

FuelEU Maritime

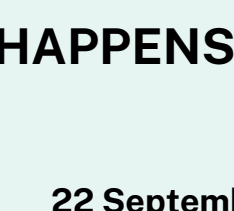
Navigating Towards Sustainable Shipping

OVERVIEW

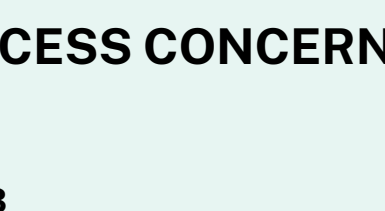
As part of the Fit for 55 package, FuelEU Maritime will enable the European Union to reach its target of carbon neutrality by 2050. It promotes the use of renewable and low-carbon fuels and speeds up a large-scale production.

Ideally, renewable and low-carbon fuels (RLF) should represent 86-88% of the international maritime transportation fuel mix by 2050 to contribute to the EU's targets. FuelEU Maritime aims to drive demand and mitigate competition between operators and ports during the fuel transition.

The regulation focuses on two key areas:



Mandatory Use of Onshore Power Supply (OPS) or other technologies offering equivalent environmental benefits at berth in an EU port for calls lasting more than two hours



GHG Intensity Limits on energy used onboard a ship

WHAT HAPPENS NEXT IN THE LEGISLATIVE PROCESS CONCERNING FUELEU MARITIME?

22 September 2023

Publication in the EU Official Journal

The FuelEU Maritime Regulation 2023/1805 was officially published, marking the formal introduction of this significant regulatory measure.

12 October 2023

Regulation Enters into Force

It came into force, establishing the legal framework for its implementation across the European Union.

1 January 2025

Regulation Becomes Applicable

It will start to apply, directly enforcing compliance without the need for national transposition. This marks the beginning of mandatory adherence to the new requirements for renewable and low-carbon fuels and onshore power supply.

Every five years starting from 31 December 2027, the Commission shall report to the European Parliament and the Council on the effectiveness of this Regulation, as part of its periodic revision. The reports will cover market distortions, advancements in zero-emission technologies and renewable fuels in maritime transport, revenue from FuelEU penalties, and the regulation's impact on the Union's maritime sector competitiveness.

WHICH SIZE AND TYPE OF SHIP WILL FUELEU MARITIME APPLY TO?

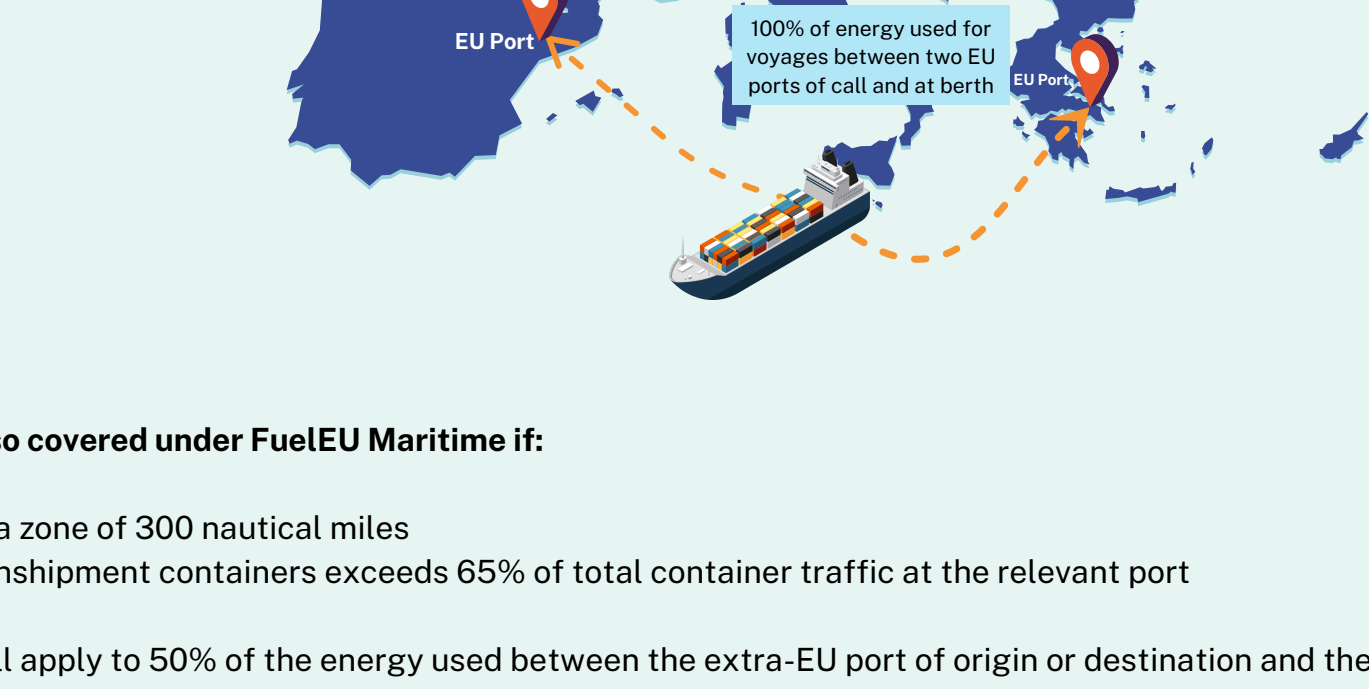
From 2025, FuelEU Maritime will include ships of 5000 GT and above, regardless of their flag. In future, and pending reviews, the regulation's scope may be increased to include more vessels.

As for voyages, FuelEU maritime applies to:

- 100% of energy used for voyages between two EU ports (or EEA) of call and at berth
- 50% of energy used for voyages between an EU port (or EEA) and an extra-EU destination

FuelEU Maritime Perimeters Explained

From 2025, FuelEU Maritime will include ships of 5,000 GT and above, regarding their flag. In future, and pending reviews, the directive's scope may be increased to include more vessels.



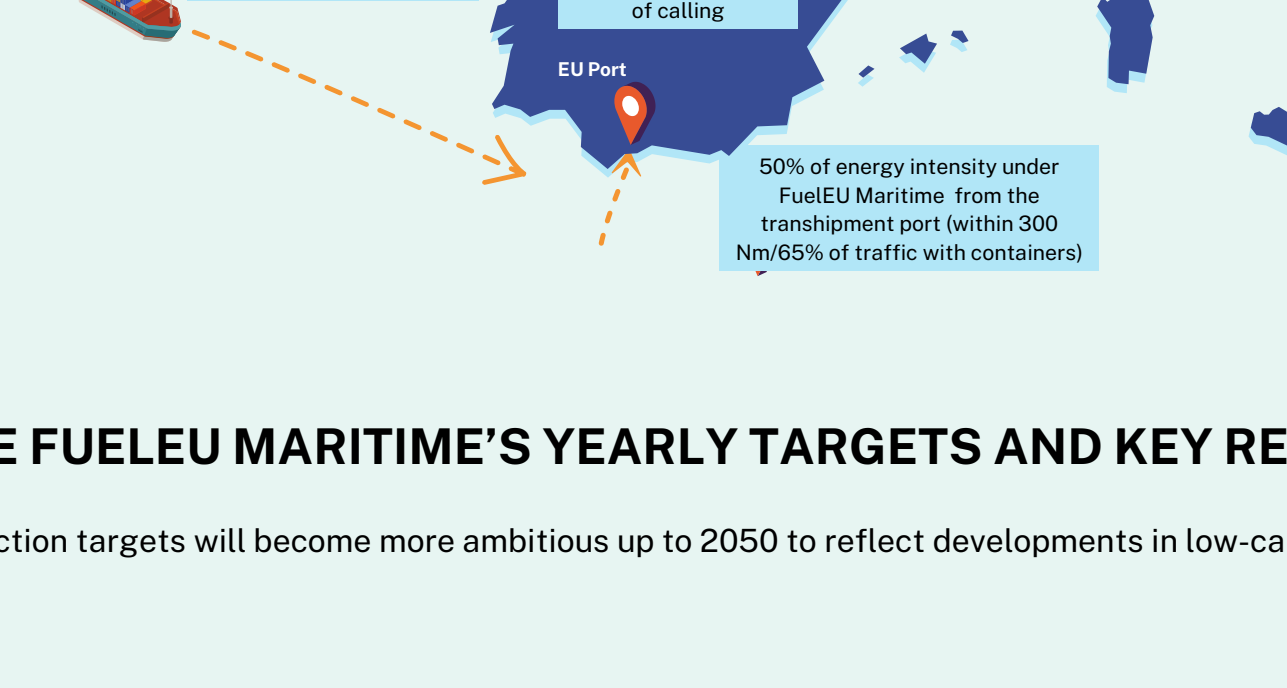
Transshipment is also covered under FuelEU Maritime if:

- It occurs within a zone of 300 nautical miles
- The share of transshipment containers exceeds 65% of total container traffic at the relevant port

FuelEU Maritime will apply to 50% of the energy used between the extra-EU port of origin or destination and the EU port (or EEA) in question.

FuelEU Maritime- Transshipment Ports

Transshipment ports are within 300 Nm/65% of containers traffic and they are covered under FuelEU Maritime as explained in the graphic.



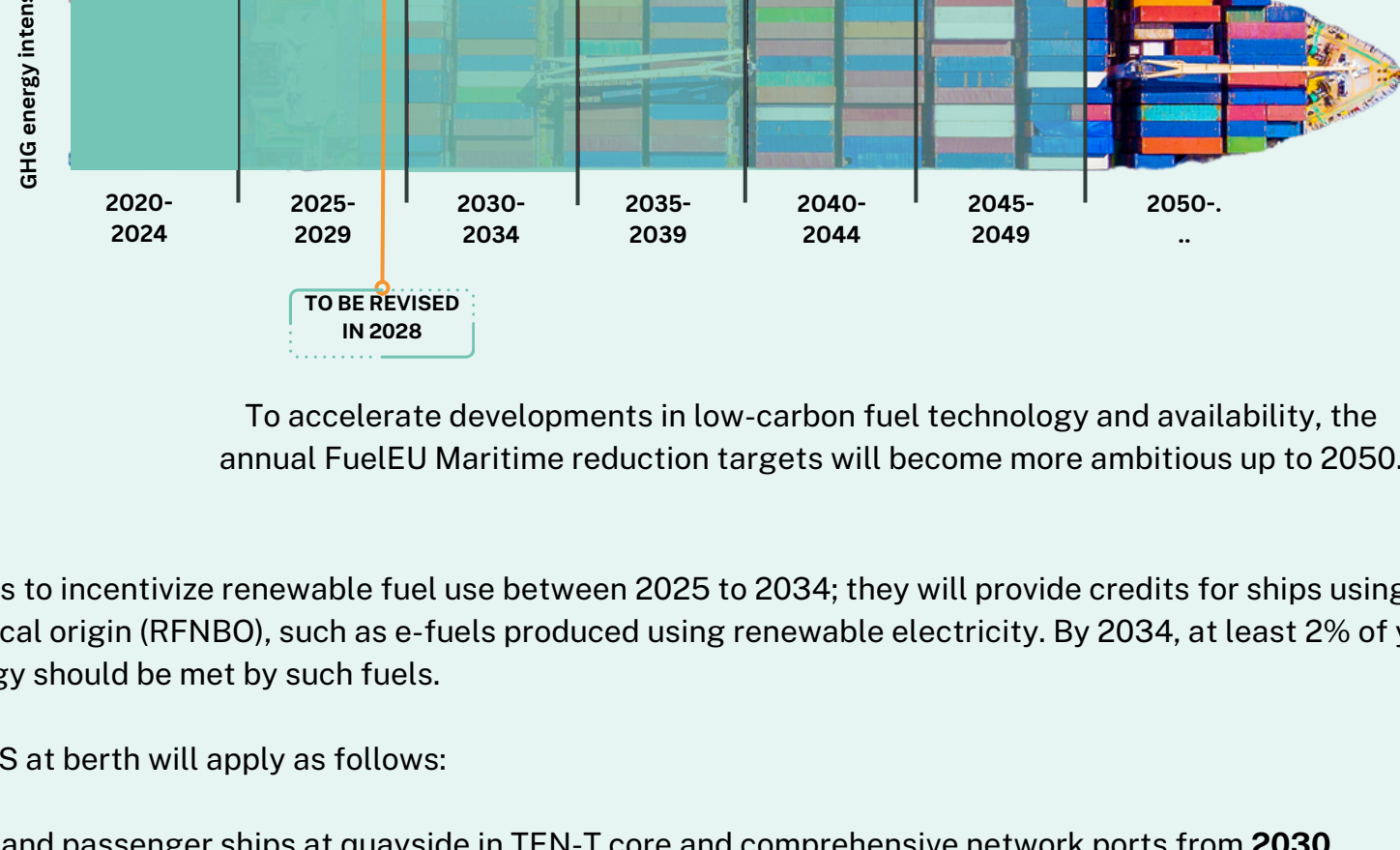
WHAT ARE FUELEU MARITIME'S YEARLY TARGETS AND KEY REQUIREMENTS?

The annual reduction targets will become more ambitious up to 2050 to reflect developments in low-carbon fuel technology and availability:

- 2% by 2025
- 6% by 2030
- 14,5% by 2035
- 31% by 2040
- 62% by 2045
- 80% by 2050

This means onboard energy will be subject to the following GHG intensity limits:

FuelEU Maritime's Targets 2020-2050



To accelerate developments in low-carbon fuel technology and availability, the annual FuelEU Maritime reduction targets will become more ambitious up to 2050.

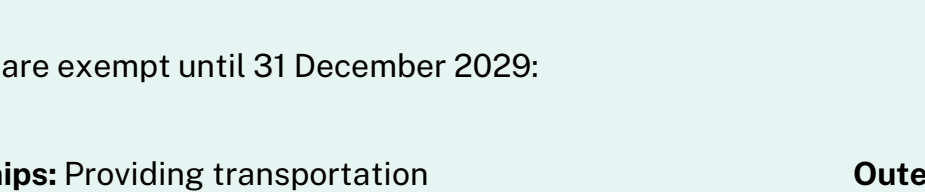
The EU intends to incentivize renewable fuel use between 2025 to 2034; they will provide credits for ships using renewable fuels of non-biological origin (RFNBO), such as e-fuels produced using renewable electricity. By 2034, at least 2% of yearly average onboard energy should be met by such fuels.

The use of OPS at berth will apply as follows:

- Container and passenger ships at quayside in TEN-T core and comprehensive network ports from 2030
- Container and passenger ships at quayside in all EU ports (or EEA) where the quay is equipped from 2035

DOES FUELEU MARITIME APPLY TO ALL TYPES OF GHG EMISSIONS?

Firstly, it should be noted that the FuelEU framework adopts a well-to-wake (WtW) approach to emissions. Three types of GHG emissions are included in its scope:



FuelEU's default emissions factors will address fossil fuels – but biofuel and biogas' emission intensity will be determined by the Renewable Energy Directive (RED).

Shipping companies will need to calculate GHG emissions per unit of energy used on board, based on their reported fuel consumption and the emissions factors of their respective fuels.

WHAT ARE THE DEROGATIONS OR EXEMPTIONS FROM FUELEU MARITIME?

Exemptions for Energy Use (Until 31 December 2029)

The following cases of energy use are exempt until 31 December 2029:

- **Passenger Ships:** Providing transportation between ports under the jurisdiction of the same Member State when one port is located on an island with fewer than 200,000 permanent residents.
- **Outermost Regions:** Energy used between two ports of call in outermost regions, and the energy used during their stay in port.
- **Pre-Regulation Passenger Ships:** Passenger ships operating before this regulation comes into force, on specific routes between mainland ports of call and ports under their jurisdiction located on islands or in the cities of Ceuta and Melilla.

Ice-classed ships and ships sailing in ice benefit from a reduction factor in the GHG intensity of energy used onboard until 31 December 2034.

There are three exemptions from the mandatory use of OPS:

- **Unscheduled Port Calls:** For emergency, safety, and lifesaving reasons, certified by the administrative body of the port.
- **OPS Unavailability or Incompatibility:** Before 2035, if OPS is unavailable or incompatible in a port of call.
- **Short Stays:** Ships staying at port for less than two hours.

HOW DO I ACHIEVE COMPLIANCE WITH FUELEU MARITIME?

There are several factors that shipping companies must be aware of when it comes to FuelEU Maritime compliance.

MONITORING AND REPORTING GHG INTENSITY

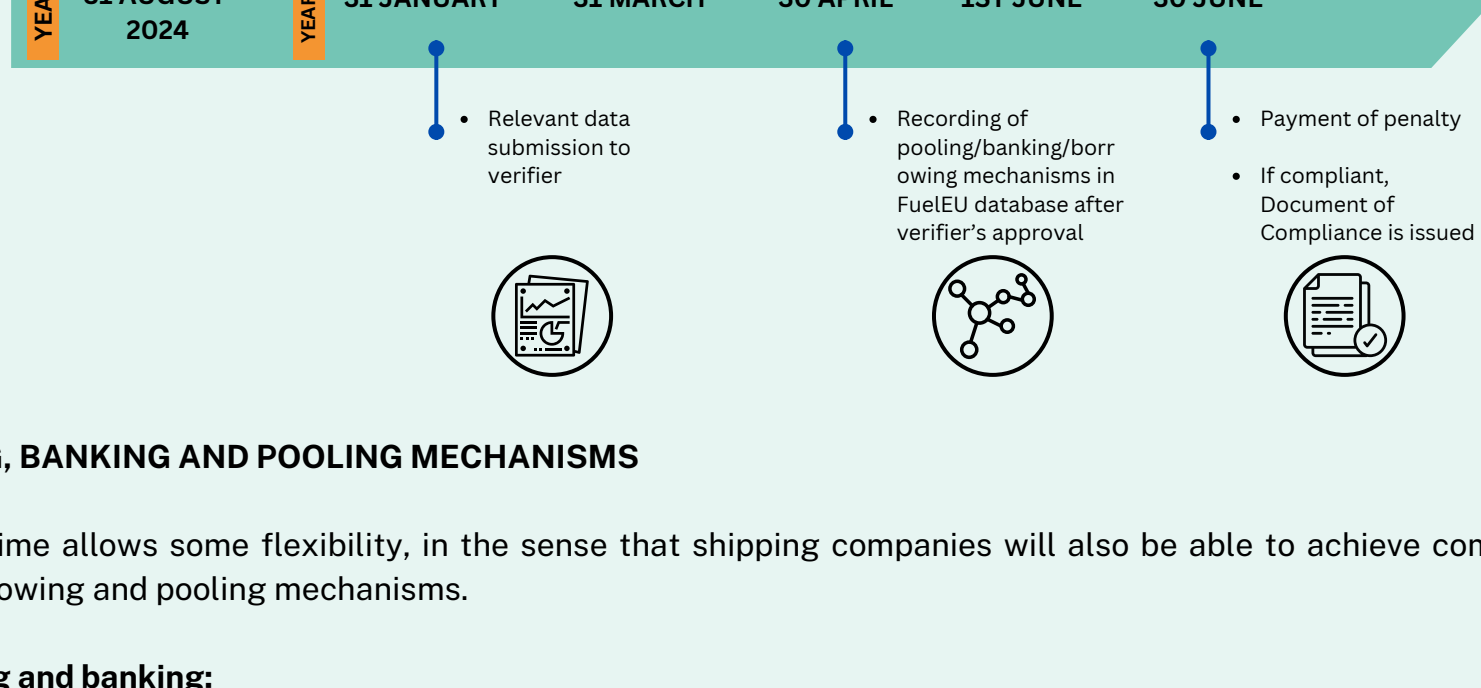
For shipping companies :

- Each individual ship will need its emissions reported on a new database
- They are responsible for monitoring the type and amount of energy used at port and in operation
- They must submit a standardized emissions monitoring plan per vessel to verifiers by August 31 2024
- They must record the WtW emissions factors for all their fuels
- They must submit their emissions data to the verifier by 31 March each year

For verifiers:

- They will assess each monitoring plan and calculate the yearly average GHG intensity for a ships' onboard energy use and OPS, and how this compares to annual targets
- They will issue a document of compliance annually in June, to be kept onboard all ships calling at EU throughout the reporting period

Annual FuelEU Maritime Compliance Scheme



BORROWING, BANKING AND POOLING MECHANISMS

FuelEU Maritime allows some flexibility, in the sense that shipping companies will also be able to achieve compliance through banking, borrowing and pooling mechanisms.

For borrowing and banking:

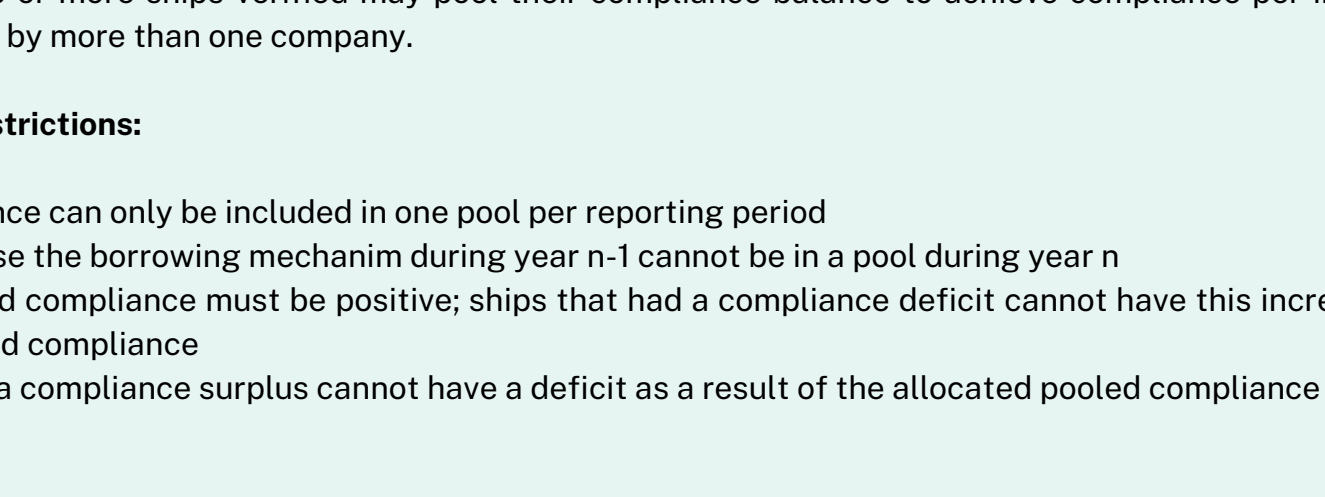
- Ships can bank their compliance surplus within a given reporting period for the following period
- Ships can borrow an advance compliance surplus from the following reporting period to make up for a deficit

However, this mechanism is only granted with the verifier's approval and is not applicable to:

- Amounts exceeding the GHG intensity limit multiplied by the ship's energy consumption by more than 2%
- Two consecutive reporting periods

When a ship is not compliant during the reporting period and has borrowed an advance compliance surplus in the previous reporting period, the shipping company will have to pay a remedial penalty.

Flexibilities to Comply with FuelEU Maritime Banking



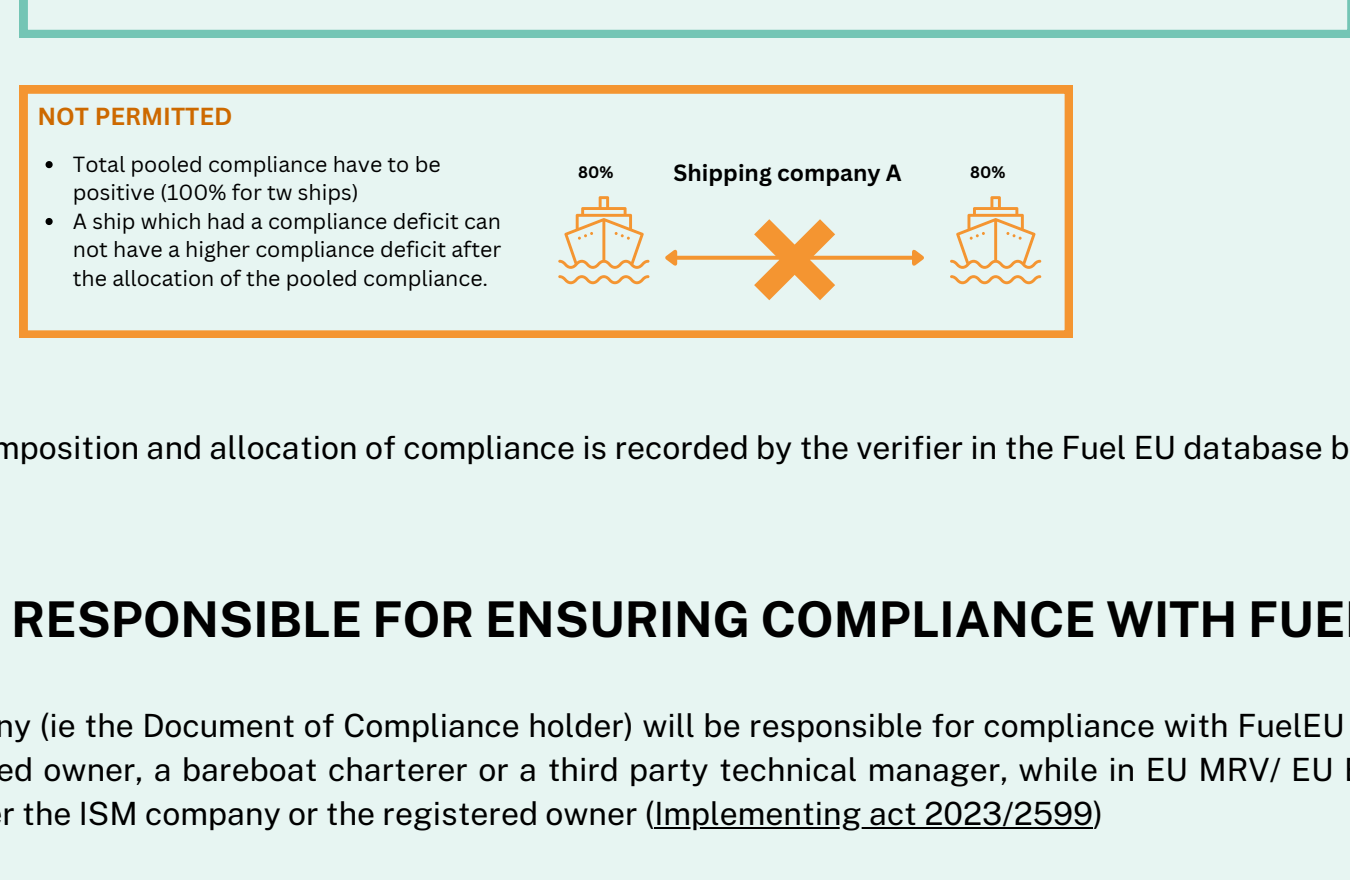
As for pooling: two or more ships verified may pool their compliance balance to achieve compliance per individual ship, even if they are controlled by more than one company.

There are some restrictions:

- Ships' compliance can be used in one pool per reporting period
- The ship that uses the borrowing mechanism during year n-1 cannot be in a pool during year n
- The total pooled compliance must be positive; ships that had a compliance deficit cannot have this increase as a result of the allocated pooled compliance
- Ships that had a compliance surplus cannot have a deficit as a result of the allocated pooled compliance

Flexibilities to Comply with FuelEU Maritime Pooling

Two or more ships may pool their compliance balance to achieve compliance per individual ship, even if they are controlled by more than one company.



The pool's composition and allocation of compliance is recorded by the verifier in the Fuel EU database by 30 April each year.

WHO IS RESPONSIBLE FOR ENSURING COMPLIANCE WITH FUELEU MARITIME?

The ISM Company (ie the Document of Compliance holder) will be responsible for compliance with FuelEU Maritime whether they are the registered owner, a bareboat charterer or a third party technical manager, while in EU MRV/ EU ETS, the responsibility falls either under the ISM company or the registered owner (Implementing act 2023/2599)

Penalties for non-compliance

If for any reason a ship is found non-compliant with either the limits on GHG intensity or the mandatory use of OPS, the shipping company will be subject to penalties. The amount payable will be calculated on the FuelEU database and will need to be paid for compliance to be achieved. Ships may be issued an expulsion order if they are non-compliant for two consecutive years.

FuelEU Maritime Penalty Formula

For Non-Compliance

$$\text{Penalty} = \left(\frac{\text{Difference between GHG target and GHG intensity attained}}{\text{GHG intensity attained}} \right) \times 2,400 \times \text{EURO} \times \text{GHGIE}_{\text{actual}} \times 41,000$$

41,000MJ = 1 metric ton of VLSFO

FUELEU MARITIME REVENUES

The revenues from the payment of FuelEU penalties will be used for two purposes:

- Promoting the distribution and use of renewable and low-carbon fuels in the maritime sector
- Helping maritime operators meet their climate and environmental goals

To ensure revenues are being used as expected, EU Member States will be required to report transparently on how they use them.