



Navigating FuelEU Maritime: Insights from the Specialists Q&A

1. Is a standardized Monitoring Plan template available from ABS?

A standardized FuelEU Maritime Monitoring Plan template will be made available from ABS later this year.

2. Who will be the entity responsible for compliance with FuelEU Maritime?

The entity responsible for compliance will be the ISM manager, and based on the current information, it will not be able to be transferred to any other entity, such as the Registered Owner.

3. Does the verifier for MRV Monitoring Plan and FuelEU Maritime Monitoring Plan have to be the same?

No, the verifier for EU MRV Monitoring Plan and FuelEU Maritime Monitoring Plan can be different.

4. How many years can the compliance balance overachievement of one year be carried forward?

Banking can take place in one, two or more successive years. Banked compliance surplus does not expire. If the compliance balance is positive for two or more successive years, the surplus is cumulatively banked to the following reporting period.

5. Why is the experimental wind assisted propulsion (WAP) accounted for in FuelEU Maritime and no other well-established power saving devices like air lubrication?

FuelEU Maritime regulation is a technical measure which is designed to decarbonize maritime transport by applying three key objectives:

- Reduce the greenhouse gas (GHG) intensity of the energy used on board on a Well-to-Wake (WtW) basis
- Promote the use of onshore power supply in main European ports
- Incentivize the uptake of renewable fuels of non-biological origin (RFONBs), and WAP

The use of renewable energy sources and alternative propulsion, such as wind and solar energy, greatly reduces the GHG intensity of the overall ship energy use. On the other hand, energy-saving devices, such as air lubrication, promote improvements in energy efficiency. Therefore, they are not suited to bring about a significant shift towards renewable and low-carbon fuels in the short- and medium-term.

A specific regulatory approach dedicated to the deployment of renewable and low-carbon maritime fuels and substitute sources of energy, such as wind or electricity, is therefore necessary. It is essential to foster innovation and to support research for emerging and future innovations, including wind propulsion and wind-assisted propulsion.

6. For wind assisted propulsion the actual utilization is not considered – in effect this technology is promoted without considering actual benefits in terms of onboard energy usage – fuel consumption. In many cases – worldwide trading – the utilization will be actually very low deviating from theoretical considerations-assumptions

The FuelEU Maritime Regulation introduces a reward for operators making use for this technology based on the installed wind power, not based on the energy used for propulsion, remarkably because no verifiable method is available today to ensure that the use of energy from wind could be computed in the calculation of the GHG intensity of the energy used.

However, rewarding for the installed power instead of rewarding for the effective energy used is only an interim measure since there is currently work being undertaken on wind-assisted propulsion that will at some point allow to have a verifiable method to compute energy directly used from wind into propulsion and that will potentially bring a disruptive integration of wind-assisted propulsion into FuelEU Maritime in the future, in future revisions of the regulation. As per article 302.(h), by 31 December 2027 the Commission shall report to the European Parliament and the Council the possibility to include energy provided by wind in the calculation of the GHG intensity of the energy used on board, subject to the availability of a verifiable method for monitoring and accounting of wind propulsion energy.

In the meantime, the difficulty to accurately measure and quantify those energy sources (intermittence of the energy use, direct transfer as propulsion, etc.) should not impede their recognition in the overall ship energy use through means of approximations of their contribution to the ship's compliance balance.

7. Are there any potential Charter Party clauses covering FuelEU Maritime?

BIMCO is currently working on a FuelEU Maritime clause.

8. Will there be a template for the FuelEU Maritime Monitoring Plan?

On 26 July 2024, the European Commission adopted the Implementing Regulation (EU) 2024/2031 on the template for monitoring plans pursuant to Regulation (EU) 2023/1805, the FuelEU Maritime Regulation.

Companies shall use an electronic version of the template contained in the Annex to this Regulation that will be accessible in the FuelEU Maritime database.

9. Explain the procedure of pooling between different shipowners.

Pools can be established from vessels under the same or different Document of Compliance (DoC) holders. The pooling arrangements are established in the FuelEU Maritime database. The company shall register in the FuelEU Maritime database its intention to include the ship's compliance balance in a pool, the allocation of the total pooled compliance balance to each individual ship, and the choice of the verifier selected for verifying that allocation.

For the pool to be valid the following must apply:

- Total pooled compliance balance must be positive
- Ships that had a compliance deficit do not have a higher compliance deficit after the allocation of the pooled compliance balance
- Ships that had compliance surplus do not have a compliance deficit after the allocation of the pooled compliance balance

10. Why does the penalty calculation include the GHG intensity achieved in the denominator?

The FuelEU Maritime regulation targets the GHG intensity of the energy used on board, and based on this principle, the remedial penalty formula is developed.

Where compliance balance is equal to:

$$\text{Remedial Penalty} = \frac{\text{Compliance Balance [gCO}_2\text{e]x2400[EUR/MT VLSFO]}}{[(\text{GHGIE})_{\text{actual}} \text{ [gCO}_2\text{e/M]})\text{x41000[M]/MT VLSFO}]}$$

The penalty is expressed with reference to VLSFO, equal to 2,400 EUR per MT VLSFO and is calculated as follows:

$$\text{Compliance Balance [gCO}_2\text{e]} = (\text{GHGIE}_{\text{target}} - \text{GHGIE}_{\text{actual}}) \left[\frac{\text{gCO}_2\text{e}}{\text{MJ}} \right] \text{x Energy[MJ]}$$

- Calculate the Compliance Balance in gCO₂e
- From the Compliance Balance calculate the associated energy, the “non-compliant energy”
- From the non-compliant energy, calculate the equivalent non-compliant MT of VLSFO
- From the equivalent non-compliance VLSFO, calculate the penalty

$$\text{Non Complaint Energy [MJ]} = \frac{\text{Compliance Balance [gCO}_2\text{e]}}{\text{GHGIE[gCO}_2\text{e/M]}}$$

$$\text{Penalty [EUR]} = \text{VLSFO[MT]x2400[EUR/MT VLSFO]}$$

$$\text{VLSFO [MT]} = \frac{\text{Non Complaint Energy [MJ]}}{41000 \text{ [MJ/MT VLSFO]}}$$

11. Is it correct that the banked compliance surplus does not expire?

Please refer to question four.

12. Who is responsible for deciding banking, borrowing and pooling, and paying the penalty? Is it always the ISM company?

The ISM company is the entity responsible for compliance with the FuelEU Maritime Regulation.

13. Is the FuelEU Maritime database another platform compared to MRV THETIS? Are the two connected, and if so, how?

The FuelEU Maritime database will be a module within the EU THETIS MRV database. Based on the current information, the FuelEU Maritime database will be able to retrieve data from the Thetis MRV. For the creation of the FuelEU Maritime Monitoring Plan, it will be possible to fill common parts from the existing EU MRV Monitoring Plan.

14. Can a ship use banked surplus and be inserted into a pooling group at the same time?

Based on the current information, it will be possible to use banked compliance balance from the previous reporting period to a vessel and include that vessel in a pooling arrangement.

15. Will the penalty be paid by owners, charterer or managers?

The responsible entity for compliance remains the ISM manager/DoC holder, without the possibility to transfer this responsibility to the Registered Owner. Nevertheless, the DoC holder may through contractual agreements be reimbursed from the charterer for the cost of the FuelEU Maritime penalties.

16. After surrendering EUA to the Administering Authority, will AA provide any official receipt on a per vessel basis?

This question refers to the EU ETS Directive. In the case of FuelEU Maritime, after payment of the remedial penalty, the Administering Authority will issue the FuelEU Maritime DoC which will be valid for 18 months or until a new FuelEU Maritime DoC is issued, whichever comes first.

17. How are the penalties calculated?

Please refer to question 10.

18. Where can we get access to the FuelEU Maritime Simulator of ABS?

The FuelEU Maritime Calculator is available within the ABS MyFreedom™ client portal. For non-ABS clients, access to the FuelEU Maritime Calculator may be requested from ABSRegAffs@eagle.org for one week trial period.

19. About the FuelEU monitoring plans which shipping companies must send to their verifiers by the end of August, are there any templates available from ABS for guidance?

A standardized Monitoring Plan template will be made available from ABS at the beginning of August 2024.

20. If a shipowner has been exempted from FuelEU Maritime during 2025–2029, can the shipowner still bank surplus of carbon dioxide (CO₂) emissions during these years? If so, based on what GHG criteria?

Vessels not subject to the regulation, but which may become subject to the regulation in the future (by trading to EU ports), cannot bank compliance surplus prior to being subject to the regulation.

21. What incentives are there for fuel suppliers to invest in the manufacture and supply of lower carbon fuels, given the large number of fuel choices available to vessel owners? Is there a risk that there will be a lack of fuels to meet FuelEU Maritime requirements?

FuelEU Maritime Regulation provide for a combination of measures to ensure the support for the uptake of sustainable RFNBO, including the possibility to use a multiplier until the end of 2033, allowing the energy from RFNBO to count twice. In addition, a two percent RFNBO sub target apply as of 2034 if, further, to monitoring of the market, the Commission reports that the share of RFNBO in the maritime bunker fuels used by ships falling under the scope of this Regulation is less than one percent by 2031. That combination of measures to support RFNBO is intended to give ship operators and fuel suppliers a signal of opportunity for investment for the uptake of that type of renewable, scalable and sustainable fuel, as it provides both an end target giving the fuel suppliers certainty regarding future minimum demand as well as the opportunity for the market to find the most efficient way to adjust accordingly. The Regulation aims to give a clear signal to fuel suppliers that there is a business case to start producing these renewable fuels for shipping.

Furthermore, given that a market for maritime RFNBO is yet to develop, this Regulation includes safeguards and flexibility towards different possible market uptake scenarios. As per paragraph 5. of Article 5, the Commission will monitor the fuel market, and if there is evidence of insufficient production capacity and availability of Renewable Fuels of Non-Biological Origin (RFNBOs) to the

maritime sector, uneven geographical distribution or a too high price, the sub target of two percent of RFNBOs in the yearly energy used on board by a ship from 1 January 2034 shall not apply.

22. If the formation of a pool leads to a slight over compliance, can the remaining balance then be banked for future years?

Yes, after creating a pool of vessels, the total pooled compliance balance must be allocated to each vessel. After the allocation, in case a vessel still has a compliance surplus, it may bank it for the next calendar year.

23. EU certificate need only vessel sail on Europe voyage or all international voyages?

Since FuelEU Maritime is a European Regulation, the FuelEU Maritime DoC will be required when trading to EU ports.

24. We heard a rumor that Pooling can only be done with vessels in the same P&I club? We don't believe this to be the case, or at least not a FuelEU Maritime requirement. Is this correct?

Pooling can be done with vessels of the same or different ISM managers/DoC holders. It is not tied to other criteria such as P&I club.

25. Are there any benefits for a ship owner for submission of accurate emissions data over calculated data? If not, do you see this being incentivized in the future?

It is understood that the question refers to actual emissions measurements (measurement approach) instead of calculating approach. As per Annex I of the FuelEU Maritime Regulation (EU) 2023/1805, in accordance with the monitoring plan and upon assessment by the verifier, a company may use other methods, such as direct CO₂eq measurement or laboratory testing, if these methods enhance the overall accuracy of the calculation.

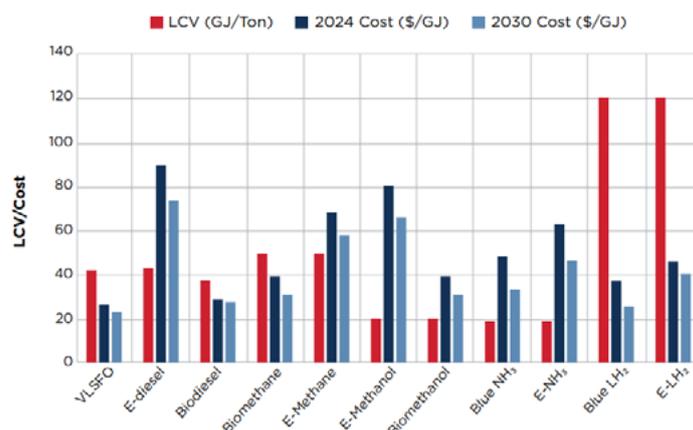
The benefits of the measurement approach (direct CO₂eq measurement or laboratory testing) are that companies are entitled to diverge from the default values for the Tank-to-Wake (TtW) emission factors, with the exception of TtW CO₂ emission factors for fossil fuels, for the purpose of enhanced overall accuracy of their data.

26. Which GWP values should we be using for our planning purposes AR4 as reflected in the current version of the regulation & RED (1/25/298) for CO₂/CH₄/N₂O or AR5 (1/28/265) or AR6 (1/29.8/273).

Currently the FuelEU Maritime Regulation (EU) 2023/1805 refers to the GWPs defined in the RED II, (1, 25 and 298 for CO₂, CH₄ and N₂O respectively). Based on the current information from EC, these GWPs will be aligned with those used in the revised EU MRV Regulation (EU) 2023/957 of the fifth IPCC study (AR5) (1, 28 and 265 for CO₂, CH₄ and N₂O respectively).

27. How is the price of sustainable and low carbon fuel at the moment?

Based on information provided in ABS 2024 Sustainability Outlook, the costs of several low carbon and sustainable fuels at the moment and with expected projection in 2030, expressed in \$/GJ, are the following:



28. Specifically which ports can supply sustainable & low carbon fuel currently?

ABS provides this information in the ABS Regulatory WorldMap available in the ABS MyFreedom™ client portal.

29. With respect to Thetis portal, where all data is being verified and then being submitted to AA, we have some vessels registered under registered owners' accounts. The responsible company for FuelEU Maritime information would be the ISM company. Is a separate database being developed for FuelEU Maritime data submissions?

The FuelEU Maritime database will be the platform that will be used by shipping companies as also verifiers to register the performance of each ship and to ensure its compliance with the FuelEU Maritime Regulation. The FuelEU Maritime database should be used for all the most important actions necessary to fulfil the obligations under FuelEU Maritime, and in order to facilitate reporting and limit administrative burden to companies, verifiers and other users. The FuelEU Maritime database should be built upon the existing Thetis-MRV module.

30. Contracts between companies and ISM companies would be like a mandate letter (like for EU ETS) or a proper contract with specific terms and conditions.

The ISM manager/DoC holder remains responsible for compliance with the FuelEU Maritime Regulation, and it is not possible to transfer this responsibility to the Registered Owner via a mandate. Neither is a mandate letter required by the regulation for transferring responsibility from the registered owning company to the ISM/DOC holder.

31. Can we have different verifiers for MRV MPs and FuelEU Maritime?

Yes, it is not necessary to have the same verifier under EU MRV and under FuelEU Maritime.

32. What is the well to wake energy efficiency of green hydrogen or ammonia?

The WtW GHG energy intensity of green hydrogen and ammonia depends on the fuel production pathway. The RED II sets the minimum GHG intensity reduction, compared to fossil MGO, which is 70 percent. Therefore, any green ammonia/hydrogen must have a greenhouse intensity, expressed in gCO_{2e}/MJ less than 28.2 gCO_{2e}/MJ.

33. Are RFNBOs GHG intensity truly zero? Is damage to ecosystems which are CO₂ sinks (and more than that) by extensive installation of onshore and offshore RES quantified and taken into account?

The RFNBOs GHG intensity is not zero but should be as low as possible. For an RFNBO to be considered sustainable and low-carbon it must comply with specific GHG emissions savings and sustainability criteria. For the case of FuelEU Maritime, the RFNBO must have at least 70 percent GHG emission savings compared to fossil marine gas oil (MGO), therefore a GHG intensity less than 28.2 gCO_{2e}/MJ.

34. Can you provide a template and/or example of a FuelEU monitoring plan? Is this plan combined with the recent MRV Monitoring plan or is it a separate plan?

Around 3/5 parts of the FuelEU Maritime Monitoring Plan will be the same as the EU MRV Monitoring Plan. Based on the information provided from EMSA, it will be possible to fill quickly the relevant tables in the FuelEU Maritime Monitoring Plan from the equivalent fields in the existing verified EU MRV Monitoring Plan.

On 26 July 2024, the European Commission published the Implementing Regulation (EU) 2024/2031 on the template for monitoring plans pursuant to Regulation (EU) 2023/1805, the FuelEU Maritime Regulation.

Companies shall use an electronic version of the template contained in the Annex to this Regulation that will be accessible in the FuelEU Maritime database.

35. You mentioned that for renewable fuels some extra documentation will be required. In the FuelEU Maritime frame, won't the bunkers documentation be same, regardless of bunker type, in order to be able to calculate the Well-to-Tank (WtT) GHG intensity?

For the purposes of FuelEU Maritime Regulation, the information included in the BDN as per MARPOL Annex VI regulation shall be complemented with the following additional information:

- Lower Calorific Value (LCV)
- For biofuels, E values as established in accordance with the methodologies laid down in Directive (EU) 2018/2001, Part C of

Annex V and Part B of Annex VI [gCO₂e/MJ] and related evidence of compliance with the rules set out in that Directive for those fuels, identifying the fuel production pathway

- For fuels other than fossil fuels and biofuels, WtT GHG emission factor [gCO₂e/MJ] and related certificate identifying the fuel production pathway.

36. How can the ISM manager be responsible for the FuelEU Maritime penalty if the commercial operation of ship and fuel used on board is mainly decided by the owner or the charterer?

The ISM manager remains responsible for compliance with the FuelEU Maritime Regulation. Nevertheless, the ISM manager may through contractual agreements be reimbursed from the charterer for the cost of the FuelEU Maritime penalties.

37. For the pooling under FuelEU Maritime, we have heard that vessels may need to be part of the same P&I club, is this true?

Pooling can be done with vessels of the same or different ISM managers/DoC holders. It is not tied to other criteria such as P&I club.

38. Can a shipowner be responsible company if they are not the DoC holder? OR does the DoC holder (ISM company) take precedence.

The responsible entity for compliance is the ISM manager/DoC holder and cannot transfer the responsibility to the Registered Owner.

39. The regulation only explicitly says that container and passenger ships will fall under it. Does this mean that offshore vessels are excluded?

The Regulation applies to all ships of above 5,000 gross tonnage (gt) that serve the purpose of transporting passengers or cargo for commercial purposes. For the time being, offshore vessels are not covered under the FuelEU Maritime Regulation.

40. Will FuelEU and EU ETS run side-by-side with all the associated duplication from January 2025 onwards?

Yes, shipping companies operating their vessels in EU and EEA will have to simultaneously comply with the EU ETS and FuelEU Maritime Regulations. Should the IMO adopt by 2027 an equivalent GHG Fuel Standard and economic measure, the EU will review both EU ETS and FuelEU Maritime in light of the adopted measures.

41. Will FuelEU Maritime have yearly verification like IMO DCS SoC and FoCR?

Yes, shipping companies will have to monitor and report the fuel consumption from 1 January to 31 December of the calendar year, and by 31 January of the reporting period to submit to their verifiers a FuelEU Maritime report, containing among others the fuel consumption information. Within two months, and by 31 March the verifiers shall verify and submit the FuelEU Maritime report to the FuelEU Maritime database. In case that the vessel complies with the GHG intensity limits and, if applicable, with the onshore power supply requirements, the verifier shall issue by 30 June of the verification period the FuelEU Maritime DoC. Where FuelEU Maritime penalties are due, the competent authority of the administering State shall, by 30 June of the verification period, issue a FuelEU Maritime DoC for the ship concerned, provided that an amount equal to the FuelEU Maritime penalties has been paid.

42. Will bunker suppliers provide WtT certificates for conventional fossil fuels?

As per paragraph 4. of Article 10, companies shall not diverge from the default values for the WtT emission factors as set out in Annex II to the FuelEU Maritime Regulation for fossil fuels. Therefore, in the case of fossil fuels, only the default WtT emission factors contained in Annex II shall be used.

43. Who will the penalty be paid to?

The penalty will be paid to the competent authority of the administering State, which will also issue the FuelEU DoC.

44. Do you have an example of a penalty calculation for a typical 40k dwt tanker or bulk carrier for one

voyage in the EU?

Assuming that an average 40k dwt tanker/bulk carrier consumes daily 30 MT of LFO, performing a 100 percent EU voyage the daily cost would be:

$$GHGIELFO = WtTLFO + TtWLFO = 132 + (3.151 + 0.00005 \times 25 + 0.00018 \times 298) / 0.041 = 91.39 \text{ gCO}_2\text{e/MJ}$$

The Compliance Balance, expressed in gCO₂e for the first five years (2025–2029) will be:

$$\begin{aligned} \text{Compliance Balance [gCO}_2\text{e]} &= (\text{GHGIEtarget} - \text{GHGIEactual}) \times (\text{MLFO} \times \text{LCVLFO} \times 106) = \\ &= (89.34 - 91.39) \times (30 \times 0.041 \times 106) = -2,521,500 \text{ gCO}_2\text{e} \end{aligned}$$

And the remedial penalty equal to:

$$\begin{aligned} \text{Remedial Penalty [EUR]} &= \text{abs(Compliance Balance)} \times 2,400 / (\text{GHGIEactual} \times 41,000) = \\ &= 2,521,500 \times 2,400 / (91.39 \times 41,000) = 1,615 \text{ EUR} \end{aligned}$$

In addition, escalation of the daily compliance cost, for a voyage between an EU port and a third country, for the daily consumptions of 20, 30, 50, 75 and 100 MT LFO can be found in the graph below.

