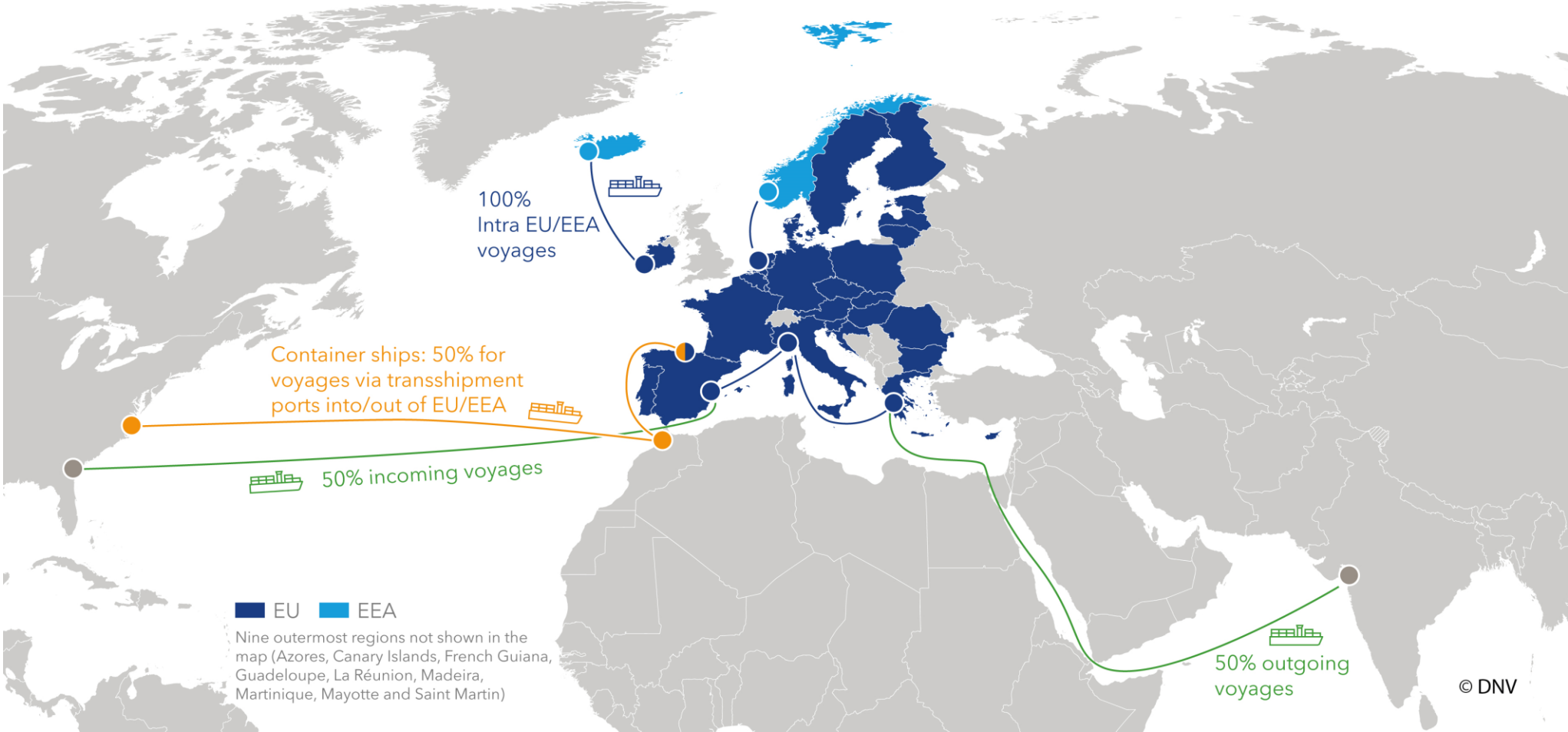
```
┌─────────────────────┐
│  Previous Company   │   Verified data
│    the same year    │   exchange
└─────────────────────┘        ↕              Verified partial MRV report
                         ┌─────────────────┐ ──────────────────────────▶  ┌──────────────┐
                         │    Company      │                              │   Ship's     │
                         │ responsible on 31st │                          │  Emission    │
                         │  Dec each year  │ ──────────────────────────▶  │   Report     │
                         └─────────────────┘    Data covering period of   └──────────────┘
                                                company's responsibility
```

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Revised EU MRV/ETS verification cycle

Ship's MRV ER submitted to Verifier

Ship's MRV ER Verification report issued

Verified individual ship's data

Verified fleet data submitted to Verifier

Company emission data Verification Report issued

Aggregated company emissions data submitted to Administering Authority

No later than end of March each year!

Emission allowances surrendered to Administering Authority

No later than end of September each year

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How to calculate ETS emissions?

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50% or 100% coverage of emissions ?

100% Intra EU/EEA voyages

Container ships: 50% for voyages via transshipment ports into/out of EU/EEA

50% incoming voyages

50% outgoing voyages

EU   EEA

Nine outermost regions not shown in the map (Azores, Canary Islands, French Guiana, Guadeloupe, La Réunion, Madeira, Martinique, Mayotte and Saint Martin)

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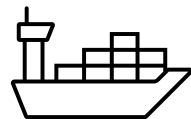
Lisboa (PT)
EU

Jacksonville (US)
Non- EU
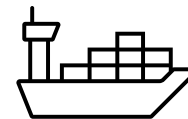
Houston (US)
Non - EU

| 100% | 50% | 50% | 50% | 0% |

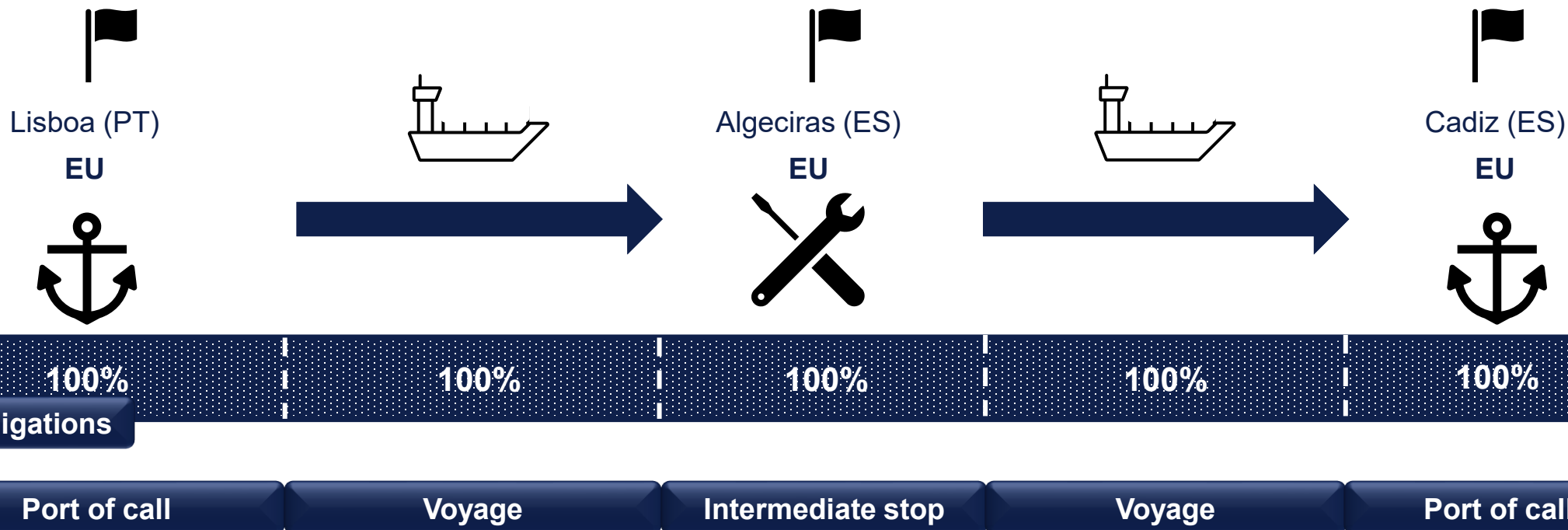**EU ETS Obligations**

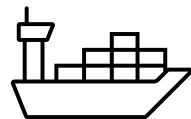| Port of call | Voyage | Intermediate stop | Voyage | Port of call |

Bunkering example

- ➤ **Voyage Lisboa – Houston is and Out-of-EU (50%) voyage**
- ➤ **Stop for bunkering is not recognized as port of call**
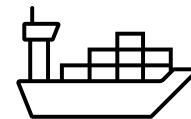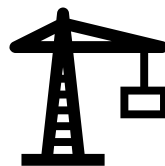- ➤ **Port stay in Jacksonville is part of an ongoing voyage**

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Lisboa (PT) — **EU**

Algeciras (ES) — **EU**

Cadiz (ES) — **EU**

EU ETS Obligations: 100% | 100% | 100% | 100% | 100%

Port of call | Voyage | Intermediate stop | Voyage | Port of call

Dry-docking example

➢ **Voyage Lisboa – Cadiz is and Within-EU (100%) voyage**

➢ **Stop for dry-docking is not recognized as port of call**

➢ **Stay in Algeciras is part of an ongoing voyage**
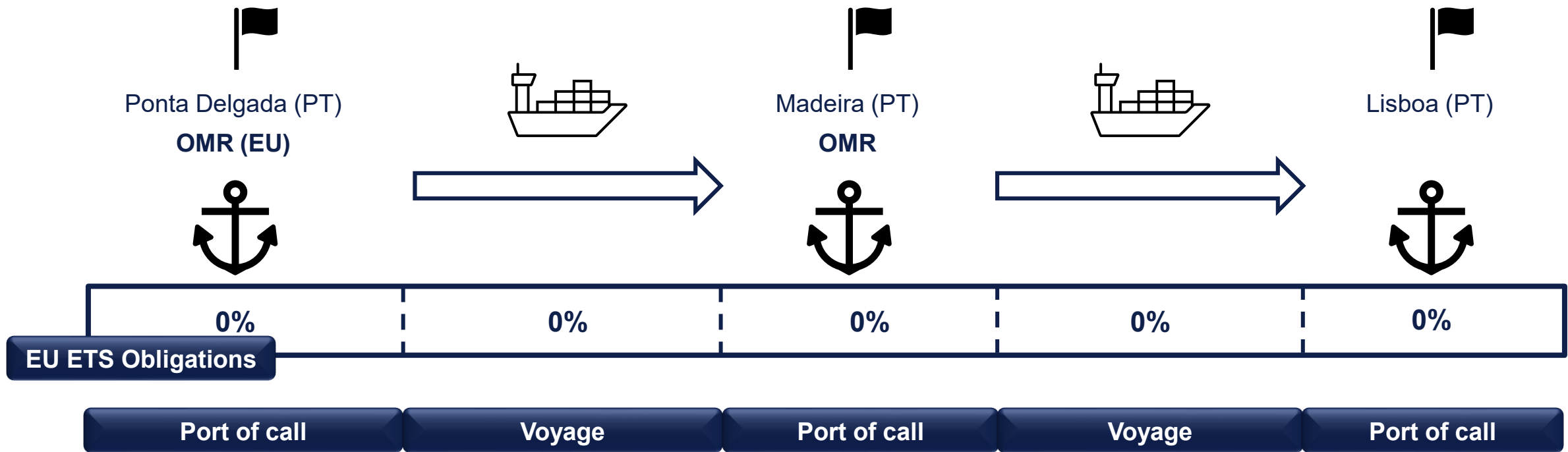
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Transhipment port example

- Voyage Lisboa – Houston is and Out-of-EU (50%) voyage
- Stop in transhipment port is not recognized as port of call
- Port stay in Tanger is part of an ongoing voyage
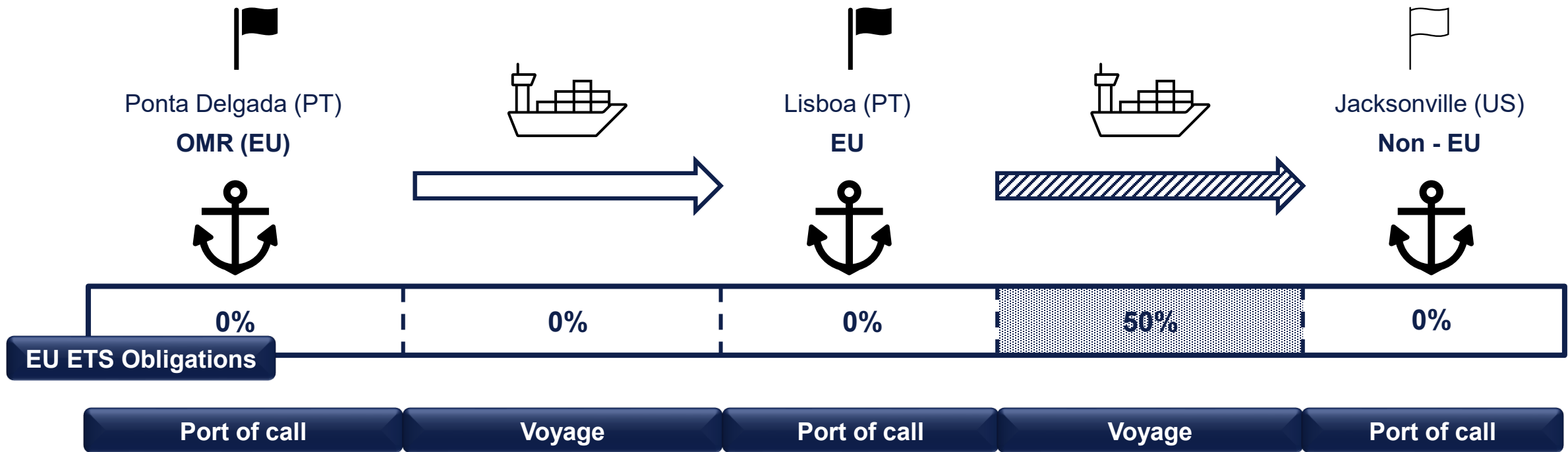
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Ponta Delgada (PT)
OMR (EU)

Lisboa (PT)
EU

Jacksonville (US)
Non - EU

EU ETS Obligations				
0%	0%	0%	50%	0%
Port of call	Voyage	Port of call	Voyage	Port of call

Outermost region derogation - EU ETS Article 12(3-b)

× Voyages between two Outermost regions ports of the same Member State

✓ Voyages between Outermost region port and port of the same Member State

✓ Ports stays in relation to such voyages

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Ponta Delgada (PT)
OMR (EU)

Madeira (PT)
OMR

Lisboa (PT)

EU ETS Obligations				
0%	0%	0%	0%	0%

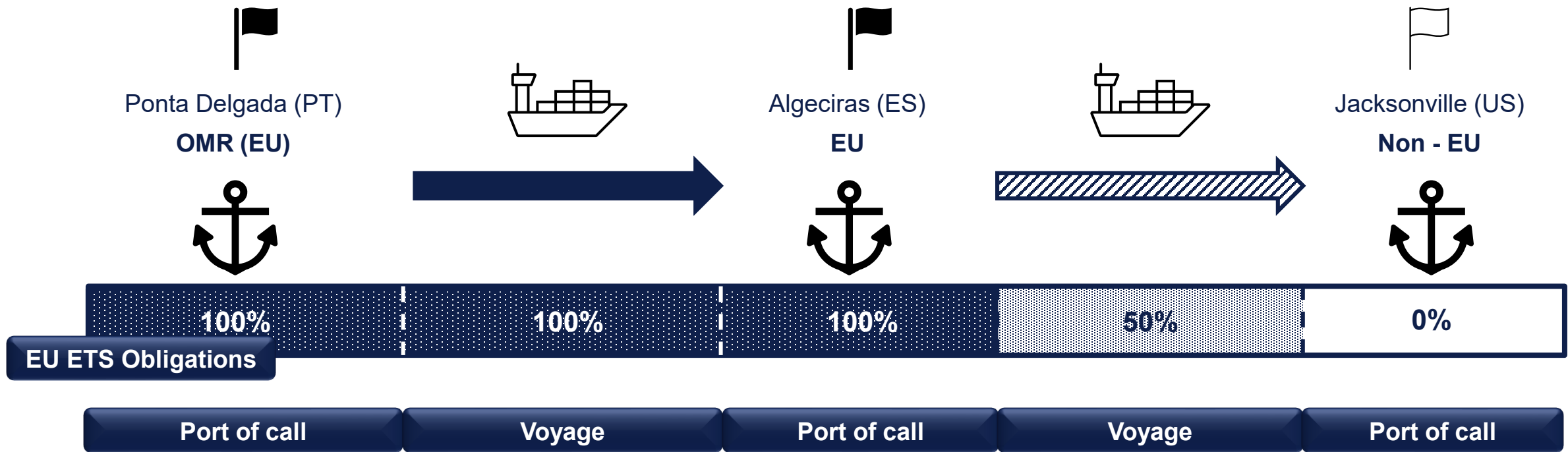| Port of call	Voyage	Port of call	Voyage	Port of call

Outermost region derogation - EU ETS Article 12(3-b)

✓ **Voyages between two Outermost regions ports of the same Member State**

✓ **Voyages between Outermost region port and port of the same Member State**

✓ **Ports stays in relation to such voyages**

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Ponta Delgada (PT)
OMR (EU)

Algeciras (ES)
EU

Jacksonville (US)
Non - EU

EU ETS Obligations

| 100% | 100% | 100% | 50% | 0% |

| Port of call | Voyage | Port of call | Voyage | Port of call |

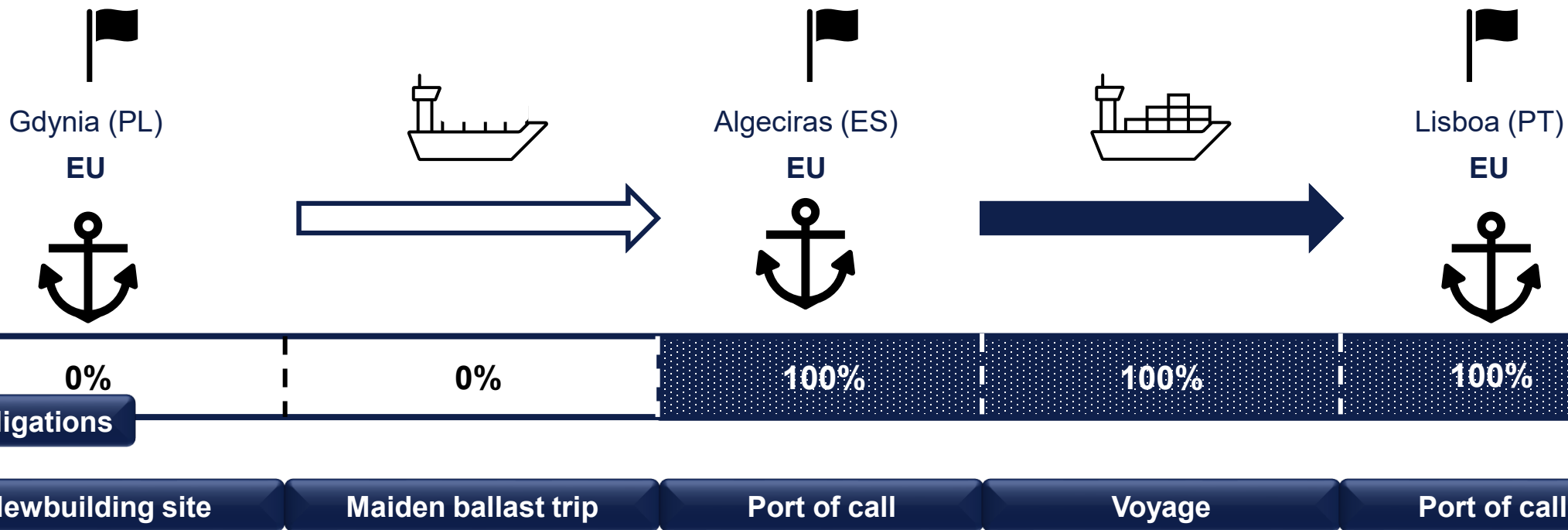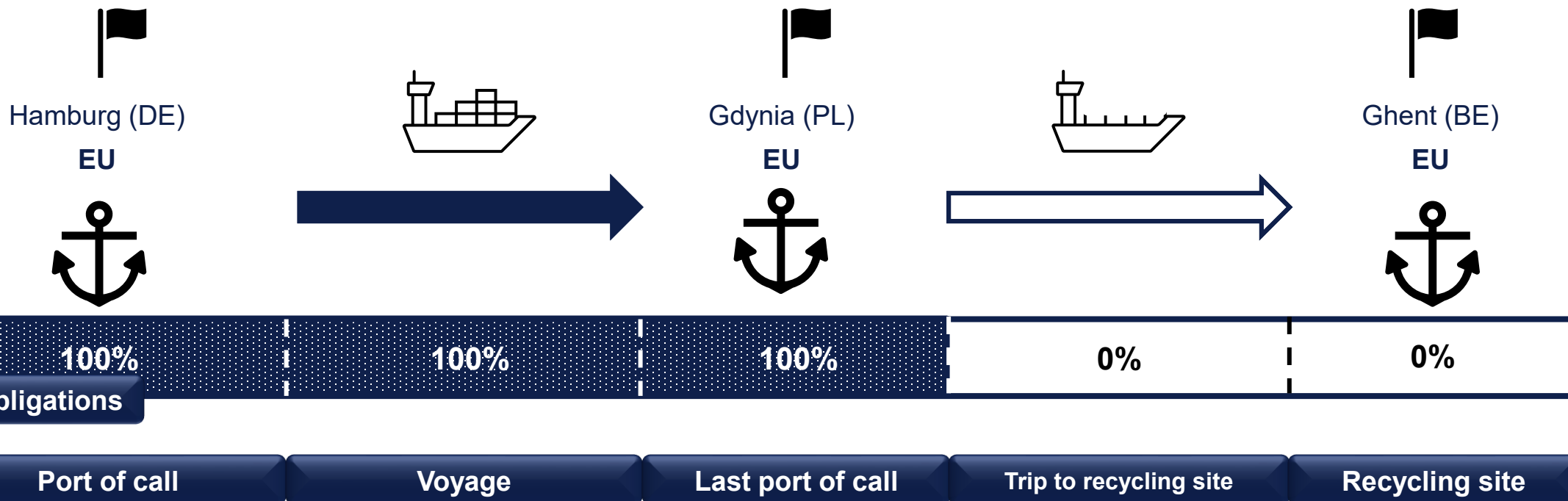**Outermost Region derogation - EU ETS Article 12(3-b) not applicable**
- × **Voyages between two Outermost regions ports of the same Member State**
- × **Voyages between Outermost region port and port of the same Member State**
- × **Ports stays in relation to such voyages**

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Gdynia (PL) EU — **Algeciras (ES)** EU — **Lisboa (PT)** EU

| EU ETS Obligations | 0% | 0% | 100% | 100% | 100% |

| Newbuilding site | Maiden ballast trip | Port of call | Voyage | Port of call |

Vessel delivery example

➢ **Voyage Gdynia – Algeciras is not an MRV voyage**

➢ **Stop in Algeciras is recognized as port of call**

➢ **Stay at NB-site in Gdynia is not subject to MRV regulation**

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Hamburg (DE) EU — **Gdynia (PL)** EU — **Ghent (BE)** EU

EU ETS Obligations

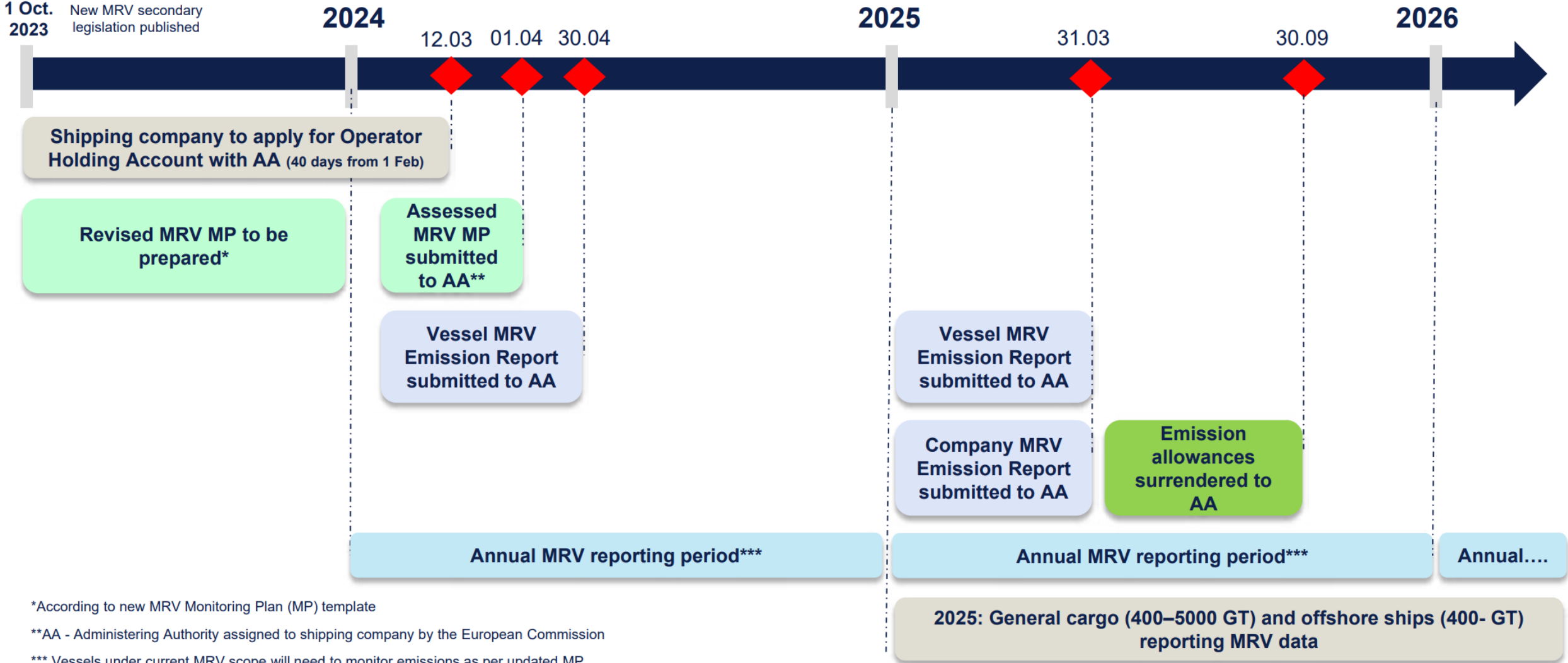| Port of call	Voyage	Last port of call	Trip to recycling site	Recycling site
100%	100%	100%	0%	0%

Vessel recycling example

➢ **Voyage Gdynia – Ghent is not an MRV voyage**
➢ **Stop in Ghent is not recognized as port of call**
➢ **Stay at recycling facility in Ghent is not subject to MRV regulation**

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What's the next step?

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MRV/ETS requirements timeline

1 Oct. 2023 — New MRV secondary legislation published

2024 | 12.03 | 01.04 | 30.04

2025 | 31.03 | 30.09

2026

Shipping company to apply for Operator Holding Account with AA (40 days from 1 Feb)

Revised MRV MP to be prepared*

Assessed MRV MP submitted to AA**

Vessel MRV Emission Report submitted to AA

Vessel MRV Emission Report submitted to AA

Company MRV Emission Report submitted to AA

Emission allowances surrendered to AA

Annual MRV reporting period***

Annual MRV reporting period***

Annual....

2025: General cargo (400–5000 GT) and offshore ships (400- GT) reporting MRV data

*According to new MRV Monitoring Plan (MP) template

**AA - Administering Authority assigned to shipping company by the European Commission

*** Vessels under current MRV scope will need to monitor emissions as per updated MP

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EU ETS – next steps

✓ Decide on **ETS/MRV responsibility**

✓ Prepare and submit a **revised MRV Monitoring Plan** to your verifier

✓ Secure **managing and acquiring EUAs** based on trusted emissions data

✓ Knowing your Administering Authority, apply for a **Maritime Operator Holding Account**

Useful Links:

Preparing for the EU ETS – next steps – DNV Technical & Regulatory News

EU ETS FAQs by European Commission

EU ETS FAQs by DNV

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