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EU ETS

What is EU ETS

The EU ETS, or European Union Emissions Trading System, was introduced in 2005 as a key component of the EU Green Deal. It stands as the world's largest cap-and-trade system for greenhouse gas (GHG) emissions. The primary goal is to regulate and reduce overall GHG emissions, thereby contributing to the EU's commitment to become carbon neutral by 2050. Additionally, the system aims to generate revenue for green investments.

Under the EU ETS, a cap is placed on the total allowable GHG emissions, which is progressively reduced over time. For instance, in 2021, the reduction target was set at -2.2% yearly. The current carbon price is 80 EURO per ton-CO2, but it fluctuated to around 105 EURO in February 2023, influenced by factors such as high gas prices etc.

Scope of EU ETS in Maritime Transport

In the context of maritime transport, the EU ETS covers vessels with a gross tonnage > 5000, irrespective of their flag. The emissions within its scope include 100% of those occurring between two EU ports, 100% within EU ports, and 50% of emissions from voyages starting or ending outside the EU. The scope also expands to include CO2 from 2024, and NOx and CH4 from 2026, with a phased-in period for emissions allowances.

Companies operating maritime vessels are obligated to surrender allowances for a percentage of their emissions during specific years. By 2025, they must surrender 40% of their emissions, increasing to 70% in 2026 and reaching 100% by 2027.

The consequences for maritime entities involve the preparation of individual monitoring plans for each ship in 2023. In 2024, the focus shifts to monitoring emissions calculations, while 2025 sees the submission of three reports for each ship, all of which require verification. By March 31, 2025, the reports must be verified at the company level, and by September 30, 2025, allowances for 2024 emissions must be surrendered. The purchase of ETS allowances is possible at any time, but these allowances will be subject to an EU ETS surcharge for shippers.

Cost Impact

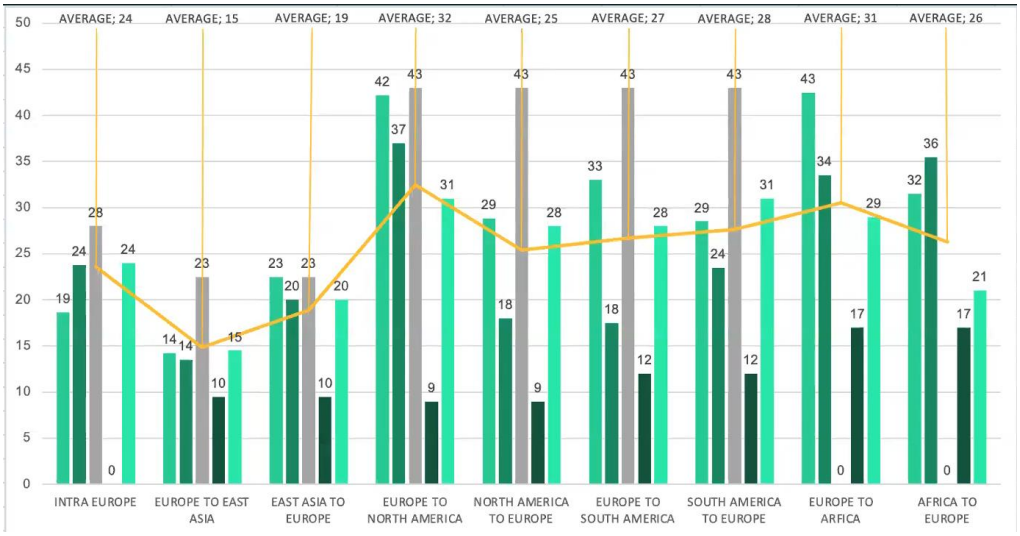
Trade lanes and carrier charge estimates for 2024.

Shipping line	Trade Lanes	Carbon price (Eur/ton co2)	Emission Covered (%)
MSC	22	90	40
CMA – CGM	13	90	40
Mærsk	32	90	40

Allowance of 40% must be surrender therefore carrier prices based on this value.
Shipping companies will update surcharge every 1-3 months.

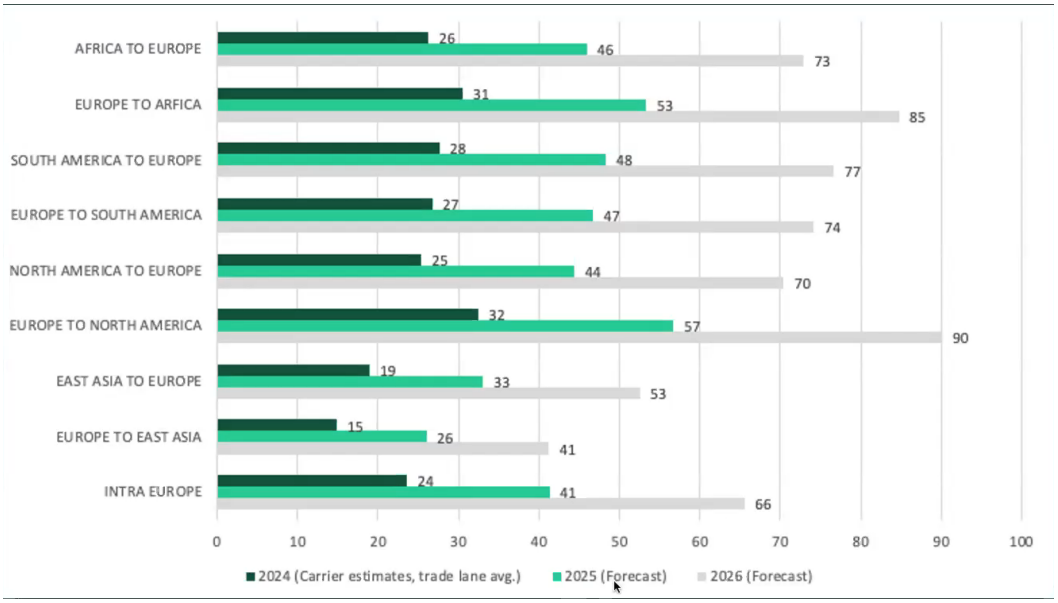
Forecast for 2025 and 2026

Surcharge estimates of shipping lines in 2024



In above graph you can see the avg. surcharge estimates and the trade lanes of 5 different carriers. We can compare the trade lanes with eachother. The cheapest trade lane is from europe to asia which is 15 EUR/TEU. And the average rate is 25 EUR/TEU dry. The prices of intereurope is taken little high due to 100% EU ETS involvement. Also ship sizes are shorter so more money per container. Where as deep sea offers larger ships results in lower emissions per TEU hence cheaper.

70 and 100% emissions (incl. 40%)



Graph shows average price forecast in EURO per dry container and trade lanes for all carriers.

- 2024: 40% Emissions; 90 EUR/ton co2
- 2025: +175% vs 2024; 70% Emissions; 90 EUR/ton co2
- 2026: +278% vs 2024; 700% Emissions; 100 EUR/ton CO2

Last Update: 15.11.2023

	MAERSK				MSC				CMA CGM			
TRADE LANE	**2024**		**2025***	**2026***	**2024**		**2025***	**2026***	**2024**		**2025***	**2026***
EUROPE	**DRY [€/TEU]**	**REEFER [€/TEU]**	**DRY [€/TEU]**	**DRY [€/TEU]**	**DRY [€/TEU]**	**REEFER [€/TEU]**	**DRY [€/TEU]**	**DRY [€/TEU]**	**DRY [€/TEU]**	**REEFER [€/TEU]**	**DRY [€/TEU]**	**DRY [€/TEU]**
Intra North Europe	11	16,5	19	31	36	54	63	100	37	48	65	103
Intra Mediteranean	22,5	34	39	63	17	26	30	47	25	40	44	69
Mediterranean to North Europe	20,5	31	36	57	21	31	37	58	25	35	44	69
North Europe to Mediterranean	20,5	31	36	57	21	31	37	58	25	35	44	69
INTRA EUROPE *(aggregation/calculated average)***	***18,6***	***28,1***	***33***	***52***	***23,8***	***35,5***	***42***	***66***	***28***	***39,5***	***49***	***78***
EAST ASIA												
North Europe to East Asia	23	34,5	40	64	13	20	23	36	25	40	44	69
East Asia to North Europe	35	52,5	61	97	22	33	39	61	25	40	44	69
Mediterranean to East Asia	5,5	8,5	10	15	14	21	25	39	20	30	35	56
East Asia to Mediterranean	10	15	18	28	18	27	32	50	20	30	35	56
EUROPE TO EAST ASIA *(aggregation/calculated average)***	***14,3***	***21,5***	***25***	***40***	***13,5***	***20,5***	***24***	***38***	***22,5***	***35***	***39***	***63***
EAST ASIA TO EUROPE (aggregation/*calculated average*)**	***22,5***	***33,8***	***39***	***63***	***20***	***30***	***35***	***56***	***22,5***	***35***	***39***	***63***

**** Note: Forecasts not provided by shipping lines***

***** Values written in italic font are aggregated/averaged values***

Carbon prices (EUR/tonn)

2024: 6% (North EU to East Asia)

2025: 10% (North EU to East Asia)

2026: 16% (North EU to East Asia)

Fuel EU Maritime

What is FuelEU Maritime?

FuelEU Maritime is a regulation which aims to support the decarbonization of the shipping industry. Upon entering into force from 1 January 2025, it will increase the share of renewable and low-carbon fuels in the fuel mix of international maritime transport in the European Union (EU).

The European Parliament (EP), Council of the European Union, and the European Commission (EC) have reached an agreement on the FuelEU Maritime regulation. The EP and Council are expected to formally adopt the revised regulation later in 2023.

FuelEU Maritime's impact on shipping

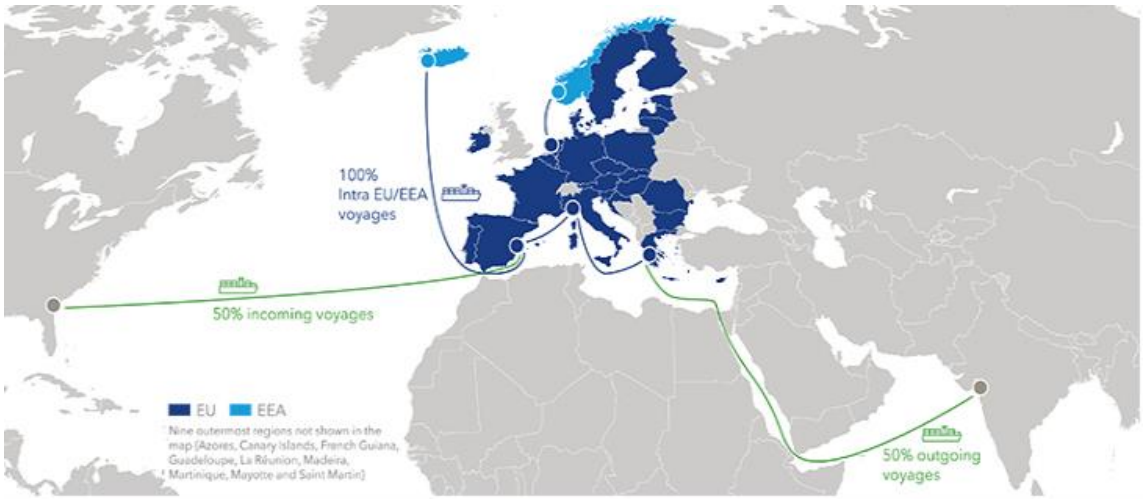
In general, FuelEU Maritime sets well-to-wake greenhouse gas (GHG) emission intensity requirements on energy used on board ships trading in the EU from 2025. What's more, it mandates the use of shore power for container and cruise ships in certain EU ports from 2030.

Greenhouse gas emissions must be below a required level

From 2025, for ships trading in the EU or European Economic Area (EEA), the yearly average GHG intensity of energy used on board, measured as GHG emissions per energy unit (gCO2e/MJ), needs to be below a required level.

The GHG emissions are calculated in a well-to-wake perspective, including emissions related to extraction, cultivation, production and transportation of the fuel, in addition to emissions from energy used on board the ship.

The FuelEU Maritime regulation also includes provisions for taking into account ships with wind-assisted propulsion.



FuelEU Maritime requirements based on percentage of energy used on voyages (Source: DNV)

The GHG intensity requirement applies to 100% of energy used on voyages and port calls within the EU or EEA, and 50% of energy used on voyages into or out of the EU or EEA.

To avoid evasive behaviour, container ships stopping in transhipment ports outside the EU or EEA, but less than 300 nautical miles from an EU or EEA port, need to include 50% of the energy for the voyage to that port as well, rather than only the short leg from the transhipment port. The EU will provide a list of transhipment ports.

Conclusion:

The shipping lines will impose EU ETS cost on shippers as EU ETS surcharge.

Surcharge estimates for 2024 differ per

- Trade lane: avg. 15 EUR – 32 EUR
- Carrier: avg 9 EUR – 43 EUR for the same trade lane.

EU ETS surcharge cost depends on

- Distance, fleet and operational characteristics (e.g. vessel size, capacity, speed and fuel/technology used)
- Carbon Price
- Emission included (phase-in: 40%, 70%, 100%, voyages: 50% vs. 100%)

Surcharges will increase in future

- EU ETS forecasts (2026): + 278% (vs. 2024)
- Frieght rate forecast (2026): Up to 38%

Surcharges are only estimates and subject to change.

Carbon price is highly volatile.

Possible Questions

Who will verify the emissions reports?

Emissions will be verified by an independent, impartial accredited legal entity or certified person. The verfier must be accredited by EU member states (i.e. National Accreditation Bodies).

Why has maritime transport been added to the ETS before other forms of transport (air, rail, road)?

Aviation is already included in EU ETS (since 2012). For road transport (and buildings) a new and separate ETS (EU ETS 2) will be created, covering fuel combustion in buildings, road transport and additional sectors. Its transition phase will start in 2025 with the monitoring of GHG emissions until in 2027 EU ETS 2 will be launched.

Which price do lines pay for (as example) emissions from the Q1 2024? The price once they hand in their emissions in 2025 or from the time the emissions ocurred?

The price from the time the emissions occurred. The shipping lines will purchase emission allowances based on the co2 emission amount throughout 2024 and pass them to the respective vessel owners so that they can appropriately surrender EUA to the EU by sept. 30th of the next calender year.

Any chance to translate the average surcharge of FCL to LCL business (EUR per tonne)?

For a first and rough estimation, the CCGW conversion factor of 10t/TEU (for average weight goods) could be used. For example 50 Eur/teu would be 5 EUR/tonne.

Is the EU ETS surcharge is based on TTW or WTW co2 and co2e emissions?

TTW (according to MRV approach), CO2 only until 2026, from 2026 CO2e (includiing nox and ch4)

If you are using biofuels, will the ETS surcharges still apply?

No, if the book and claim option include the useage of 100% og biofuels as emissions resulting from the combustion of biofuels (compliant with RED) have an emission factor of “zero” under EU ETS. Example Mærskt “ECO Delivery” (100% biofuel): ECO delivery bookings will not subject to the emission surcharge.

How large is the surcharge for the inner-european traffic? That is where there are alternatives via rail and truck.

On average around 24 EUR/TEU

What is a tructed source to check the current price of EU carbon permits?

The ICE Index (EUA Futures)