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Turning methane abatement into a competitive advantage: A five-point action plan for the EU

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The EU's maritime sector is a cornerstone of its economy, trade, and energy security. It now faces a dual challenge: maintaining global competitiveness while responding decisively to the climate crisis. Methane abatement offers a rare opportunity to advance both simultaneously.

Methane is the second-largest contributor to global warming and significantly more potent than CO₂ in the near term. In the shipping sector, the rapid expansion of LNG-fuelled vessels has brought greater focus to methane emissions, especially methane slip associated with incomplete or inefficient combustion.

Solutions to significantly reduce - and in some applications nearly eliminate - methane emissions already exist and are commercially available today. These include both measures integrated directly into engine operation by original equipment manufacturers (OEMs) and separately developed after-treatment technologies applied as external components. Many of these are being developed by EU companies.

Significant progress has been made across several engine types, with methane slip reductions of 60 to 70% achieved over the past three years. In parallel, emerging after-treatment technologies are projected to further address the challenge, with an expected 80 to 90% reductions.

The primary barrier to reducing methane emissions is not innovation and technological capability, but the need for smarter, technology-centric policy frameworks that provide the clear and effective market signals required to incentivize the development and uptake.

Current EU frameworks have begun to acknowledge the importance of methane emissions. However, methane abatement is still not fully recognised as a strategic priority, nor are there sufficient mechanisms to consistently reward verified emissions reductions or provide the strong investment signals needed for large-scale deployment of methane measurement and abatement technologies. As a result, the EU risks missing a major industrial, environmental and economic opportunity.

With an enabling policy environment, methane abatement can deliver a “win-win-win” outcome:

- Rapid and meaningful climate impact
- Lower costs for businesses and consumers
- A strengthened and globally competitive European technology sector

This report sets out a five-point action plan to unlock this potential and position Europe as the global leader in maritime methane abatement.



Key action points and policy asks

1. Recognise methane abatement as a strategic priority

Explicitly integrate methane abatement into key EU frameworks, including the implementation and delivery of the European Industrial Maritime Strategy (EIMS) and the Industrial Accelerator Act (IAA). Formal recognition is essential to create demand signals, unlock investment, and prevent methane from being overlooked or undervalued within broader decarbonisation policies.

2. Enable the use of verified, real-world emissions data

Build on the latest European Commission guidelines under FuelEU Maritime and clarify remaining implementation uncertainties, thereby enabling the widespread use of measurement-based methane emissions data. Over time, develop a dual-track approach that maintains the use of representative default emission factors while enabling and rewarding the voluntary use of verified, measurement-based emissions data where available.

3. Scale investment and financial support for methane abatement technologies

Unlock funding and investment for methane abatement technologies by ensuring their explicit eligibility and prioritisation across EU funding instruments, including the Net-Zero Industry Act, the Innovation Fund, the Industrial Accelerator Act and the proposed EU Competitiveness Fund and related industrial funding mechanisms under the next Multiannual Financial Framework (MFF).

This should be complemented by a dedicated package of targeted financial incentives - such as grants, subsidies, tax credits, and access to affordable finance - to accelerate early deployment. A portion of EU ETS revenues used to de-risk investments and support first movers.

4. Build a shared evidence base through large-scale collaboration

Support and formalise a multi-stakeholder platform for large-scale trials, certification and data sharing, building on existing initiatives. This will accelerate technology validation, reduce adoption risks, and facilitate cross-industry learning in a fragmented sector.

5. Use EU's experience on methane standards to pave the way for global standards

Leverage EU data, regulatory experience and industrial expertise to shape global methane measurement and abatement standards at the International Maritime Organisation (IMO) level.



The case for investment

Methane abatement represents one of the fastest and most cost-effective ways to reduce emissions in the near future. It is also an industrial opportunity. With a growing number of EU technology providers already active in this space, the foundations for global leadership are in place.

What is missing is alignment between policy ambition and industrial potential.

By acting now, the EU can:

- Deliver rapid and cost-effective emissions reductions
- Protect consumers from rising EU ETS-related costs
- Strengthen its maritime sector's competitiveness
- Secure long-term leadership in a fast-growing global market

Failure to act decisively risks locking in higher emissions, higher costs, and missing out on an industrial advantage for decades to come.

The choice is clear: methane abatement should be treated not as a niche issue, but as a strategic pillar of the EU's industrial and climate policy.



The EU's Maritime Strength

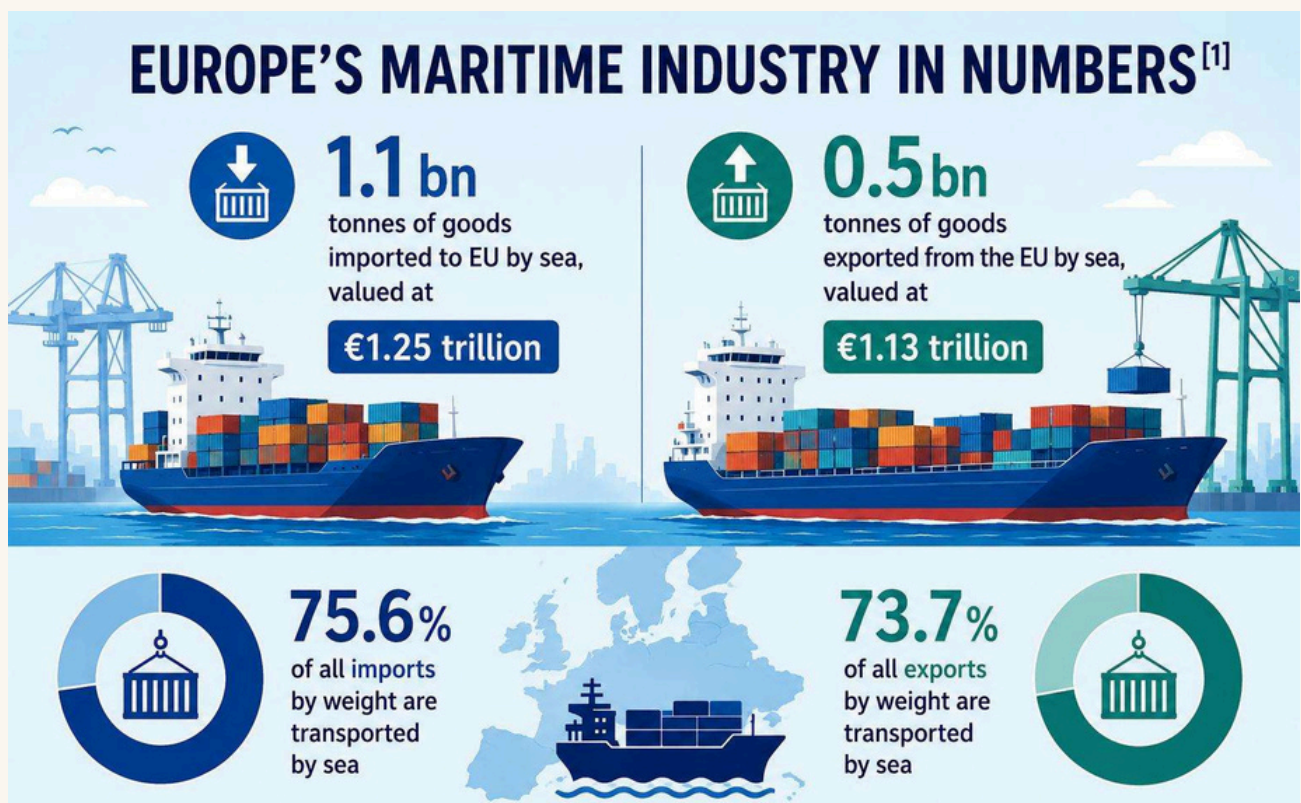
The maritime sector is one of the EU's most important industrial assets. It reflects its engineering capability, industrial depth, and long-standing connection to global trade. Every day, European shipping enables the movement of essential goods, from food and medicines to energy and raw materials, sustaining both economic activity and societal wellbeing.

Around three quarters of Europe's external trade is transported by sea, making maritime a cornerstone of economic resilience. It supports millions of jobs across complex value chains and contributes hundreds of billions of euros to the EU economy. Its reliability is

fundamental to the resilience and integrity of the EU single market and the EU's position in global trade.

However, the sector has entered a period of structural pressure. Geopolitical instability is reshaping trade routes and increasing operational risk, while the energy transition is driving the need for significant investment in new fuels and technologies. These dynamics are raising costs and intensifying global competition.

Against this backdrop, the EU must ensure that decarbonisation strengthens - rather than undermines - its industrial base.



[1] Maritime transport dominates international trade - News articles - Eurostat



Why methane abatement is a strategic opportunity

Methane is the second-largest contributor to global warming after carbon dioxide and has a global warming potential around 28 times greater than CO₂ on a 100-year scale. A 45% reduction in methane emissions by 2030 could avoid approximately 0.3°C of global warming by the 2040s² making methane abatement one of the most effective and fastest near-term climate mitigation opportunities available.

Methane emissions from LNG-fuelled shipping will remain an important area for emissions management as the global gas-fuelled fleet continues to expand. This expansion is linked to broader shifts in global energy supply, where LNG is increasingly used in place of higher-emission fossil fuels. As LNG availability and infrastructure grow, reducing methane slip is essential to ensuring it delivers its full climate benefit across the value chain and remains a viable lower-emission option in shipping while zero-emission fuels scale up.

LNG infrastructure can also support the development of renewable and low-carbon gaseous fuels, including bio-LNG and synthetic LNG (e-methane). A range of EU-supported and industry initiatives are already exploring these pathways. This highlights the potential for existing gas infrastructure to help scale renewable fuels and support the long-term decarbonisation of maritime transport.

As of December 2025, the global LNG dual-fuel fleet stands at approximately 1,710 vessels, with LNG carriers and other merchant segments accounting for around three-quarters of the total. The current orderbook includes a further 876 vessels, representing an additional ~51% increase in the gas-fuelled fleet, underscoring the likelihood of rising methane emissions.

Unless we act now.

Methane abatement stands out as a unique and practical solution within the broader decarbonisation challenge. While shipping contributes to around 3% of global greenhouse gas emissions, increasing attention needs to be given to methane emissions associated with LNG-fuelled vessels. As the LNG fleet continues to expand, addressing methane slip must become an important priority in the broader effort to reduce lifecycle emissions from maritime fuels.

This is not a distant challenge, but a current and manageable one. Proven methane measurement and abatement solutions are already available and can play a critical role in improving environmental performance while supporting the ongoing energy transition in shipping.

^[2] Global Methane Assessment (full report) | Climate & Clean Air Coalition



Why methane abatement is a strategic opportunity

A growing ecosystem of technology providers is developing and deploying methane measurement and abatement solutions, supported by initiatives such as the Methane Abatement in Maritime Innovation Initiative (MAMII). These technologies have demonstrated real-world performance and are ready to scale.

This creates a clear industrial opportunity for the EU: to lead in the deployment and export of methane abatement solutions, strengthening

competitiveness while delivering immediate emissions reductions.

Yet this opportunity is not being fully realised. Existing EU frameworks do not sufficiently recognise methane as a distinct policy priority, nor do they provide the clarity and incentives required to accelerate adoption.

Addressing this gap is therefore not only a climate imperative, but a strategic industrial choice.

1 Methane and climate impact



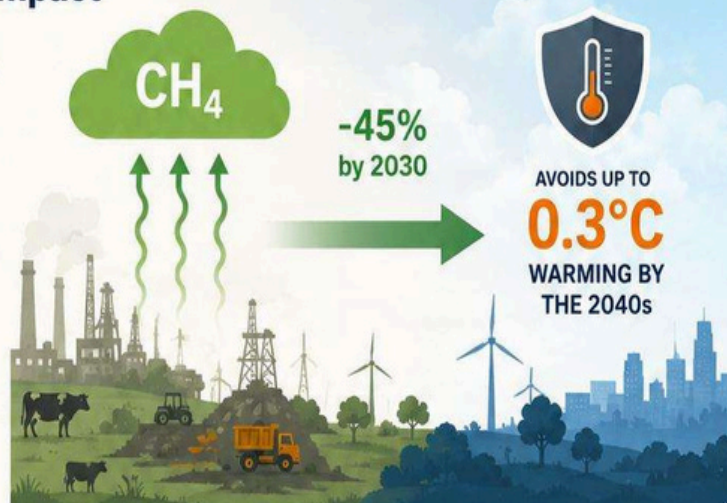
Methane is the second-largest driver of global warming



~28x more powerful than CO₂ over 100 years (IPCC AR5)



A 45% reduction in global methane emissions across all sectors by 2030 could avoid up to **0.3°C** warming by the 2040s (UNEP / CCAC)



2 Shipping emissions



Shipping accounts for ~3% of global GHG emissions (IMO)



OF GLOBAL GHG EMISSIONS

3 LNG shipping trends

(LR – Fuel for Thought – LNG)



The global fleet of LNG dual-fuel vessels stands at ~1,710 ships (Dec 2025)



The orderbook includes ~876 additional vessels, expanding the gas-fuelled fleet by ~51%



Action point 1: Explicitly recognise methane abatement as a strategic priority



What we are asking for:

Explicit recognition of methane abatement within FuelEU Maritime and the EU ETS maritime, followed by its inclusion as a strategic priority in broader policy instruments and communications, such as the European Industrial Maritime Strategy (EIMS) and the Industrial Accelerator Act (IAA). This should be supported through clear implementation guidance, designated technology priorities and a fully inclusive approach to methane abatement technologies.

Why it matters:

While the EU maritime climate policy is advancing through instruments such as FuelEU Maritime and the inclusion of shipping in the EU ETS, methane abatement is not yet consistently and explicitly positioned as a strategic priority within these frameworks. As a result, methane abatement technologies lack the same level of visibility, policy support and demand-side incentives compared to other decarbonisation solutions like solar, batteries, or hydrogen.

This creates a structural gap. In practice, technologies that are explicitly named in EU legislation are far more likely to attract investment, scale rapidly and be deployed across the market. Without this recognition, methane abatement risks remaining under-prioritised despite its obvious climate and industrial potential.

The timing is particularly important. LNG-fuelled vessels entering the fleet today will operate for decades, meaning that the regulatory treatment of methane emissions - especially methane slip - under FuelEU Maritime and the EU ETS will significantly influence long-term operational costs, fuel choices, and investment decisions across the sector.

Building on this regulatory foundation, broader policy strategies, such as the EIMS and the IAA, should further reinforce methane abatement as a designated priority area.

The EU already has a strong foundation to build upon, with EU companies at the forefront of methane measurement and abatement technologies. Explicit regulatory recognition is the necessary next step to translate this leadership into scaled deployment, industrial growth, and global market advantage.

Action point 2: Strengthen the use of verified, real-world methane emissions data



What we are asking for:

The European Commission's existing guidelines for reporting and verification of actual methane slip (Cslip) under FuelEU Maritime³ to be enhanced by further clarifying remaining implementation gaps, such as engine grouping, data gas, calibration requirements, and other practical aspects. Doing so will ensure the guidelines' consistent and effective application across the sector. Over time, this should support a dual-track approach in which representative default emission factors remain available, while enabling the voluntary use of verified actual emissions data for operators able to demonstrate improved performance.

Why it matters:

Under the current framework, shipowners who invest in methane abatement technologies do not yet receive full regulatory recognition for improved performance. FuelEU Maritime continues to rely primarily on default emission factors, which may not fully reflect real-world methane slip across different vessel types and operating conditions.

This means that emissions performance is still largely assessed using standardised averages rather than operational data. While this provides administrative simplicity, it limits the extent to which superior environmental performance is rewarded in compliance outcomes, thereby weakening the incentive to invest in abatement technologies. At the same time, maintaining representative default values remains important to avoid disadvantaging operators not yet ready to implement measurement-based systems.

Further development of measurement practices would help address this. The Commission's published guidelines on

measuring methane slip represent an important and constructive first step.

However, feedback from industry suggests that some areas of practical application would benefit from further clarification and simplification to support consistent implementation.

The existing legal framework already provides a clear opportunity for refinement. Under Article 30 of FuelEU Maritime, the Commission is required to review the regulation by the end of 2027. This review offers a timely opportunity to assess how measurement methodologies are functioning in practice and to consider how the framework can better reward real-world emissions performance over time.

Strengthening the role of verified emissions data would improve transparency, support fair competition, and create clearer incentives for investment in methane abatement technologies, while ensuring alignment with the EU's broader decarbonisation objectives.

[3]Guidelines for Reporting and Verification of Actual Methane Slip Tank-To-Wake Emission Factors from Marine Diesel Engines under the Scope of FuelEU Maritime Regulation

Action point 3: Mobilise EU funding and financial incentives to accelerate methane abatement deployment



I. Align EU funding instruments with methane abatement priorities

What we are asking for:

Methane abatement technologies to be made eligible for, and incentivised by relevant EU funding instruments, including the Net Zero Industry Act technology list, the Clean Industrial Deal State Aid Framework, and the proposed EU Competitiveness Fund and related industrial funding mechanisms under the next MFF.

Why it matters:

The technologies required to reduce methane emissions from shipping already exist. The primary constraint to their deployment is not technical feasibility, but access to capital and early-stage market support.

Scaling abatement technologies requires capital investment, testing infrastructure, and a signal that a long-term market for these technologies will exist. Policy frameworks should therefore clearly recognise the broad range of applicable technologies across different vessel and engine types, while remaining technology-neutral and non-prescriptive.

EU funding instruments are powerful tools for shaping industrial development. However, in practice, technologies tend to benefit more when they are explicitly referenced in funding calls, strategic programmes, and eligibility frameworks. When this recognition is absent, access to funding becomes fragmented and inconsistent.

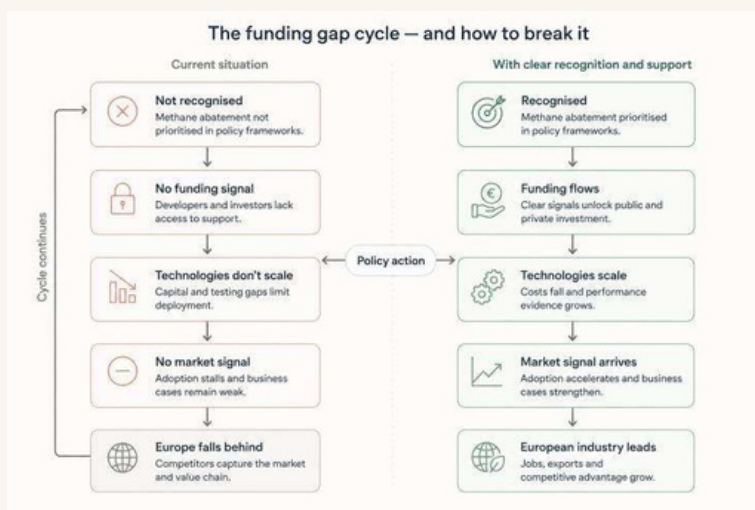
Methane abatement technologies are currently not consistently or explicitly identified in most European funding instruments.

This creates a cycle in which limited funding constrains scale-up, slowing market adoption, and weakening the investment case for further deployment.

The EU Innovation Fund directs significant resources toward maritime decarbonisation. However, it is a competitive, project-based instrument, and the design of calls - through eligibility criteria and priority areas - strongly influences which projects are proposed and ultimately selected. A clearer signal that explicitly prioritises methane abatement within relevant calls would meaningfully shape this dynamic and strengthen project pipeline development.

Recognition across EU funding frameworks would have several reinforcing effects. It would improve investment certainty, enable Member States to deploy state aid with greater confidence, and accelerate the commercialisation of methane abatement technologies. It would therefore convert EU technological leadership into lasting commercial strength and reinforce the EU's position as a global leader in decarbonisation.

Action point 3: Mobilise EU funding and financial incentives to accelerate methane abatement deployment



II. Deploy targeted financial incentives to accelerate adoption

What we are asking for:

The introduction of a targeted package of financial incentives for methane abatement, including grants, affordable finance, support for early deployment, and tax incentives for those investing in abatement technologies.

Why it matters:

For many ship operators, investment decisions are driven by short operating cycles, capital constraints, and uncertainty around future returns. Even where methane abatement technologies are technically proven, first movers continue to face higher costs and greater operational risk than those waiting for the market to mature.

Targeted incentives can help close this gap. Measures such as grants, tax incentives, and affordable financing reduce the risks associated with early adoption and make investment decisions more commercially viable.

In addition, a meaningful share of revenues generated through the inclusion of shipping in the EU ETS should be reinvested into maritime decarbonisation and methane abatement initiatives. Recycling part of these revenues back

into the sector would help accelerate technology deployment, support first movers, and strengthen the credibility and fairness of the transition.

Experience from other clean technology sectors shows that this stage is critical. Early deployment support helps generate operational confidence, build installation and servicing capacity, strengthen supply chains, and reduce costs over time through wider market adoption.

For methane abatement technologies, this is the next step required to move from successful demonstrations to routine deployment across the maritime sector. Well-designed financial incentives can accelerate that transition while reinforcing Europe's industrial competitiveness and supporting emissions reductions at scale.



Action point 4: Build the evidence base together

What we are asking for:

Formal EU support for a multi-stakeholder platform for methane abatement trials and data sharing in the maritime sector, building on the collaborative model pioneered by MAMII.

Why it matters:

Maritime is a fragmented, safety-critical industry, in which new technologies require extensive real-world validation before achieving widespread adoption. Shipowners, technology providers, regulators, insurers, and financiers all rely on credible operational evidence to support investment and deployment decisions.

Generating this evidence at scale is difficult for individual actors to achieve alone. It requires coordinated testing across different vessel types, operational profiles and conditions, alongside mechanisms for secure data sharing and common performance assessment.

MAMII has already demonstrated the value of this approach. The initiative has brought together major shipping and fuel supply companies, technology providers and academia. It has identified a broad range of methane measurement and abatement technologies and accelerated feasibility studies. Formal EU support and co-funding would help expand this work and increase its impact across the sector.

A stronger collaborative framework would deliver several benefits simultaneously. Shared evidence and testing reduce uncertainty around technology performance and deployment. Certification approaches can provide a common and trusted framework for assessing emissions reductions, helping investors, insurers, regulators, and operators make more informed decisions. At the same time, greater collaboration between maritime and land-based industries can accelerate the adaptation and scaling of existing methane mitigation solutions.

Beyond emissions reductions, this would help strengthen the EU's industrial knowledge base in an emerging technology field. The expertise, data, engineering capability, and certification infrastructure developed through such a platform would contribute to the EU's long-term competitiveness in maritime decarbonisation technologies.



MAMII: proof that the model works

Methane Abatement in Maritime Innovation Initiative (MAMII) was established to build the shared evidence base needed to accelerate methane abatement in maritime. In a short period, it has shown that coordinated, cross-industry collaboration can accelerate both technology assessment and industry engagement.



WHAT MAMII HAS ACHIEVED SO FAR



MORE THAN
20

major shipping
industry players
participating



OVER
240+

methane measurement
and abatement
technologies



10

feasibility studies
completed



COLLABORATION

with other relevant
initiatives to ensure
alignment and avoid
duplication of efforts



ACTIVE ADVOCACY

efforts to support the
accelerated uptake of
methane measurement
and abatement solutions
across the maritime sector



MAMII is demonstrating that collaboration, data and shared commitment can turn ambition into action—and deliver a cleaner, more sustainable maritime future.



What formal EU support would enable:

- ✓ Expanded pilots across more vessel types and operating environments
- ✓ Certification schemes giving shipowners, insurers, and regulators a common performance language
- ✓ Secure data-sharing and coordination mechanisms across industry stakeholders.
- ✓ Greater EU influence in shaping international standards

The wider opportunity:

The capabilities developed through such a multi-stakeholder platform, including data, engineering expertise and certification frameworks, would represent strategic EU assets. Supporting their development in the EU would strengthen both climate leadership and long-term industrial competitiveness.



Action point 5: Set the global standard

What we are asking for:

Leverage EU data, regulatory experience and industrial expertise to shape global methane measurement and abatement standards at the International Maritime Organization (IMO) level.

Why it matters:

Global standards are essential for ensuring consistency, regulatory certainty, and a level playing field across international shipping, while also avoiding duplication of effort and unnecessary administrative burden and compliance costs for industry. The IMO remains the central forum for developing these frameworks, and recent progress shows that work on methane measurement in shipping is moving forward.

At MEPC 83, the IMO adopted the *Guidelines for Test-bed and Onboard Measurements of Methane (CH₄) and/or Nitrous Oxide (N₂O) Emissions from Marine Diesel Engines* (MEPC.402(83)). This marked an important first step towards an internationally agreed methodology for measuring methane slip from marine engines.

Building on this, MEPC 84 adopted three guidelines for methane and nitrous oxide emissions measurement: test-bed and onboard measurement guidelines; engine load monitoring (ELM) guidelines; and continuous emission monitoring system (CEMS) guidelines.

Together, these form a toolkit for determining actual tank-to-wake methane and nitrous oxide emissions. While not yet linked to mandatory reporting, they are

expected to support future use in the LCA framework, the IMO Net-Zero Framework, and potentially in EU regulations such as the EU ETS and FuelEU Maritime.

These developments represent meaningful progress, but international alignment is still at an early stage. Measurement approaches are not yet fully harmonised, and the translation of technical guidance into consistent global regulatory practice will take time.

In this context, international standards are shaped by the IMO members that contribute the strongest evidence base, the clearest technical frameworks, and the most operational experience. The EU is well placed to play a leading role in this process.

Industry initiatives, including MAMII, are already generating valuable real-world data, feasibility assessments, and technology performance insights across a range of vessel types and operating conditions. Strengthening the EU's contribution of this evidence to IMO processes - particularly through technical bodies such as GESAMP and relevant correspondence groups - would help ensure that future methane standards are grounded in robust, independently validated data.



Action point 5: Set the global standard

The EU also has a proven track record of shaping global maritime regulation. EU leadership on sulphur emissions and CO₂ monitoring frameworks contributed significantly to the development of international standards in those areas. A similar approach could help accelerate the establishment of credible and practical global methane measurement frameworks.

There is also a broader strategic dimension. Regulatory leadership often influences where technologies are developed and commercialised. By actively contributing to the development of international methane standards, the EU can help ensure that its technology providers, engineering expertise, and regulatory approaches are well positioned in a growing global market.

WHERE WE STAND



Methane measurement methodologies are still evolving and not yet fully harmonised internationally.



Operational data and real-world validation remain limited across vessel types and operating conditions.



The transition from technical guidance to consistent global regulatory practice is ongoing.



WHY THE EU IS UNIQUELY PLACED TO LEAD



Strong regulatory expertise in decarbonisation



A growing evidence base through industry initiatives such as MAMII



Proven ability to influence global maritime standards



THE STRATEGIC OPPORTUNITY

IMO members that contribute the strongest evidence and technical frameworks to IMO processes are best positioned to **shape the resulting standards**.



This not only influences global emissions outcomes but also helps determine which technologies and capabilities **scale internationally**.



BY PLAYING AN ACTIVE ROLE

By playing an active role in shaping methane measurement standards, the EU can help ensure both **environmental effectiveness** and long-term **industrial competitiveness** in a rapidly evolving sector.



The standards set at IMO will shape the future of shipping.

The EU has the expertise, evidence and influence to lead—now.



Robust evidence and data



Strong frameworks and collaboration



Global standards with impact



Cleaner shipping, competitive EU industry

MAMII



Partner with us

Safetytech Accelerator seeks leading industry partners to join our mission to make the world safer and more sustainable through wider adoption of Safetytech.

Get in touch

For more information about the programme, including previous and ongoing safety and risk challenges, please visit:

[Safetytech Accelerator | Innovation for Industry](#)

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