

WORLD



Q4 2024

PUBLISHED SINCE 1997

BUNKERING

THE OFFICIAL MAGAZINE OF IBIA

IBIA CONVENTION

TRIUMPH OF COLLABORATION AND INNOVATION



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INSIDE THIS ISSUE:

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We certainly live in interesting times. In November we have seen two very different gatherings of importance to the bunkering and wider shipping industries. IBIA held a very successful Convention in Athens, a business-like event focused on the key issues facing the sector.

This issue of *World Bunkering* includes reports, commentaries and many photographs from this highlight of the IBIA calendar. Tahra Sergeant, IBIA's Global Head Events, celebrates the success of this year's Convention, highlighting inspiring dialogue, new connections and future plans while we also carry a concise but comprehensive overview of the subjects addressed in Athens.

Then we have had COP29, held in Baku, Azerbaijan. Certainly it was an unusual Conference of the Parties to the United Nations Framework Convention on Climate Change (FCCC), to give COPs their full title. An opening address by the host country's president Ilham Aliyev calling fossil fuels "a gift from God" caused some consternation although COP 29 eventually ended with developed countries pledging to "take the lead" in raising US\$300 billion annually for developing countries by 2035. Looking ahead, US president elect, Donald "drill baby drill" Trump, is expected to take the world's biggest economy out of the FCCC.

When it comes to decarbonisation, among other things that matter to shipping such as tariffs on international trade, we will have to wait a few months to discover what the new 'normal' will look like. IBIA plans to attend COP30 in Belém, Brazil, in November 2025. Perhaps by then the global context will be clearer.

Meanwhile the shipping and bunkering industries continue to keep world trade moving. As reported in Industry News, Clarkson Research's latest six-monthly outlook for the global shipping markets notes they have been experiencing the "strongest annual shipping demand

growth for 15 years". The consultant also reports that GHG emissions are growing "marginally". Again, what will happen to that strong growth once the new incumbent is installed in the White House is anybody's guess.

While COP may not be shaping up well, IMO continues to work doggedly on the very difficult task of decarbonising world shipping, as IBIA's representative at IMO Edmund Hughes reports. The recent 82nd session of the Marine Environment Protection Committee (MEPC 82) did, Edmund notes, make "some progress" but "significant policy issues remain to be resolved". As ever MEPC addressed a wide range of issues which he also covers in some detail.

IMO's route to net zero may still be work in progress but the shipping industry continues to move at pace in that direction with a bewildering number of initiatives, projects and new technologies – and as usual *World Bunkering* carries reports on many of these. Among initiatives taken up by many shipowners is slow steaming. In our Environmental News we report that design and engineering firm Houlder warns that "owners not informed by data analysis risk a series of unintended financial consequences" and slow steaming could even be counterproductive in terms of reducing greenhouse gas (GHG) emissions.

Those words of caution are, perhaps, another indication that decarbonisation is not easy. However, the EU is forging ahead with regulatory measures designed to force the industry to cut GHG emissions. FuelEU Maritime takes effect in 2025 and, according to OceanScore, Greek shipping companies alone are set to face a total bill of over €175m in penalties incurred, but can also capitalise on the use of alternative fuels both to curb their financial exposure and generate compliance surpluses,

When it comes to alternative fuels the choices facing shipowners are daunting.

We look in some depth at no fewer than 10 potential pathways, or more likely partial pathways, to net zero. As in recent issues our section on Alternative Fuels and Technologies includes nuclear power, with Lloyd's Register (LR), CORE POWER, AP Moller-Maersk and an unidentified port authority coming together to research the regulatory feasibility and frameworks that would need to be established for a nuclear container ship.

Not so long ago it would have seemed outlandish for *World Bunkering* to include articles on alternative fuels, let alone nuclear propulsion, but we must reflect the current realities facing bunkering, and we do. Nevertheless, the old issues that have long been features of our industry are still with us. So, this issue includes three articles on Fuel Quality while there is much else to discover within our pages.

Happy reading

David Hughes
Editor



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Dear friends and fellow IBIA members,

We are approaching the conclusion of a dynamic year, and an excellent one for our Association, with targeted interventions, worldwide presence, representation and continuous expansion, particularly if one looks at our membership list and sees both the expanding numbers and the diversity of our members' background, especially those from the shipowning side.

Most importantly, we recently concluded our Annual Convention in Athens, held from the 5th to the 7th of November. We all looked forward to this and great effort was made by our secretariat team, together with our Events WG and our board of directors.

It is not an exaggeration to say that it was a hugely successful, impactful and perfectly organised convention. We all enjoyed and appreciated first our training sessions and then our panels and discussions, all of the highest calibre. We were honoured to hear keynote speeches by our guests the Honourable Minister of Maritime Affairs and Insular Policy of Greece Mr. Stylianidis, and His Excellency the Ambassador of the United States to the Hellenic Republic Mr. Tsunis, together with a video recorded salutation by the IMO's Secretary General Mr. Arsenio Dominguez. All three speeches touched upon the urgency for action and the importance of associations like ours, the key role we perform in bringing all stakeholders together and moving forward concretely.

Our panels were thought-provoking, open and sincere (something which is never a given in an era of plentiful conferences and conventions) and they all captivated our audience, which approximated 280 delegates from 30 countries.

Our convention also marked an important announcement. One of the ways for IBIA's expansion is through our Regional Boards which serve as a platform of local engagement and regional concerns. Our active Regional Boards in Asia, Africa, the Americas, and the Middle East are a true testament of this. During our Athens Convention I formally announced the establishment of our final Regional Board, in Europe. With new regulations being implemented next year, like the

forthcoming Med ECA Zone or FuelEU, and with a plethora of radical developments, IBIA intends to stay at the forefront in Europe as well. This new board will consist of highly respected and experienced individuals, all experts in their field:

Mrs. Charlotte Rojgaard – Global Marine Fuels Director at Bureau Veritas Verifuel, who will be the Regional Board's Chair.
Mr. Peter Grunwaldt, Vice President at Hafnia
Mr. John Stirling – World Fuel Services Director, Marine Technical
Mr. Kenneth Juhs – Managing Director at ZeroNorth Bunker
Mr. Andrea Realfonzo – Grimaldi Group, Manager Corporate Bunker & Chartering Dept.
Mrs. Sofia Furstenberg Stott – Partner at Furstenberg Maritime Advisory
Captain John Ghio – Port Captain and CEO of the port of Gibraltar
Jan Christensen – Senior Director at Fuels, Lubricants & Chemicals at Hapag-Lloyd

I wish them every success and assure them of mine and the Global Board's full support, always. These times are indeed complex, challenging and potentially frustrating, however they are also exciting, promising, and fit for those people, associations and companies alike which want to be a dynamic part of the most significant evolution in modern times. Decarbonisation is the clear goal, and we know that the obstructions are massive. We, in the shipping industry, were, are, and will remain pioneers, and IBIA is determined to play a major role and become more relevant than ever before. This is exactly why we focus on diversification of IBIA's membership as we engage all stakeholders: upstream producers, energy majors, classification societies, oil traders, technical experts, port authorities, regulators, bunker sellers, shipping companies.

Apart from our excellent Annual Convention, IBIA was actively present during SIBCON 2024. I had the honour of being invited to be a panellist and converse, along with the IBIA delegation team, not only with a wide range of shipping professionals, but also with the Maritime Port Authority of Singapore, as well as with the Global Centre of Maritime Decarbonization, partners in our efforts for comprehensive training and for studies on the new technologies and

fuels. I was also honoured to receive on behalf of our Association the confirmation of cooperation with the MPA regarding IBIA's inclusion as a partner of MPA's Marine Energy Training Facility (METF), celebrated at the opening of SIBCON through the announcement of Dr Amy Khor, Senior Minister of State for the Ministry of Sustainability and the Environment and the Ministry of Transport.

I was pleased to attend ARACON in Rotterdam, as a panelist at the "Leadership" panel and to represent IBIA in the in-depth discussions relating to the newly formulated European fuel landscape.

There is no doubt that IBIA is impactful, sought out for its expertise, its encompassing and sober voice, its wealth of representation through our 500 members, our IMO's work and submissions, our Working Groups, our Regional Boards, our Members' Meetings, our Training sessions, our Events. We are gearing up as times become increasingly complex and in further need of closer and sincere cooperation. We have accomplished a lot lately, and more is yet to come, through you, our members, and your active participation, which no one in IBIA will tire of repeating is of the utmost value and importance.

I look forward to the continuance of this acceleration of our Association's dynamic trajectory. It's a joint and team effort we all embrace.

Constantinos Capetanakis
IBIA Chair





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IBIA ANNUAL CONVENTION

Reflecting on a new high point, with more major milestones ahead

The recent IBIA Annual Convention in Athens marked our most successful gathering yet, setting a high benchmark for the years ahead.

This year, we welcomed close to 300 delegates from 30 countries, highlighting IBIA's continued commitment to leading the way in the global bunkering and maritime energy industry.

The convention featured two training courses with 45 trainees, eight sessions, and two specialised presentations. Additionally, three high-level keynote addresses were delivered, including for the first time both the Greek Minister of Maritime Affairs & Insular Policy and the US Ambassador to the Hellenic Republic - truly a landmark moment for IBIA.

With 11 sponsors and seven networking events, we provided participants with ample opportunities to connect, learn, and exchange insights on industry advancements. The conference also included seven live polls, engaging participants in real-time feedback and making this a more interactive experience than ever before.

The highlight was a memorable dinner at the Stavros Niarchos Foundation Cultural Centre, a stunning location in Athens, a city globally recognised as one of the international centres of the maritime industry.

Our dedicated secretariat team, whose commitment and work made this year's Annual Convention such a remarkable success, deserves a heartfelt thank you for their efforts in orchestrating such an exceptional event, which reflects IBIA's growth and momentum in 2024. This growth is especially evident in our expanding membership, with more interest from the bunker-buying sector than ever. Following a recent luncheon hosted by IBIA Chair Constantinos Capetanakis that gathered over 30 prominent Greek shipowners, we're seeing strong membership increases, reflecting IBIA's increasing influence.

We equally are proud to see that IBIA's membership is increasing, with a

significant influx of shipowners joining our Association. It reaffirms the essential role of bunker fuel and marine energy in the shipping industry and highlights IBIA's position as the trusted hub for collaboration, expertise, and advocacy on key issues driving the future of maritime energy.

We are honoured to welcome these new members as we continue to strengthen our impact on the industry.

As bunkers are more relevant to shipping than ever, IBIA is increasingly active at major international forums and events. I was pleased to attend and represent IBIA at prominent gatherings such as Korea Maritime Week, SIBCON in Singapore, Marine Money Athens, Safety4Sea, the ESG conference, ARACON and Hong Kong Maritime Week, where our presence emphasized IBIA's role in advancing the conversation around bunkers / marine energy worldwide.

Looking ahead, we're gearing up for the eagerly anticipated IBIA Annual Dinner in London, which signals the start of the International Energy Week in February. Known as the premier networking event of the global bunkering industry, it draws over 1,000 guests, offering unparalleled opportunities to connect with peers and meet IBIA members and their guests. We're excited to see many of you there!

In the following pages of *World Bunkering*, you'll also find a concise update on IMO's MEPC 82 meeting. While progress was made toward IMO's net-zero emissions goal for 2050, key issues remain, including the availability of compliant fuels and global compliance mechanisms.

I encourage you to read Dr. Hughes' article for a comprehensive analysis of these important discussions and what they mean for the future of bunkering.

To keep members informed, we continue to share crucial updates and insights through the biweekly IBIA Bulletin, delivered straight to your inbox. Look out for the latest on regulatory changes, sustainability trends, and industry innovations - key resources as we navigate a rapidly evolving landscape.

As this is our final edition for 2024, I'd like to wish you all a joyful holiday and a happy New Year.

Here's to exciting developments ahead, as IBIA and the bunkering / marine energy sector stay at the forefront of maritime industry developments in the coming year.

Sincerely

Alexander Prokopakis
IBIA Executive Director
alexander.prokopakis@ibia.net





IBIA ANNUAL DINNER

MONDAY 24 FEBRUARY 2025

For further details please visit www.ibia.net | email ibia@ibia.net

IBIA ANNUAL CONVENTION ATHENS 2024: A TRIUMPH OF COLLABORATION AND INNOVATION

Global Head of Events Tahra Sergeant celebrates the success of this year's gathering, highlighting inspiring dialogue, connections, and future plans

The IBIA Annual Convention in Athens has been an extraordinary success, and I couldn't be prouder of what we have achieved together.

This year, we saw an inspiring gathering of industry leaders, engaged delegates and influential speakers, all coming together to share insights, spark new ideas, and drive our industry forward. Athens provided a stunning backdrop, and it was clear that our industry's spirit of collaboration and innovation was stronger than ever.

Our programme featured powerful speakers, including Greece's Minister of Maritime Affairs and Insular Policy, Christos Stylianides, and US Ambassador George J Tsunis, who reminded us of the significance of sustainability and global cooperation in the bunker and shipping industry. These keynote speeches set the tone for an impactful two days of dialogue, with meaningful conversations on the future of bunkering, alternative fuels and environmental responsibility.

A highlight for many was the glamorous gala evening at the Stavros Niarchos Foundation Cultural Centre, sponsored by Peninsula. The setting was truly magical, with views of Athens' iconic skyline and a delightful meal that brought our community together in a memorable way. Moments like these underscore the importance of in-person connection and reinforce the value of these gatherings.

This year's Convention was only possible thanks to the incredible support of our sponsors, supporting associations, media partners, supporters, delegates and speakers. Each played an essential role in making this event a success and I want to extend my heartfelt gratitude to you all.

Thank you for being part of our journey.

Special appreciation goes to our Events Working Group, made up of IBIA Board Members and Secretariat, for ensuring our programmes are both information-rich and highly relevant.

Reflecting on 2024, I can confidently say this has been a year of remarkable achievements for IBIA. We are already looking to 2025 with excitement, building on this success to reach even greater heights. As I always say, this is only the beginning of what's possible when we come together with purpose and passion.

Upcoming IBIA Events

The momentum continues with our Annual Dinner in London this February, where we welcome: Platinum Sponsor - The Hawks, Gold sponsors - Arte Bunkering, Pema, and Sohar, and Silver sponsors - GPS, Cockett, and ExxonMobil. This promises to be another memorable gathering, with all the elegance and camaraderie we've come to cherish at our London dinners.

We are also excited for our Asia Dinner in March 2025, and planning is underway for events in the Middle East, Africa, and the Americas.

Each of these events offers fresh opportunities for connection and innovation, and I'm looking forward to seeing even more of our industry engaged around the world.

As we wrap up an amazing year, I wish all our members and industry a joyful festive season. Thank you for your continuous support and dedication. Here's to a brilliant 2025 filled with even more successes and milestones for IBIA and our industry.

Warm regards,

Tahra Sergeant
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& Global Head, Events
tahra.sergeant@ibia.net

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Left to right - Tahra Sergeant, Global Head, Events. Stefan Tiu - Marketing & Events.
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DECARBONISATION THE THEME

Collaboration the Buzzword at IBIA Convention's Return to Europe

IBIA's Annual Convention returned to Europe this year after outings to the US and UAE in 2022 and 2023, bringing close to 300 delegates to Athens in early November.

Athens remains one of the world's leading maritime hubs, and IBIA has been seeking to bring more of the shipping firms based there into active participation in the industry body. This community is both well-placed to have a detailed view of the impact of increasingly European regulations on maritime emissions, as well as having a wider outlook on the global bunker and freight markets.

The overarching theme of the event was of the need for collaboration in an increasingly complex business. Decarbonisation, digitalisation and compliance are all topics growing more complicated by the year, and market participants will need to work together to keep on top of them. IBIA will continue to position itself as the natural conduit through which this collaboration can be achieved.

This year's event started with two training sessions – one on the 2024 iteration of the ISO 8217 specifications and the second on future fuels – led by IBIA Treasurer Nigel Draffin and with guest trainer slots filled by Stuart Carpenter of Carnival Corporation, Fridtjof Muri Clausen of Yara Clean Ammonia, Fredrik Stubner of Green Marine and Martijn Van Den Berg of Oldendorff Carriers.

Keld Demant, CEO of the world's largest bunker company, revealed he had attended one of these courses some 26 years ago.

Any mistakes on his part since then could be attributed to Draffin, Demant said.

Opening Speeches

IBIA's Executive Director Alexander Prokopakis launched the event, welcoming delegates to his home town. IBIA Chair Constantinos Capetanakis then delivered an opening address, beginning by announcing the launch of IBIA's new regional board for Europe. This completed the rollout of five local bodies representing local expertise from Asia, Africa, the Americas, the Middle East and Europe.

Christos Stylianides, Greece's minister of maritime affairs and insular policy, delivered a keynote address setting out his country's position on decarbonisation policy for shipping and the need for collaboration.

George J Tsunis, the US ambassador to Greece, gave the second keynote speech, reminding the industry of the need for vigilance on sanctions compliance.

And a recorded appearance from IMO Secretary General Arsenio Dominguez detailed recent progress at the global level on decarbonisation regulations.

Constantinos Capetanakis was then interviewed on stage by Ship.Energy CEO Llewellyn Bankes-Hughes, discussing his ambitions and intentions as Chair to make IBIA known everywhere and to bring a wider range of voices from various parts of the marine energy chain into IBIA's membership and active participation. The discussion covered several aspects, including the progress of decarbonisation, the false dilemma between a utopia and a dystopia related to our environment,

IBIA's geographical growth through IBIA's new European Regional Board, the inclusion of more shipowners, and the expansion of IBIA's presence in China. He highlighted progress in engaging Greece's ship owning community and reaffirmed IBIA's commitment to being fuel- and technology-agnostic in its representation at the IMO and beyond.

Panel Discussions

In the presentations and panel sessions that followed, the shift to biofuels was a major theme, with EU regulations expected to drive a significant boost to demand next year.

The geopolitical situation was also a repeated talking-point, with delegates discussing the potential impact of the new Trump Administration in the US on the conflicts in the Middle East and Ukraine.

Decarbonisation and digitalisation were often discussed at the same time, with these two themes now recognised as symbiotic and needing to be addressed simultaneously.

The first panel discussion brought together a range of shipping association representatives and IBIA's Alexander Prokopakis for a conversation about the current state of the bunker industry and its relationship with shipping and other sectors. This was followed by IBIA IMO Representative Edmund Hughes leading a panel on the regulatory landscape, setting out the increasingly complex framework within which bunkering operates.

IBIA Vice Chair Adrian Tolson delivered a presentation setting out in detail the



outlook for the Mediterranean market, highlighting in particular the sharp changes to both local and global bunker demand likely to emerge from the introduction of an emissions control area there next year.

Global fuel oil demand is likely to drop significantly when the ECA comes into effect in May, alongside a sharp rise in MGO demand, while the combination of the ECA and GHG regulations could present an opportunity for Mediterranean alternative fuel supply to emerge.

The two final panels of the first day discussed similar topics but from opposing viewpoints: the buyers and sellers of marine fuel. Senior executives from both shipping and bunkering firms set out their views on the current state of the market, the regulatory landscape and the shift to lower-carbon fuels.

The shipping company representatives discussed the range of alternative fuels and energy-saving technologies currently on the table for the industry, the geopolitical situation in the US, China, Middle East and Black Sea, and how regulations from the EU and IMO are changing how shipowners operate. Star Bulk's Nicos Rescos suggested that while his company was supportive of the shift to ammonia, that market might take as much as a decade to develop.

In the supplier panel, Bunker Holding's Keld Demant talked of the need for bunkering firms to act as demand aggregators for the producers of alternative fuels like methanol, gathering more regular buyers together than the producers would be able to alone. Kenneth Dam of TFG Marine set out the complexity of the emerging biofuel bunker market, saying a range of unconventional feedstocks will emerge and that buyers should not expect the relative simplicity of the conventional bunker market to be recreated for this alternative fuel.

The second day opened with a group of longstanding bunker quality experts discussing current topics affecting marine fuel quality. The group expressed positive sentiments about the recently published new edition of the ISO 8217 bunker specifications and set out their hope that the new specifications will find demand in the marketplace more quickly than was the case for previous updates.

Another panel then discussed sustainability, digitalisation and training as significant issues facing the industry, pointing out that each of these issues is interlinked and all will need to be addressed simultaneously.

A presentation from the Marine Anti-Corruption Network addressed some of the compliance risks facing shipping and bunkering, and how this aspect of the business is becoming more complex over time.

And the final panel of the conference brought in a range of experts on the local market in the Mediterranean, discussing the upcoming ECA, how the region will cope with GHG regulations from the EU and how availability of alternative fuels is being rolled out as demand increases.

Wider Discussions

Discussions around the sidelines of the event were largely focused on decarbonisation, with this theme now becoming much more of a reality than a theoretical topic as European regulations start to charge the shipping industry for its carbon emissions.

The central theme for now is the shift to biofuel blends. These drop-in alternative fuels have now taken on a significant share of demand at both Rotterdam and Singapore as the EU-ETS and upcoming FuelEU Maritime regulations incentivise their use, and supply is in the process of being set up on a smaller-scale basis at most leading European ports.

The main concern is that supply will not keep up with this growing demand. Other industries – chiefly aviation – are increasingly keen to get their hands on limited biofuel supplies, and the shipping and bunker industries will need to become more creative in seeing which less popular bio feedstocks can be blended into marine fuels while remaining safe and working correctly in marine engines.

LNG has equally taken on an established position in the bunker industry, being discussed much more as a central element of bunker demand rather than a niche alternative.

Methanol as a bunker fuel was also further up the agenda than in previous years, with several suppliers represented at the convention now preparing to engage in this business and contemplating how to achieve that while maintaining profitability.

Ammonia was still being discussed as a more distant prospect – one delegate suggested a commercialised ammonia bunker market may still be 8-10 years away – but few doubted it would take its place in the marine energy mix before long.

The main event started on the morning after the US elections, and while the US ambassador's speech steered clear of a detailed analysis of the new administration's impact on shipping and bunkering, convention delegates took a keen interest in the topic in their discussions. The main concern was over the potential impact of tariffs on demand for shipping, while views differed on whether the effect of a change in foreign policy on the wars in Ukraine and the Middle East would be likely to be positive or negative for the industry.

Further Collaboration to Come

The spirit of cooperation and shared expertise was great throughout the event, with IBIA's commitment to facilitating dialogue across the entire maritime and energy ecosystem further solidified. As delegates return to their respective corners of the globe, it's clear that the collaboration seen in Athens will be essential in navigating the coming years.

Looking forward, the next IBIA Convention promises to be another opportunity to dive deeper into the industry's most pressing issues and continue the momentum of positive change. With biofuels, alternative fuels, and regulatory frameworks at the forefront, the maritime sector has much to tackle — but with the continued collaboration fostered at IBIA, the road ahead remains one of opportunity, not just challenge.

Stay tuned for the next IBIA Annual Convention, as we continue to work together to shape the future of maritime fuels and decarbonisation.

See you soon!













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to play an integral part in the sustainable future of the bunker industry

By joining IBIA you will become part of a global network of bunker industry experts who collectively form one of the world's leading authority on bunkers. Not only will you have access to a wealth of information and insight (we publish newsletters and industry updates on current issues) which offer pragmatic advice for managing the industry's challenges; members also have the potential to shape and influence both international and local legislation. This happens through IBIA's Working Groups which are responsible for developing industry guidance, participation in IMO correspondence groups, solving long-term industry issues, and addressing both commercial and technical aspects.

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CORPORATE ADDITIONAL MEMBERS GET ALL THE BENEFITS OF THE CORPORATE MEMBERSHIP WITH THE EXCEPTION OF THE RIGHT TO VOTE FOR BOARD MEMBER ELECTIONS.

You can add as many additional offices as you pay for. Affiliation with the primary Corporate member must be authorised. Special cases can be negotiated individually with the IBIA membership management team.

USEFUL INFORMATION

- 15% discount for 3 years membership, (Paid in one instalment) –
- Guarantee no membership price increases for the next 3 years.
- Unregistered offices will not get IBIA benefits



EVOLVING HORIZONS FOR AFRICA'S BUNKERING INDUSTRY

As Africa's bunkering sector navigates regulatory shifts and sustainable growth, IBIA strengthens its presence and support across the continent

Africa's bunkering industry continues to evolve as regional markets adapt to global shifts in maritime fuel standards, environmental regulations, and economic challenges. Key ports across West, East, and Southern Africa are experiencing a mix of growth opportunities and regulatory pressures, with a particular emphasis on transitioning towards greener fuel options.

In recent months, Nigeria has emerged as a focal point for the bunkering sector in West Africa. Efforts to streamline regulatory oversight and reduce illegal bunkering have been reinforced by local and international stakeholders, making Nigeria an increasingly attractive location for both regional and international bunker operators. Additionally, ports in South Africa and Kenya are seeing rising interest from global shipping companies seeking efficient refuelling options as they navigate critical routes along Africa's coastlines.

IBIA's commitment to fostering growth and collaboration within Africa's bunkering industry has never been stronger. Our Regional Board in Africa is expanding, aiming to build a solid network of industry professionals and stakeholders across the continent. We're excited to engage with more African members, bringing valuable resources, training, and support to help the region's bunkering sector thrive. We encourage all interested parties across Africa to connect with IBIA and become part of this growing community.

As part of our mission to support knowledge-sharing and capacity-building within Africa's bunkering sector, IBIA

will host a Basic Bunker Training Course in Nigeria in April 2025. This course is designed to provide foundational insights into the bunkering industry, covering essential topics such as fuel types, quality standards, measurement, and regulatory compliance. This training is a key opportunity for professionals to enhance their understanding of bunkering operations, stay informed on best practices, and network with industry peers. More details will follow in upcoming announcements.

Recent Highlights and Challenges

Regulatory Reforms in West Africa:

Governments in Nigeria, Ghana, and Angola have been increasingly vigilant in enforcing bunkering regulations, with a focus on clamping down on illegal operations. Nigeria's authorities have intensified efforts to combat fuel smuggling and illegal bunkering, creating a more favourable environment for compliant operators.

Rising Interest in Alternative Fuels:

As the global shift towards decarbonisation intensifies, African ports are beginning to explore options for alternative fuels such as LNG and biofuels. While the infrastructure for these fuels is still limited, South Africa and Egypt have expressed intentions to develop greener fuel capabilities to attract more environmentally conscious vessels.

Impact of Economic Conditions on Sponsorship and Investments:

The economic challenges facing several African nations are impacting investment

flows and sponsorship opportunities within the bunkering industry. However, ports with strategic importance, such as Mombasa and Durban, continue to see steady interest from investors looking to capitalise on Africa's growing maritime trade.

Strategic Importance of African Ports:

African ports play a critical role in global maritime routes, particularly those along the East African coastline, which serve as key transit points for vessels navigating the Suez Canal. The ongoing expansion and modernisation of these ports offer promising opportunities for growth in the bunkering sector, especially for refuelling services.

Security and Risk Management:

Maritime security remains a concern in certain regions, particularly the Gulf of Guinea, where incidents of piracy have raised risk factors for bunkering operations. IBIA is actively working with local stakeholders to promote safer practices and mitigate security risks, ensuring a safer environment for bunker operations.

Tahra Sergeant, IBIA Africa's Regional Manager, recently attended the South African Shipping Awards in Durban. This prestigious event, the first of its kind in South Africa, was conceived by Durand Naidoo, Chairman of the Institute of Chartered Shipbrokers South Africa (ICSSA) and CEO of Linsen Nambi Bunker Services. Inspired by renowned global events such as the Greek Shipping Hall of Fame and the Liverpool Marine Engineer and Naval Architects Guild, Naidoo recognised the



need for a platform in South Africa to honour and celebrate the achievements within the maritime industry. The gala brought together industry leaders, stakeholders, and professionals, creating an inspiring atmosphere to recognise excellence and innovation in South African shipping.

The evening celebrated the remarkable achievements of Captain Salvatore Sarno, Chair of MSC South Africa at MSC Mediterranean Shipping Co. S.A., whose visionary leadership in 2003 brought South Africa its first challenge for the America's Cup with Team Shosholoza. While the team did not win the coveted cup, they earned international acclaim by securing the most prestigious awards of the competition, showcasing the spirit and resilience of South African sailing. Also honoured was Prasheen Maharaj, CEO of SanDock Austral Shipyards, whose dynamic leadership as President of the Durban Chamber of Commerce and the South African Maritime Industry Development Network Task Force

continues to drive transformative growth and innovation in the maritime sector.

IBIA's participation underscores its commitment to supporting and celebrating the African maritime sector's progress and contributions.

The African bunkering industry stands at a pivotal moment, shaped by both challenges and opportunities that will define its future. IBIA's enhanced engagement through an expanding Regional Board, along with initiatives like the upcoming training course in Nigeria, underpins our pledge to support sustainable growth across the continent. We are grateful to our members and the wider industry for their continued support and look forward to working together to advance the sector, strengthen regulatory compliance, and foster a resilient, adaptable community ready to meet global shifts in maritime fuel standards. As we approach the festive season, we wish everyone a safe, healthy, and joyful

time. IBIA Africa remains steadfast in its commitment to serving and uplifting the industry into the new year and beyond.

Tahra Sergeant
Regional Manager (Africa)
& Global Head, Events
tahra.sergeant@ibia.net



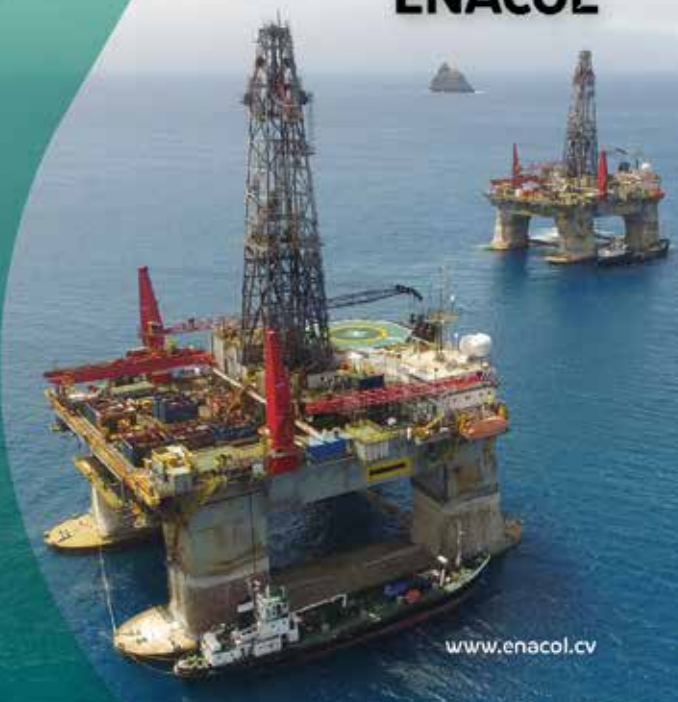
Enacol, Connecting Continents

Based in Cape Verde, strategically located on the main maritime routes between Europe, West Africa and the Americas, ENACOL offers HIGH QUALITY FUELS AND LUBRICANTS and ensures efficient delivery service to all types of vessels.

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- LS MGO Max 0,1%S (constant availability)
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- Competitive prices in the region
- Safe and efficient supply service
- Fleet compliant with international standards: MARPOL, SOLAS, ISPS and ISM
- High quality lubricants in partnership with GALP-LUBMARINE

We serve our clients safely, efficiently and with environmental responsibility.

Phone: (+238) 534 60 65
Mobile: (+238) 996 84 05 • 991 59 64
E-mail: bunker@enacol.cv



www.enacol.cv

SOUTH AFRICAN SHIPPING GALA





SOUTH AFRICAN SHIPPING GALA



IBIA Code of Conduct

Abiding by this Code of Conduct shows that members support our common goal: to promote the widespread adoption of a common set of ethical values within our industry. We believe that when the entire industry acts with the highest ethical standards that this will be to the benefit of us all.

Fair Business

- We conduct our business in a fair and transparent manner
- We will always act in the best interest of each business partner and are honest with the stakeholders involved in our business
- We only engage in business using compliant products, and deliver the quality and quantity agreed with our business partners
- We always act in good faith

Best Practice

- We always act in accordance with applicable legislation, including sanctions
- We always meet contractual obligations in a timely manner
- We always do our best to avoid disputes and seek resolution promptly if disputes occur
- We comply with all applicable competition and anti-corruption laws
- We respect confidential information and do not unlawfully use any intellectual property

Social responsibility

- We seek to minimise our environmental impact and the risk of environmental damage
- We will always ensure employees' health, safety and security
- We offer equal opportunities, prohibit unlawful discrimination and respect human rights
- We offer the same opportunities for professional development to all our employees

Transparency

- Our accounts and records are kept accurately and reflect the true state of the company and its operations
- During audits or investigations, we fully cooperate with the authorities
- We will not receive or give any gift or entertainment of disproportionate value
- We are fully committed to preventing both money laundering and terrorist financing

This Code of Conduct is endorsed by the International Bunker Industry Association (IBIA). IBIA encourages members to abide by this Code of Conduct and to endorse it.



IBIA
INTERNATIONAL BUNKER INDUSTRY ASSOCIATION



IBIA'S SUCCESSFUL TRAINING COURSES

A busy past quarter with more opportunities to unlock the future of bunkering upcoming

IBIA has continued its commitment to providing high-quality, industry-leading training to professionals across the global bunkering sector. Over the last quarter, IBIA delivered several successful courses focused on critical areas such as biofuels, ISO standards, future fuels, and regulatory shifts. These courses have not only enhanced participants' technical knowledge but have also provided them with valuable insights into the industry's evolving landscape. As part of our mission to equip our members with the necessary expertise to navigate these changes, we are also excited to announce new courses, including a highly anticipated one dedicated to the evolving role of surveyors in the Mass Flow Meter (MFM)-equipped bunkering industry.

1. IBIA Biofuels Training Course at the Argus Biofuels Europe Conference & Exhibition, London

Held on 14 October 2024, just before the Argus Biofuels Europe Conference & Exhibition in London, IBIA's Biofuels Training Course attracted a strong turnout with professionals keen to understand the technical, operational, regulatory, and economic aspects of bio-based marine fuels.

The course opened with an overview of the rationale behind adopting alternative fuels for the maritime industry, followed by an exploration of various bio-based fuels, including FAME (Fatty Acid Methyl Esters), HVO (Hydrotreated Vegetable Oil), Bio Methane, and Bio Methanol. Detailed discussions also covered regulatory frameworks, fuel quality, and storage requirements for each fuel type.

A highlight of the course was the deep dive into the IMO's shift to Well-to-Wake (Life Cycle Assessment, LCA) considerations, offering insights into the economic drivers of biofuels and predicting medium-term trends in this space. Delegates left the course better prepared to navigate the complexities of adopting biofuels in their operations.

Venue: Queen Elizabeth 2 Centre, London

2. IBIA ISO Training Course, Athens

On 4 November 2024, IBIA hosted an engaging and informative ISO Training Course in Athens, designed for professionals involved in supplying, purchasing, and verifying fuel quality. The course focused on the updates to the ISO 8217 standard, including the implications of the latest 7th edition and the increasing role of biofuel blends.

Participants gained a thorough understanding of the new ISO requirements, including the primary test methods and significant Annexes, while also exploring the challenges posed by the shift from Tank-to-Wake to Well-to-Wake regulations. The course also addressed how these changes could impact the quality and measurement of marine fuels, with a particular emphasis on the evolving regulatory landscape and the transition toward alternative fuels.

A big thank you to Baseblue for their hospitality, as they hosted the course at their Piraeus-based premises, providing a collaborative learning environment for all attendees.

3. IBIA Future Fuels Training Course, Athens

Held during the IBIA Annual Convention in Athens, the IBIA Future Fuels Training Course proved to be another highly successful event. Aimed at professionals with a foundational understanding of conventional marine fuels, this course explored the emerging fuels and technologies shaping the future of bunkering.

Experts led in-depth sessions on LNG from Stuart Carpenter of Carnival Corporation, Ammonia from Fridtjof Muri Clausen of Yara Clean, Methanol from Fredrik Stubner of Green Marine and Biofuels from Martijn Van Den Berg of Oldendorff Carriers, highlighting the operational challenges, safety concerns, and regulatory issues associated with each fuel type.

Dr Edmund Hughes, IBIA's IMO Permanent Representative, provided a comprehensive update on IMO regulations, including the shift to Well-to-Wake documentation and the growing importance of sustainability certifications in the transition to low-carbon fuels.

The course also examined the economic implications of these fuels, as well as the measurement and quality control challenges that stakeholders in the bunkering supply chain will face. Attendees were equipped with the knowledge necessary to stay competitive in the ever-changing marine fuel landscape.

4. Upcoming Exclusive One-Day Course: The Role of Surveyors in the MFM-Equipped Industry

The bunkering landscape in key European



ports, including Rotterdam and Antwerp-Bruges, is on the verge of a significant transformation with the imminent implementation of Mass Flow Meter (MFM) mandates. Surveyors, who have traditionally played a key role in verifying fuel quantity and quality, will now find themselves with a new and evolving set of responsibilities.

To prepare industry professionals for these changes, IBIA, in partnership with C4 Fuel and with the endorsement of the Ports of Rotterdam and Antwerp-Bruges, is offering a highly anticipated one-day course on **The Role of Surveyors in the MFM-Equipped Industry.**

This exclusive course is scheduled for the following dates:

- **19 February 2025 (Rotterdam)**
- **12 March 2025 (Antwerp - Bruges)**
- **16 April 2025 (Rotterdam)**
- **14 May 2025 (Antwerp - Bruges)**

Why Attend?

As the implementation of MFM mandates reshapes bunkering operations, surveyors will play an increasingly critical role in ensuring compliance, accuracy, and efficiency during bunkering operations. This course provides an essential deep dive into the new regulatory environment and equips participants with the tools they need to thrive in this evolving industry. Key topics include:

- **Regulatory Overview:**
Understanding new MFM-related requirements and the compliance implications of MID and ISO 22192.
- **Theory and Practice of MFMs:**
A comprehensive overview of the technology behind Mass Flow Meters and their impact on the bunkering process.
- **Surveyor's New Role:**
An exploration of the evolving responsibilities of surveyors in MFM-equipped operations, and how they can enhance service offerings.
- **Troubleshooting and Process Optimisation:**
Practical training on troubleshooting MFM systems onboard vessels and optimising bunkering procedures for greater efficiency and accuracy.

Whether you're a surveyor, bunker operator, or another key industry stakeholder, this course will provide the technical expertise needed to stay ahead of the curve. By attending, you'll gain a thorough understanding of the MFM system, allowing you to improve your service delivery and ensure compliance with the latest regulations.

Seats are limited, so we encourage you to register early to secure your place at this important training event. Prepare for the future of bunkering and the vital role that surveyors will play in this transition.

Looking Ahead: IBIA's Global Training Schedule

With the successful delivery of these courses and the upcoming MFM Surveyor-focused course, IBIA remains committed to expanding our training offerings worldwide. We are excited to announce that additional training sessions will be held in locations such as Turkey, Dubai,

Nigeria and beyond, ensuring that our members across the globe have access to the latest insights and practical knowledge in the bunkering industry.

We invite all industry professionals to join us in these dynamic training programs. Whether you're looking to deepen your understanding of biofuels, stay up-to-date with ISO standards, explore future fuels, or learn about the changing role of surveyors, IBIA's training courses are essential for staying competitive and compliant in an increasingly complex and fast-changing industry.

Stay tuned on our website www.ibia.net for more details on upcoming courses.

Warm Regards

Sofia Konstantopoulou
Global Head, Marketing & Development
sofia.konstantopoulou@ibia.net







Mastering MFM for Bunkering:

Comprehensive Technical & Practical Training for Surveyors

19 February 2025 (Rotterdam)
12 March 2025 (Antwerp – Bruges)
16 April 2025 (Rotterdam)
14 May 2025 (Antwerp – Bruges)



IBIA
ONLINE
EDUCATION

The IBIA Basic Bunkering Course

Module 1

Introduction

Module 2

Basic commercial

Module 3

Basic Technical

Module 4

Basic Operations

Module 5

Real life

The **IBIA Basic Bunkering Course** is a programme of training modules designed to introduce new entrants or staff with limited knowledge of the bunker industry to the most important aspects of the bunker industry.

It consists of 5 modules each lasting just over 1 hour presented by IBIA Board member, Nigel Draffin, the renowned bunker industry expert, Author of 12 books on Bunkering.

The course materials have been peer reviewed by members of the relevant IBIA Working Groups.

The **Online training** course is recorded video content, it is not live. The duration of each module is up to 60 minutes.. The modules can be attended as stand-alone modules, however students will gain the best value by taking all five modules in the order suggested. On completion of the course, students will receive the '**IBIA Certificate of Attendance**'.

Nigel Draffin



Consultant and IBIA Board Member



IBIA AT SIBCON 2024

Leading the Charge in Sustainable Bunkering and Global Collaboration

Reflecting on a very productive week at SIBCON 2024, I am pleased to share IBIA's active participation in this major event that saw a great turnout of more than 2,000 delegates from across the globe, uniting industry leaders, policymakers, and innovators under the theme *Accelerating the Maritime Fuel Transition*.

IBIA's leadership, including Chair Constantinos Capetanakis, Vice-Chair Adrian Tolson, and Asia Board Chair Capt. Rahul, alongside Asia board members Saunak Rai and Choong Sheen Mao, contributed significantly through their panel discussions and expertise shared with the participants. Together, we engaged with industry stakeholders, shared our vision for sustainable bunkering, and highlighted the importance of global standards in facilitating a greener future for the maritime industry.

At SIBCON, we also reiterated our commitment to training and development. IBIA was one of 29 new Maritime Energy Training Facility (METF) partners – other partners include shipping companies, ship management companies, trading companies, maritime associations and institutes of higher learning.

As part of METF, we will collaborate with the Maritime & Port Authority of Singapore (MPA) to validate and shape METF's training courses, including the training curriculum and curriculum delivery of courses on future fuels and technologies supporting maritime decarbonisation.

On the sidelines of SIBCON, we also had meetings with various partners and stakeholders such as MPA and the Global Centre for Maritime Decarbonisation (GCMD). Our booth also became a spot for connections and insightful discussions on current challenges and the future of the industry.

Invitation to IPEC 2024 in Zhoushan: A Forum for Global Marine Fuel Development

Following up on SIBCON 2024, IBIA was also invited to the International Petroleum and Energy Conference (IPEC) 2024 in Zhoushan, China, on October 17, 2024. This highly regarded event brings together over 1,000 representatives from the oil, gas, and marine fuel industries, including leading global energy institutions and the world's top marine fuel suppliers.

I am proud that I was able to represent IBIA on a distinguished panel to discuss "How the Marine Fuels Sector Can Adapt to a Low-Carbon and Green Shipping". The panel explored the latest developments in green marine fuels, safety protocols, and strategies for aligning the global shipping industry with low-carbon goals. In the panel, I also emphasised that the global push for decarbonisation should not just be seen as a regulatory mandate but a call for leadership, collaboration and innovation.

Celebrate the Year's End with Us at a Special Cocktail Event!

As we wrap up a year of growth, collaboration, and success, we are excited to invite you to our exclusive Year-End Cocktail Event on 29 November 2024 at Sentosa Golf Club. It will be a perfect opportunity to reflect on the achievements of 2024 and toast to the promising year ahead.

All profits from this event will go directly to the IBIA Scholarship Fund, further supporting our mission to empower and develop the next generation of maritime professionals.

To secure your spot, kindly express your interest to me and Noraini e: noraini.salim@ibia.net by 15 November 2024. You may also reach out to me for sponsorship opportunities.

Strengthening Regional Collaboration for a Sustainable Future

Our active engagement at not only SIBCON and IPEC, but throughout this year, underscores IBIA's commitment to fostering regional and global cooperation towards a greener and more sustainable future through collaboration and advancing initiatives that support the growth of the bunkering industry. Your continued support and collaboration are key to achieving our shared vision.

I look forward to seeing you at our year-end-cocktail. Together, we can drive meaningful change and build a sustainable future for the maritime industry.

Siti Noraini Zaini
Regional Manager, IBIA Asia
Siti@ibia.net
www.ibia.net





圆桌论坛一：面对全球航运绿色低碳转型，船用燃料如何应势而变？





IBIA ASIA *Dinner*

Singapore | 26 March 2025

26 March 2025 | 7:00 pm - 9:30 pm
Venue: PARKROYAL COLLECTION Marina Bay, Singapore

For further details, please contact us at siti.zaini@ibia.net and Noraini.salim@ibia.net.
For sponsorship opportunities, please contact Alex Corboude, IBIA Sponsorship Sales : alex@worldbunkering.net

IBIA EVENTS PROGRAMME 2025

ONLINE BUNKER TRAINING COURSE		
MODULE 1 TO PURCHASE	Bunker Market Regulations and Enforcement	Online at www.ibia.net
MODULE 2 TO PURCHASE	Understanding ISO 8217 and ISO 4259	Online at www.ibia.net
MODULE 3 TO PURCHASE	Best practice for suppliers with VLSFO	Online at www.ibia.net
MODULE 4 TO PURCHASE	Best practices for users with VLSFO	Online at www.ibia.net
MODULE 5 TO PURCHASE	Adapting to a changing market	Online at www.ibia.net
MODULE 6 TO PURCHASE	Compatibility and stability – Issues with VLSFO fuels and the measurement of Stability	Online at www.ibia.net
MODULE 7 TO PURCHASE	Sales terms and conditions – The purpose, structure and application of Sales terms	Online at www.ibia.net
MODULE 8 TO PURCHASE	Quantity measurement – The principles of quantity measurement including Mass Flow Metering	Online at www.ibia.net
MODULE 9 TO PURCHASE	Sampling – The basics of sampling, sampling methods and sample handling	Online at www.ibia.net
MODULE 10 TO PURCHASE	Fuel quality – Impact on storage, treatment and use in the engine	Online at www.ibia.net
MODULE 11 TO PURCHASE	Alternative Fuels	Online at www.ibia.net
MODULE 12 TO PURCHASE	Bio Fuels	Online at www.ibia.net
MODULE 13 TO PURCHASE	Exhaust Emissions	Online at www.ibia.net
MODULE 14 TO PURCHASE	Introduction to LNG Bunkers	Online at www.ibia.net
COURSE TO PURCHASE	The IBIA Basic Bunkering Course	Online at www.ibia.net
FEBRUARY		
12-13	2 Days Basic Bunkering Course SS600:2022 & SS648:2024	Singapore, Asia
19	IBIA MFM Training Course	Rotterdam, Netherlands
24	IBIA Annual Dinner	London, United Kingdom
MARCH		
12	IBIA MFM Training Course	Antwerp, Bruges
19-20	2 Days Advanced Bunkering Course SS600:2022 & SS648:2024	Singapore, Asia
26	IBIA Asia Gala Dinner	Singapore, Asia
APRIL		
16	IBIA MFM Training Course	Rotterdam, Netherlands
16-17	2 Days Basic Bunkering Course SS600:2022 & SS648:2024	Singapore, Asia
MAY		
14	IBIA MFM Training Course	Antwerp, Bruges
21-22	2 Days Advanced Bunkering Course SS600:2022 & SS648:2024	Singapore, Asia

2025 BUNKER INDUSTRY EVENTS

MARCH		
24-27	Maritime Week Africa	Mauritius
APRIL		
1-3	CMA Shipping	Stamford, USA
7-9	NIBC (Nigerian International Bunker Conference)	Lagos, Nigeria
7-9	FUJCON	Fujairah, UAE
MAY		
6-8	IBC (International Bunker Conference)	Oslo, Norway
19-22	Maritime Week Americas	Tampa, United States
SEPTEMBER		
15-19	London International Shipping Week	London, UK

*All dates were correct at time of going to print but may be subject to change, please refer to IBIA's website (<https://ibia.net/events/>) for any updates

NEW IBIA MEMBERS

CORPORATE A

Bunker Supplier, Trader

**Brother Petroleum
(Brother Denizcilik)**

Teoman Kiran
Europe

Surveyor, Other (Fuel testing,
Classification society)

Bureau Veritas

Charlotte Røjgaard
Europe

Supplier (Physical), Trader

**Chimbusco Pan Nation
Petro-Chemical Co Ltd**

Magdalene Fung
Asia

Ship Owner

Danaos Corporation

Filippos Prokopakis
Europe

Ship Owner, Ship Manager

EUROBULK LTD

Pantelis Pittas
Europe

Trader, Broker

Flex Commodities DMCC

Rakesh Sharma
Middle East

Ship Owner, Ship Manager

**Golden Union Shipping
Company S.A.**

Eleftherios Veniamis
Europe

Ship Manager

Marine Trust Ltd

Christina Pateli
Europe

Other

Montfort Investments

Edin Advic
Middle East

Other

Nacero Inc

Bruce Selkirk
Americas

Ship Manager

**Prime Tanker
Management Inc**

Stavros Niotis
Europe

Service

StormGeo AS

Julie Nielsen
Europe

Other (Marine pumps)

Taiko Asia Pacific Pte Ltd

Belinda Tee
Asia

Ship Manager

Target Group

Michael Karras
Europe

Ship Manager

Technomar Shipping Inc

Theodoros Baltatzis
Europe

CORPORATE B

Supplier (Physical), Trader

**Pan Nation Petro-Chemical
(Singapore) Pte Ltd**

Toon Chiam
Asia

Trader

Satus Trading DMCC

Heyder Aghayev
Middle East

Ship Manager

Trust Bulkiers Ltd

Christina Pateli
Europe

INDIVIDUAL

Trader, Financial

Ali Gencturk

AS Yakit Petrol Sanayi Ve
Ticaret AS
Europe

Bunker Trader, Agent

Gerry Juan Carlos

PT. Gracia Pelita Abadi
Asia

Surveyor

Antonis Oikonomou

SGS Greece SA
Europe

Service, Other

Lavan Sangarapillai

Spire
Americas

Service

Tyler Sherman

Integrity Fuels Logistics Corp.
Americas

Service

Nina Sherman

Integrity Fuels Logistics Corp.
Americas

Other

Rowan Staden-Coats

S&P Global Commodity
Insights
Europe

Bunker Supplier, Supplier

James Taylor

Prema Energy
Europe

Surveyor

Gregory Vervalle

Van Ameyde Marine
Europe

BRINGING HOPE AND HEALING MADAGASCAR 2024



Since 1978, Mercy Ships has empowered global change through floating hospital ships by delivering free, life-saving surgeries to under-served communities. In 2024, Mercy Ships is honored to partner with IBIA to bring hope and healing to those without access to safe, affordable surgery in Madagascar.

How you can make a difference:

Fuel Our Mission: With the support of the bunkering community in providing fuel, you are ensuring Mercy Ships will be able to provide more than 1,150 free life-saving surgeries on board the Africa Mercy in 2024!

Why Partner with Mercy Ships:

Impact and Visibility: Your partnership goes beyond financial support; it's an investment in a healthier, more equitable world. Partnering with Mercy Ships showcases your commitment to corporate social responsibility on a global stage. Joining hands with us means aligning your brand with a trusted and recognized organization dedicated to making a positive, transformative difference.

Please support Mercy Ships by helping to fuel our ships and transform lives.

Scan to support
Mercy Ships!



OUTCOME OF MEPC 82

Our regulatory round-up by IBIA's representative at IMO, Edmund Hughes

In the last edition of *World Bunkering* I highlighted that the time was getting nearer for a decision on regulatory measures that will be key to delivering the IMO's mid-century net-zero GHG emission goal for shipping and argued that there remained many questions still needing to be answered.

The 82nd session of the Marine Environment Protection Committee (MEPC 82) held from 30 September to 4 October 2024 was the latest milestone meeting for an opportunity to provide some of those answers. Whilst MEPC 82 was indeed dominated by discussion of the mid-term GHG reduction measures, and a more consolidated version was tabled of possible draft amendments to MARPOL Annex VI setting out a new Chapter 5 on 'Regulations on the IMO net-zero framework', significant policy issues remain to be resolved.

Some progress was made not least that there now appears to be general agreement that any 'technical element' will be a global standard for GHG intensity of marine fuel for which compliance would be demonstrated over a calendar year. However, it is increasingly recognised that fuels are unlikely to be available globally to comply with the requirements, especially in the short term, and so some sort of 'flexible compliance mechanism' would be required to ensure international shipping could continue without significant disruption. Such mechanisms could consist of trading surplus units (accrued where a ship has over complied), pooling with other ships to achieve compliance across several ships, and/or use of a surcharge fee to be paid where a ship does not comply.

Specifically for any measure that deploys a trading system there would be a need to establish an international register (at IMO?) and a decision made on who should be responsible for any residual funds that may be raised from the selling of surplus units? You can see from this explanation that the policy issues around an 'economic element' begin to seep into the deliberations on the technical measure and vice versa. Indeed, one of the key policy issues that is yet to be reconciled is whether the 'maritime

GHG emissions pricing mechanism' will be integral to the global fuel standard or distinct i.e. a standalone 'levy' or 'contribution'.

Finally, and most significantly, how and for what purposes should any residual funds be used? Many countries and shipping industry bodies advocate the imperative that funds are used to incentivise the uptake of the green fuels, technologies and energy sources that are needed to achieve the goals. However, disbursement of funds is the most political aspect of the discussions and a matter that was amplified with the findings of IMO's Comprehensive Impact Assessment (CIA). The CIA found that the IMO measures, if not mitigated in some way, would in effect make the poorest countries poorer due to increased cost of maritime transport. Frankly, it would be problematic for the IMO as a United Nations body, albeit with responsibility for shipping regulation alone, to take a decision that resulted in economically disadvantaged nations becoming more so. Several developing countries also raised concerns over food security and so again the political sensitivity of any final package of measures is apparent.

So now the focus turns to intersessional work including the holding of two intersessional meetings – one next February and one in the week preceding MEPC 83 in April. The timeline agreed under the 2023 IMO GHG Strategy seeks regulatory amendments being approved at MEPC 83 next April with adoption of the amendments at an extraordinary session of MEPC in October 2025.

Carbon Intensity Indicator (CII) for bunker vessels

IBIA submitted a document (MEPC 82/6/5), and there was one from INTERTANKO highlighting a similar concern, identifying the significant challenge for bunker vessels to comply with CII. These documents were considered by the working group established during MEPC 82. To avoid a risk of bunker vessels being considered as a separate ship type (and potentially forgotten about!) it was ensured that in the work going forward IBIA's submission and proposal for a short-voyage (duration)

correction factor has been included as part of the general problem for all ships undertaking short voyages which, along with port idle time, have been identified as the most significant issues needing to be addressed.

However, following a submission by the EU that proposed a two-phase approach to the review of short term measures it is evident that the review will not now be completed by 1 January 2026, as set out in MARPOL Annex VI. In the development of which issues should be considered in phase 1 and phase 2 of the review Member States seem to wish to prioritise strengthening the CII rather than addressing the implementation problems. Currently there are only two items in the work plan that definitely need to be considered in phase 1, that is, strengthening the CII Z reduction factors for 2027-30 and considering linking CII with SEEMP.

Furthermore, and this again raised concerns, several Member States suggested postponing the previously agreed holding of an intersessional meeting to after MEPC 83 potentially leaving all the work on correction factors, etc. to after MEPC 83. That suggestion was rejected and a compromise was reached to permit a three day meeting before MEPC 83 but it still highlights how the whole GHG regulatory agenda is being acutely squeezed. As now recorded in the report of the working group if there is a decision to make amendments to any instruments e.g. G5 Guidelines on CII correction factors and adjustments, then the implication of delaying such work to after MEPC 83 would mean the adoption by the Committee of additional new or amended instruments could not take place until MEPC 84 in Spring 2026.

Emission factors for environmental risk assessments for discharge water from Exhaust Gas Cleaning Systems

IBIA's submission MEPC 82/5/1, commenting on document MEPC 79/9/3 (Germany), had emphasised that the data set used in the study referred to in document MEPC 79/9/3 did not provide a suitable and sufficient basis



for the development of representative emission factors for the environmental risk assessment of discharge water from Exhaust Gas Cleaning Systems (EGCS); and had provided recommendations on how to develop representative emission factors based on a large data set of samples of discharge water. This document, along with another by ICS and CLIA (MEPC 82/5/3), that proposed draft terms of reference for the re-establishment of the UN's Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) Task Team on EGCS to conduct further work on emission factors, were forwarded to the working group established by the Committee.

During the deliberations of the group, IBIA's suggestion was identified, that is, the terms of reference of the GESAMP Task Team on EGCS should take into account the following aspects for the determination of emission factors: source data, standard methods, detection limits and flow rates. Due to time constraints, the group recommended that the Committee refer the draft terms of reference for the re-establishment of the GESAMP Task Team on EGCS to PPR 12 (January 2025) for further consideration with a view to finalisation and advising the Committee accordingly. It was noted that although PPR 12 might finalise its terms of reference, the GESAMP Task Team on EGCS would only be formally established after MEPC 83 (April 2025) and likely report to PPR 13 in Winter 2026.

New Emission Control Areas designated

MEPC 82 agreed to adopt amendments to MARPOL Annex VI, designating the Canadian Arctic and Norwegian Sea as emission control areas (ECAs) for nitrogen oxides, sulphur oxides, and particulate matter. These ECAs are due to enter into force on 1 March 2026.

Sustainable fuels certification framework

The intersessional meeting considered document ISWG-GHG 17/3/1 (Brazil et al.), proposing how to develop a certification framework facilitating the implementation of the IMO Life

Cycle Assessment of Marine Fuels (LCA) Guidelines and the IMO net-zero framework; basing the proposal on key elements consisting of inserting references to certification schemes in MARPOL Annex VI, developing a new set of guidelines providing guidance on the criteria and procedures for recognition of certifications schemes and updating existing IMO guidelines to ensure consistency; and proposing a way forward to obtain technical and scientific guidance in view of developing the content of the proposed new set of guidelines based on the draft outlines provided in its annexes.

This document received wide support and MEPC 82 invited interested Member States and international organisations to continue to work together on the development of a sustainable fuels' certification framework, including draft guidelines, with a view to submitting a more developed proposal to a future session. IBIA has informed the coordinators of this further work (Brazil and RINA) that it would like to participate in the development of the proposal.

Furthermore MEPC 82 invited interested Member States and international organisations to submit concrete proposals on how to reference certification schemes and the fuel lifecycle label (FLL) in the draft legal text of the IMO net-zero framework and associated guidelines to a future session.

Reporting of fuels data to IMO

During MEPC 82 the observer from IMarEST informed the Committee that, according to their analysis by comparing IMO sulphur monitoring data (MEPC 82/INF.2) and the IMO Fuel Oil Consumption Data Collection System (DCS) data sets (MEPC 82/6/38), the proportion of HFO used by international shipping might be over-reported in the IMO DCS. IMarEST informed the Committee that they would submit detailed information and proposals to improve the accuracy of reporting to a future session.

Use of ammonia and hydrogen as fuel

Draft interim guidelines for safe use of ammonia as fuel were finalised by the

Sub-Committee on Carriage of Cargoes (CCC 10) in September and are expected to be approved by IMO's Maritime Safety Committee (MSC 109) in December. Draft interim guidelines for use of hydrogen as fuel require further work and are expected to be finalised next year and approved in 2026.

Consideration of carriage of greater than B25 biofuels by bunker vessels

MEPC 81 in March 2024 forwarded the issue of the carriage of greater than B25 biofuels by MARPOL Annex I certified bunker vessels for supply of fuel oil to ships to the IMO Working Group on Evaluation of Safety and Pollution Hazards (ESPH 30) held 14 to 18 October, for further consideration and with a view to advising MEPC on a way forward.

ESPH 30, having considered a submission from the Republic of Korea proposing the approval of interim guidance and a submission from IBIA providing further information, gave general support for draft interim guidance permitting the carriage of up to B30 biofuels on Annex I bunker tankers. This draft will now go forward to PPR 12 in January 2025 with a request for the Sub-Committee to concur with the group's view and PPR is expected to then forward the draft to MEPC 83 in April 2025 for approval.

Wishing a fair wind and safe seas to all.

Edmund Hughes
edmund.hughes@ibia.net





THE BIMCO & IBIA SHIPMASTER'S BUNKERING MANUAL 2022

The Shipmaster's Bunkering Manual 2022 is the first practical industry guide for both owners and suppliers, seeking to create a common understanding of best practices when bunkering to facilitate a smoother process and safe bunkering globally

The manual is a unique result of cooperation between IBIA and BIMCO to create insight and practical understanding of bunkering across the shipping sectors.

Bunkering operations are routine, critical and high-risk operations which require accurate planning from both the owner and supplier to ensure a safe and successful operation. The publication consists of background information as well as checklists and key notes for the entire process for shipowners, masters and crew on how to prepare, execute and follow up on bunkering, including what to do when it goes wrong.

Totalling 4 chapters and phases of the bunkering process, the manual covers the following topics:



Chapter 1: Background insight on fuel types and key regulation

Everything you need know from fuel oil types, safety, and environmental regulations to ISO standards and contractual issues related to bunkering.



Chapter 3: Bunkering procedures

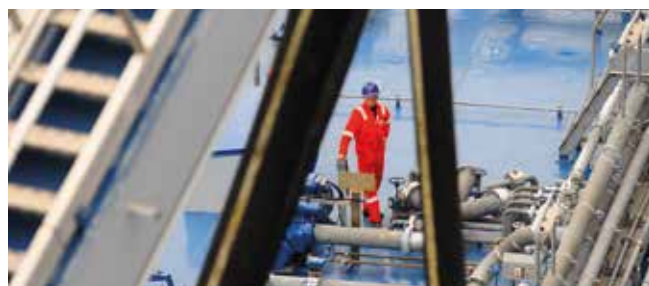
Bunker sampling is one of the most important aspects of bunkering. This chapter covers preparations, practical issues and what to do if something goes wrong. Details of the role each stakeholder ashore and on board undertakes during the process including actions required before, during and after the bunkering.

The book is available to buy from Witherbys on this link:

<https://shop.witherbys.com/shipmaster-s-bunkering-manual-2022/>

IBIA members receive a 20% discount on all publications.

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Chapter 2: Origin and supply chain of marine bunkers

An overview of bunker blends before the ship arrives for bunkering followed by a detailed description of the ship's preparation and planning prior to bunkering. Advice is also given on how to handle a situation if compliant fuel is unavailable in a specific port. Paperwork including the bunker delivery note and certificates of quality are described and recommendations are given that aim to help to use them correctly.



Chapter 4: Calculation of bunker quantity and after completion procedures

Details on how to create a solid background for calculating the bunker quantity and determine if the ordered bunker stem has been delivered. For ships carrying equipment to undertake onboard testing of marine fuels, testing procedures are referred to and detailed description of how to interpret test results provided. Keeping an accurate and up to date oil record book is, together with the bunker delivery note, important as records for internal and external use for example during port state control.



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Module 11:
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Module 12:
Biofuels

Module 13:
Exhaust Emissions

Module 14:
Introduction to LNG Bunkers

IBIA runs a series of online training courses to inform the members of our industry and help them to understand international regulations, guidance on how best practice and application of International standards can improve their ability to source, supply and use the fuels required now and in the medium term.

The training modules are aimed at all bunker industry stakeholders who are keen on gaining solid general knowledge of marine fuel. It will be of value to sellers, bunker deliverers, surveyors and ship operators. The course is delivered in clear, understandable language. Delegates will be able to ask questions and seek clarification on any topics covered.

The renowned bunker industry expert Nigel Draffin, Author of 12 books on Bunkering and IBIA's Treasurer, will run the online Bunker Training courses.

On completion of a module, students will receive the 'IBIA Certificate of Attendance'.

Nigel Draffin



Consultant and IBIA Board Member



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As a global maritime services group specializing in fuel and lubricants, we have been providing essential bunkering services and marine lubricants to vessels worldwide.

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Duqm and other Omani ports could become low-carbon bunker hubs. ©Luca Bolatti Guzzo/CC-BY

LOOKING AHEAD

The Middle East is seeing developments in both conventional and alternative fuels, John Rickards writes

As an indicator of the region's overall bunkering demand, Fujairah is on track for a solid year. Sales for the first eight months of the year - the most recent published figures at the time of writing - were over 5 million tonnes, putting the hub on course for a small improvement over last year, albeit still below 2022's level.

Ongoing tensions across the Middle East as Israel's war expands and Houthi attacks in the Red Sea continue to put Suez off-limits for major westbound trade make the immediate future hard to predict, but sentiment seems to be remaining optimistic. *World Bunkering* spoke to supplier Axiom Global CEO and managing director Praveen Jaiswal, who was bullish about the overall market and the company's place within it.

WB: What's the current state of the Middle East market as you see it? How does business currently look for Axiom Global?

PJ: The Middle East bunker market remains robust, with strong demand driven by global trade flows and the region's critical position as a hub for shipping routes. Ports like Khorfakkan and Jebel Ali continue to be key players in supplying marine fuels, with customers primarily focused on price competitiveness and reliable supply chains. For Axiom Global, business is currently stable, and we have managed to navigate the fluctuations in fuel demand



Praveen Jaiswal. ©Axiom Global

effectively. Our focus on providing reliable, competitive fuel options, combined with our strategic positioning in key ports, has allowed us to secure a consistent client base. We continue to prioritise operational efficiency and customer satisfaction, enabling us to grow steadily within this dynamic market.

WB: Has bunkering been affected by trade shifts in the Indian Ocean due to the attacks in the Red Sea, or has the Gulf's usually strong eastbound trade left you less affected?

PJ: While the recent security concerns and attacks in the Red Sea have affected some traffic flows, we've seen minimal impact on our operations in the Gulf. The strong

eastbound trade that moves through the Gulf, particularly to markets in Asia, remains largely unaffected. However, we are closely monitoring the situation and working with our partners to ensure supply continuity and mitigate any potential risks.

WB: As a comparatively new player in the regional market, do you find it easier to adjust to unforeseen effects on traffic flows and fuel prices and allow you to be a little more agile in the market?

PJ: Being a newer player in the market certainly gives us the advantage of agility. We're not weighed down by legacy systems or rigid processes, so we can adapt quickly to changes in fuel prices and shifts in trade flows. This flexibility allows



us to respond effectively to both market opportunities, challenges and customer requirements, which has been especially beneficial in the current uncertain global landscape.

WB: What's the outlook for the sector in the coming months? Are there any particular opportunities or difficulties ahead?

PJ: The outlook for the next few months is mixed. On the one hand, the push toward more sustainable fuel options, like biofuels, presents significant opportunities, especially with increasing regulatory pressure for cleaner energy. On the other hand, fluctuating oil prices and geopolitical instability in the region pose challenges, particularly in managing costs and securing consistent supply. We are focused on strategic growth and expanding our product portfolio to ensure we stay ahead of these developments.

That relatively optimistic outlook seems to be shared by other suppliers. In October, Peninsula Petroleum announced it was expanding its UAE operations by obtaining physical supply licenses at both Abu Dhabi and Jebel Ali to go alongside services in Fujairah, Dubai, Sharjah and Khor Fakkan. The company's CEO John A. Bassadone said: "Expansion into Abu Dhabi and Jebel Ali is a progressive step for Peninsula as we continue to grow our Middle East footprint. The UAE is home to some of the world's most strategically located and advanced ports. Jebel Ali Port is a top-ten global container port, while Abu Dhabi is a key maritime trade and logistics hub." The ADJA operations will be commercially managed from Peninsula's regional base in Dubai, with operational support provided by its team in Fujairah.

Similarly, Dubai-based supplier iBunker told *World Bunkering* that the company was ready for the hurdles in front of it.

"The Middle East bunker fuel market is undergoing significant transformation," a spokesperson for the company said. "As a global leader in crude oil production, the region continues to drive substantial demand for bunker fuels. However, it faces growing competition from emerging refuelling hubs in Saudi Arabia, Qatar, and Oman. Despite these challenges, iBunker

has sustained a robust presence by leveraging its extensive knowledge and strategic partnerships within the industry."

"The recent attacks in the Red Sea have indeed caused some disruptions in trade routes. However, the Gulf's strong eastbound trade has largely mitigated these impacts for iBunker. Our operations have remained stable."

"Looking ahead, the Gulf sector is set to encounter both opportunities and challenges. The rising preference for LNG-based vessels and the expanding LNG trade are anticipated to boost demand for cleaner bunker fuels. However, environmental regulations and larger economic factors may present obstacles. iBunker is strategically positioned to seize these opportunities by enhancing its LNG bunkering capabilities and continuing to innovate in response to market demands."

Of the various possible challenges ahead, Oman perhaps represents one of the longer-term ones. The sultanate is very much still pushing to claw bunker trade away from Fujairah and its neighbouring ports, particularly with an eye to getting a lead in alternative fuels.

The sultanate's green hydrogen body Hydrom announced in mid-2024 that following the signing of two new production deals, worth US\$11bn, in its second round of auctions, Oman is on track to produce 1.38m tonnes per year of hydrogen products, particularly ammonia, by 2030. Salim Nasser Al Aufi, Minister of Energy and Minerals and chairman of Hydrom said, "Oman is strategically located between two key green hydrogen demand centres in Europe and Asia. This, in addition to, our tier-1 infrastructure and logistics capabilities have enabled us to leverage our first mover advantage in the global hydrogen industry." Hydrom has already inked a deal aimed at distributing the country's green hydrogen products to Europe via the port of Amsterdam.

In September, Omani logistics group Asyad announced a collaboration with OQ Alternative Energy and Sumitomo Corporation's Middle East arm to explore options for making Oman a world-leading low-carbon bunkering hub.

The group is surveying "the world's leading shipping companies" with an eye to determining market needs, as well as conducting a feasibility study to assess factors like the costs of delivered low-carbon fuels, the infrastructure required to support such operations, and alignment with global regulatory standards for sustainable fuels.

In a statement, Asyad Group said: "Early findings suggest that Oman's unique geographical advantage and superior renewable energy resources could position the country as a frontrunner in providing competitively priced low-carbon fuels to the global shipping industry. The insights derived from the [request for information] will represent the cornerstone for the study and will be crucial in guiding the development of a world-class low-carbon bunkering infrastructure in Oman, thus making a lasting impact on global maritime practices."

Current bunkering facilities at Salalah and Duqm have already been earmarked by the sultanate as strategic sites for potential retrofitting to support low-carbon fuel operations. Sohar port is switching to using B20 biofuels in its tugs, which it says is a first step to meeting its decarbonisation targets and will mean some availability in port. Sohar is also going to be home to what it says is the region's first LNG bunkering project from Marsa LNG, a joint venture between Total's Omani subsidiary and OQ Alternative Energy.

Port CEO Emile Hoogsteden said: "This agreement signifies a monumental step forward in our commitment to sustainable innovation. This project will undoubtedly increase vessel calls to SOHAR Port for bunkering of traditional and alternative fuels, further solidifying our position as a key player in the maritime industry. By harnessing renewable energy and cutting-edge technology, we're leading the charge towards greener, more efficient maritime operations that not only benefit our industry but underscore our commitment to environmental responsibility."

No timescale has been set for the project, but with a total cost of US\$1.6bn, it's not likely to be on stream in the very near future.



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ADDING VALUE?

New report says fuel additives reduce emissions and enhance engine efficiency

Miami-based World Fuel Services has published a white paper, in partnership with specialty chemicals company Infineum, which explores how additives in marine fuel can offer a range of benefits to ship owners and operators, including reducing emissions and fuel consumption.

The white paper, *The Role of Additives in Reducing Marine Fuel Emissions and Enhancing Engine Efficiency*, asserts that, as the shipping industry adopts lower-carbon, alternative fuels, including renewable diesel, ammonia, methanol and hydrogen, it can benefit from 'cutting edge' chemical additives, which can improve vessel efficiency, reduce fuel costs and enhance fuel stability.

The white paper says that the use of additives can:

- Contribute towards reduced environmental emissions from vessels
- Enhance engine efficiency
- Reduce fuel costs
- Reduce maintenance costs and extend engine life
- Provide enhanced on-board fuel stability and compatibility, leading to less sludge formation in storage tanks resulting in less fuel wastage

The white paper notes that, amid a backdrop of increasingly strict emissions legislation worldwide, the shipping industry is progressing towards the adoption of lower carbon fuels. However, "it is likely that there could be a 10-15 year window during which period the use of heavy fuel oils will continue to power vessels as engine technology evolves and newer fuels become more widely available".

World Fuel argues: "As fuel can represent up to 60% of total operating costs, vessel owners need to be hyper-conscious of efficiency management. Therefore, the use of additives to enhance the performance of fuel provides fleet operators with environmental and financial advantages during the energy transition."

The white paper was commissioned by World Fuel, which has a strategic partnership with Infineum. World Fuel acts as a global distributor for Infineum's Marine Fuel Additives product line.

Mark Tamsitt, senior vice president, Marine EMEA & Asia, World Fuel Services said: "As the marine industry transforms its fuel strategies, the use of additives plays a crucial role in its energy journey and will help ship operators to meet sustainability

requirements whilst also providing them with major financial savings."

According to the white paper, the use of effective, combustion improving additives can lower the CO₂ output per nautical mile and reduce other emissions such as carbon monoxide, NO_x, SO_x, Total Hydrocarbons and Filter Smoke Number, PAH, and improve turbidity when operating scrubbers with HSFO.

This can help ship operators meet future emissions legislation. Combustion improving additives can also contribute towards a reduction in black smoke emissions from vessels leading to less particulate matter and soot.

The white paper asserts: "Until the point is reached when alternative fuels become widely, commercially available, it is likely there will be an increased use of bio-blends as a short-term option to achieve greenhouse gas reductions. There has been concern about the stability of bio-blends of ultra-low and very-low sulphur fuels (ULSFO/VLSFO). However, according to Infineum, the use of high-quality feedstock, such as rapeseed oil, has largely overcome this issue, although lower grades may require treatment."



The Draghi report says massive upgrades in ports' fuel infrastructure is needed. ©Port of Antwerp

FRESH MONEY WANTED

European shipping needs serious financial backing to decarbonise, but Rotterdam at least remains a pointer to the future, John Rickards writes

A hefty report presented in September to the European Parliament by former ECB head Mario Draghi has highlighted the challenges to decarbonising European shipping - and called for funding support from the EU to ensure availability of competitively priced green fuels to meet 40% of expected demand by 2040. A chunk of the Draghi report on "The Future of European Competitiveness" covered decarbonisation in transport, with a particular emphasis on hard-to-abate sectors like shipping, which it said needed annual investments of €40bn in supply infrastructure and new technology to meet targets.

"Implementation [of mandatory emissions reductions] will be challenging without appropriate action," the report said. "Most EU Member States did not meet the 2020 targets for the use of renewable energy in transport and none declared the use of sustainable biofuels in aviation or maritime transport in 2021."

"To date, the EU has limited installed capacity and planned production. The EU is the world leader for commercial advanced biofuels plants as the home to 19 of 24 of the world's operational plants. However, it has a growing trade deficit (EUR 3.6 billion in 2022) and rising feedstock dependencies on third countries. There are barriers in high capital costs (e.g. up to EUR 500 million to build a plant) and high operational costs (up to 50% higher than producing conventional fuels, mostly dependent on the cost of feedstock). R&D and public support can help to reduce related market and technology risks."

"For maritime transport, biofuels will suffice until 2030 or 2035, but green or low-carbon synthetic fuels are needed in the long-term. First offtake agreements are signed, notably for green e-Methanol, but rapid upscaling is needed. The price gap between alternative and conventional fuels is significant. Advanced biofuels are currently not price-competitive (costing one-and-a-half to three times as much as conventional biofuels).

The EU needs to start building a supply chain for alternative fuels, or the costs of meeting its targets will be significant."

The report's calls for funding and EU-wide support were welcomed by the European Community Shipowners' Association. ECSA has proposed that EU ETS revenue should be used to cover the cost gap between clean and conventional fuels through various existing funding mechanisms, that 40% of all green fuels used by European shipping should be produced in the EU and shipping given priority access to those fuels, and that these should be combined with concrete development of port infrastructure to provide green energy hubs for shipping.

ECSA secretary general Sotiris Raptis said: "The Draghi report highlights that shipping is one of the most difficult sectors to decarbonise requiring nearly €40 billion of annual investment. We need all hands on deck to cover the enormous price gap between conventional and clean fuels that can be up to five times more expensive.



The energy transition is a great opportunity for Europe to increase investments in clean tech and fuels and enhance the international competitiveness of our industry. We call for a 40% production target for clean shipping fuels in Europe, in line with the benchmark of the Net-Zero Industry Act.

The EU can leverage the transition of shipping to strengthen fuel manufacturing in Europe, as part of the upcoming Clean Industrial Deal and the Maritime Industrial Strategy."

ECSA has subsequently joined a string of industry groups - FuelsEurope, the eFuel Alliance, Hydrogen Europe, the Methanol Institute, and EWABA - to launch the Clean Maritime Fuels Platform. The CMFP aims "to enhance communication between the shipping sector and fuel producers and to identify common challenges and possible

solutions" to meet the aims of net zero by 2050, particularly in terms of infrastructure.

"Today, the shipping and energy industry join forces and launch a dialogue platform that can facilitate better flow of information about the common challenges we are facing. We need all hands on deck to make the energy transition happen. In order to meet our targets, we need clean fuels available in the market in sufficient quantities and at an affordable price," said Raptis.

Daniel Fraile, chief policy officer of Hydrogen Europe, added: "Following the adoption of new legislation and objectives within the Fit for 55 package in the last term, the timing is right for the next European mandate to ensure a coherent and comprehensive framework for decarbonised shipping.

European and national policies, implemented with the right funding instruments, must be complemented by international policies under the IMO to ensure this is achieved without deteriorating the competitiveness of European industry. Renewable and low-carbon e-fuels can play a key role in the decarbonisation of the maritime sector, but their large-scale production and uptake need to be facilitated as soon as possible."

Key to, and one of the early drivers of, European shipping decarbonisation is of course the Port of Rotterdam. Bunker volumes in the port have started to rise across 2024 after a steady drop-off in sales in 2023 and through the turn of the year, though they remain lower than the same time period in preceding years. Conventional volumes in the first nine months of the year reached 6.7m tonnes, down 7.3% on the year before, although Q3 itself was 5% higher than 2023. Bio-blended fuels were up sharply, though, rising 23% on the first nine months of 2023 - and this time with Q3's result being oddly low - with total volumes of nearly 638,000 tonnes. LNG sales were also well up, rising 44% to 678,298 tonnes, matching a steadily rising pattern of demand across recent times, bar a dip following the invasion of Ukraine. After the first couple of years post-IMO 2020 where VLSFO demand outstripped HSFO, the latter fuel has continued a trend of clawing back market share as presumably scrubber installations have become more commonplace, and so far in 2024 has accounted for 12.5% more in volumes than its low-sulphur counterpart.

This uptick in volumes came despite middling overall cargo throughput. Total cargo traffic decreased by 0.4% in the first three quarters, down to 328.6m tonnes compared to 329.9m tonnes in the same period of 2023. However, container traffic was up marginally in terms of weight (3.0%) and containers (2.2%) on the back of what the port described as "an early peak season" in the summer due to rerouting traffic away from Suez, as was iron ore and scrap by 2.3 million tonnes (11.1%).

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Rotterdam continues to be at the forefront of the region's alt fuel developments.

The decline in total freight, the port said, was mainly due to a lower throughput of coal and crude oil.

Port CEO Boudewijn Siemons said: "Global trade saw a tentative recovery in recent months. Consumer confidence has increased, and this translated to a growth in container throughput. The drop in the throughput in other segments sadly shows that European industry is still wrestling with a weak competitive position due to high energy costs. These developments come as no surprise.

We continue to deal with major challenges on the geopolitical stage and in the global supply chains. We therefore don't expect to see any major shifts in commodity flows in the remaining months of this year."

Rotterdam's investments in the energy transition remain on track. Autumn saw construction start for the compressor and cooling plant for the Porthos offshore CCS project, due to begin operations in 2026, while earlier in the summer, Zeevonk II, a joint venture between Vattenfall and Copenhagen Infrastructure Partners, won the tender for a second wind-powered electrolyser to make green hydrogen on the Maasvlakte as part of both the port's and the country's hydrogen strategy.

Siemons said: "It is Port of Rotterdam Authority's ambition to bring the electrolysis in the port up to a capacity of 2 to 2.5 GW by 2030. This new development brings us closer to our goal. The Maasvlakte area offers both plenty of space and the required infrastructure, such as the direct connection to the hydrogen network that is currently under construction.

It confirms yet again that Rotterdam's hydrogen economy is already underway."

The port will also serve as the point of sale and distribution for pilot green ammonia shipments from Egypt on behalf of Hintco GmbH, funded by the German government. Ammonia supply will start from 2027 at a potential level of 19,500 tonnes, rising to nearly 400,000 tonnes cumulatively by 2033.

While Rotterdam has a long record of backing alternative fuels and greener power not matched by other, smaller ports across the region, having some infrastructure for decarbonisation in place in the near future can only help shipping transition away from fossil fuels.



Here, a team from Stena Line, together with people from Castrol and MHSservice in Måløy, look at the new solution. - It has produced impressive results for our vessels, since it has already averted two major incidents that could have cost us dearly, says Michael Thomson, captain at Stena Line.

PREVENT ENGINE DAMAGE

WITH NEW SOLUTION FROM CASTROL AND MHSERVICE

"Castrol SmartMonitor" has been launched in the Norwegian market by MHSservice in Måløy

It is a system that makes continuous measurements on the quality of the lubricating oil circulating in machines. This means an alternative to sending oil samples for testing, and then waiting for the results.

Stena Line has installed the new, digital system in three of its vessels that ply routes in the Irish Sea. It has already proven to be very cost-saving.

'Now we don't have to rely on the post office - the system always gives us full control. It has produced impressive results for our vessels, as it has already averted two major incidents that could have cost us dearly' says Michael Thomson, Vessel Superintendent at Stena Line.

'Castrol has helped us to put in place a new product for real-time analysis of used lubricating oil. It has produced impressive results for our vessels' continues Stena Line's Vessel Superintendent Michael Thomson.

Measures the lubricating oil all the time

'With this system, the crew gets a much better overview. This means that they can see at an early stage when they should take action to prevent a major damage later' says general manager Gaute Vorren at MHSservice.

'Many customers see that this system can save them from unwanted events that can cause them large financial losses' he says.

Stena Line is one of the world's largest ferry companies, and offers transport services for passengers, vehicles and goods. With passenger and freight routes between Liverpool and Belfast, Holyhead and Dublin, as well as Fishguard and Rosslare, Stena Line helps connect the Irish Sea to the UK and Ireland.

'Previously, the vessels that sailed these routes had to wait up to a week for results from manual tests. Now, instead, we can monitor oil quality in real time, and that helps us take immediate action if we see any negative trends. This saves us both time and money, while also increasing reliability' says Thomson.

Can take quick action

Thomson is impressed by how smoothly the installation process went - both in getting the system in place in the boats and getting the solution up and running.

'Throughout the process, the Castrol team has maintained regular communication, been open to feedback, and adapted the portal to our specific needs. What's more, the Castrol SmartMonitor portal is user-friendly, with clear and easy-to-understand data' he says.

He also adds that the installation process was easy, with Castrol supplying all the necessary equipment and cables.

'The system enabled us to detect early on two water incidents on one of our vessels. It has saved the business both time and money, while also preventing something that could potentially have caused far more serious damage. On one occasion, during removal of a cylinder head, water leaked into the cylinder liner. The sensors detected it in a few minutes' says Thomson with satisfaction.

Dredger saved NOK 1.5 million

A UK dredging company has also installed the system from Castrol in one of its dredging boats

On the vessel, the system warned that foreign objects in the lubricating oil were in danger of destroying the machine. The lubricating oil was checked, and the values started to move in a positive direction, but the next day the Castrol SmartMonitor system again reported increased water content in the lubricating oil. Then the chief engineer did a more thorough review and discovered a leak in one of the cylinder heads in the port main engine.



When water enters a main engine unnoticed, it can cause problems with the bearings while the engine is still running.

Because they discovered this in time, the shipping company averted a potentially catastrophic failure of the main engine, which could have cost over £150,000 – i.e. more than NOK 2 million – to repair.

Instead, four people were able to fix the problem in two days for just £30,000 (equivalent to around NOK 400,000), and since the ship already had planned downtime, they avoided additional loss of revenue during the two days the ship was out of service.

'The examples from Stena Line and Dredger only confirm the optimism I have for this new system. I believe that it can revolutionize the shipping industry and contribute to fewer accidents, and in that way contribute to the green shift' says chairman Oddvar Strand of MHService, who's also had a long career as a ship manager in Siem Offshore.

Norwegian customers

Vorren says that they are now working to sell Castrol SmartMonitor on the Norwegian market. The system is initially aimed at larger vessels and was presented to several stakeholders at NorFishing in Trondheim earlier this year.

'The impression is that this is a product many have been waiting for. It solves a significant problem for customers in an efficient and labor-saving way:



An employee of the Stena Line shipping company is introduced to the Castrol system in the engine room. In short, the system makes continuous measurements of the quality of the lubricating oil circulating in the machines. This means reduced time frames when sending oil samples for testing, which can take days or weeks to receive the results.

They don't have to take lubricating oil samples manually and can get the results immediately instead of waiting for the samples to make their way to the laboratory through the postal service' he says.

An important advantage is that this type of real-time monitoring means that the potential for machine cutting is greatly reduced – which provides considerable security for shipowners.

'The dashboard that Castrol offers in connection with this system means that shipowners or the shipping company's office can have access to the same quality measurements on board the ships. It can also act as additional security for those who follow the ships from shore' Vorren asserts.

MHService

The head office of MHService is located in Måløy. The company has one depot in Måløy and one in Ålesund.

In addition to delivery from the quay, by bunker boat or tankers, the company has its own chain of unmanned petrol stations (MH24).

MHService has been a dealer for Castrol since 1994 and is today one of the world's largest marine dealers of the Castrol brand.

The company sells fuel to both marine customers and land and aims to be a complete supplier to the shipping industry.

www.mhservice.no



General manager and chairman of MHService in Måløy, Gaute Vorren and Oddvar Strand say that the new solution from Castrol has been very well received in the market, since customers see that it is cost-saving.



The head office of MHService is located in Måløy. The company has one depot in Måløy and one in Ålesund. Here we see the company's facility in Måløy.

INSPIRED

BY THE JOURNEY



NORWEGIAN ENERGY TRADING AS

One of the largest independent bunker brokers in Northern Europe

Norwegian Energy Trading is a premium global provider of bunker brokerage to the marine industry.

They continue to work with some of the leading ship owners and operators around the world.

With over 50 years experience in the international bunker industry they have a proven track record and are proud to hold a strong reputation in the global market.

In the past 12 months they have undergone a name change from Norwegian Oil Trading AS to Norwegian Energy Trading AS, this is to better reflect the growing change in the future market (with oil continuing to play a lesser role) and also to meet demand for a more diversified palette of products.

They have recently strengthened their core staff with additional recruitment in sectors that have had less focus in the past, namely offshore and wind.

This additional recruitment and indeed investment highlights Norwegian Energy Trading commitment to new and existing clients

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Norwegian Energy Trading have recently obtained ISCC certification enabling them to handle Bio fuel and Bio fuel blends, securing the Chain of custody and traceability.

True independence:

By choosing Norwegian Energy Trading, customers will benefit from their independence. This independent value proposition is crucial in maintaining competitiveness in the market as they provide 100% unbiased market information.

Norwegian Energy Trading's aim is to provide clients with options that can fully support their operation, options would not be possible if there are economic interests in part of the available supply chain.

Hesnes Group:

Proud to be part of Hesnes Group, a Norwegian, family-owned company that is active in the fields of shipbroking, bunker broking, ship owning, and investing in real estate and financial assets. The Hesnes Group also offers corporate and financial management services to external clients.

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bunkers@norwegianenergytrading.com
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NORWEGIAN ENERGY TRADING

2730

deliveries per year

220

customers

240

ports visited



POLYMER CONTAMINATION

Polymer contamination is one of marine fuel oil's most widespread yet frequently undetected issues, writes Wajdi Abdmessih, founder and president of Seahawk Services

The lack of standardised testing methods and industry awareness has increasingly allowed polymer waste to infiltrate marine fuels, posing significant risks.

The 2018 bunker contamination incident in Houston highlighted the serious risks of polymer contamination, but it was far from isolated. Significant incidents date back to 1998, often necessitating the costly de-bunkering of vessels. Investigations have shown that cutter stocks used for blending marine fuels contained polymer waste. These events reveal a long-standing issue that has yet to be fully addressed, continuing to pose operational and safety challenges across the industry.

Polymer contamination can lead to severe operational problems that compromise vessel performance and safety. The Houston incident demonstrated the potential for significant damage when contaminated fuel is used without proper detection and mitigation measures. Common symptoms of polymer contamination include:

- Formation of excessive, sticky sludge that requires manual cleaning
- Clogging of discharge purifier pipe, leading to restricted sludge flow
- Difficulty restarting engines after cooling periods due to sticky deposits
- Filters that remain clogged even after automatic backflushing attempts
- Inability to clean filters with standard solvents because of the tenacious nature of polymer residues.

If polymer passes through to the fuel injector system, it could cause damage to the fuel injection system, manifesting as:

- Sticking of fuel pump plungers and injector spindles
- Heavy deposits on fuel nozzles, impairing their function

Persistent contamination can alter the fuel injection spray pattern, resulting in incomplete combustion and fouling of combustion chamber components and turbocharger nozzle rings, ultimately affecting engine efficiency.

Detecting polymer contamination early is crucial to avoiding severe operational issues, and it can be done through simple laboratory tests. Symptoms such as sticking nozzles and unusual sticky sludge can serve as early warning signs. Solid filtration testing provides an effective way to detect various polymers, including polypropylene, polyethylene, polystyrene, and polymethacrylate.

While there is no universally standardised testing method across laboratories, we are encouraged by the Maritime and Port Authority of Singapore's (MPA) initiative to develop standardised procedures for polymer detection.

The current standard practice uses a 60-micron metal mesh filter to process approximately 200-400 grammes of diluted fuel sample (mixed with 100 ml of toluene). The filtered sample is then dried at approximately 80°C, and any residue is analysed using FTIR and microscopic techniques.

However, relying on a 60-micron filter is problematic due to its low detection rate for smaller polymer particles. Onboard fuel filtration systems use much finer filters: primary filters typically range from 25 to 30 microns, while secondary filters are between 5 and 10 microns. Therefore, particles smaller than 60 microns, which could cause operational issues, may go undetected during laboratory testing.

Seahawk Services has developed a more advanced sample preparation and filtration process to address these limitations. Our method starts by placing 50 ml of the fuel oil sample in a 100 millilitres centrifuge

tube and adding 50 millilitres of toluene for dilution. The sample is then shaken thoroughly to ensure complete mixing and spun in a heated centrifuge for 15 minutes. This step effectively separates sediment from low-density polymers, enhancing the accuracy of the analysis.

After centrifugation, the sample is filtered through two 10-micron, ½-inch circle metal mesh filters. The first filter processes the upper portion of the centrifuge tube, while the second filter is used for the bottom portion, where higher-density materials are likely to settle. Both filters are then examined under a microscope and subjected to FTIR analysis to identify any polymer contaminants present.

Seahawk Services' refined approach consistently yields a high success rate in detecting and isolating polymers from fuel. Our method identifies contaminants with precision and does so through a simple, fast, and reliable process. Unlike more expensive and time-consuming techniques like GCMS, our approach offers a cost-effective alternative without compromising accuracy.

A notable demonstration of our methodology's effectiveness occurred during the Houston 2018 incident, where Seahawk Services successfully isolated and identified polymer contaminants in fuel samples in a timely manner. This enabled us to promptly advise clients on corrective measures, underscoring our commitment to practical solutions and upholding the highest standards in fuel quality assessment.

Addressing polymer contamination in marine fuels effectively requires a comprehensive approach that combines operational awareness, laboratory expertise, and the development of standardised testing methods. Seahawk Services remains at the forefront of this effort, offering advanced testing solutions that set industry benchmarks and support proactive fuel management practices, ensuring safer and more reliable marine operations.



CUTTING COSTS "AT SOURCE"

Online platform argues case for using auctions to buy bunkers

Reducing the cost of fuel 'at source' needs to be included and considered as the first part of the optimisation process to mitigate against rising fuel costs, says online auction platform for bunker procurement AuctionConnect. The platform, set up in 2003 and claiming to be the first such service, argues that this is "even more important given the significant increase in the cost of future fuels that will drive the energy transition and enable the shipping industry to meet its decarbonisation targets".

The platform notes that most procurement departments purchase marine fuels via brokers, traders or direct with suppliers. "However," it continues, "there is also the opportunity to utilise bunkering procurement technologies, available today and free-to-use, that simplify the complexities of traditional price negotiation, increase transparency and reduce the cost of procurement by always ensuring that fuel buyers get the best possible price. Platforms like AuctionConnect enable buyers to invite multiple fuel suppliers to bid against each other in reverse auctions and drive bunker fuel prices down below Platts' rates. Buyers can make substantial savings on each tonne of fuel they purchase, depending on the circumstances in the market and the specific bunkering port."

According to AuctionConnect: "With future fuels being a key element of meeting the shipping industry's decarbonisation targets by 2050, there is increasing concern in the market of the high cost of these fuels, which could be as much as five times more expensive in 2030 than fossil fuels. This could become a significant barrier to their development and uptake and impact the meeting of shipping's sustainability ambitions. Many vessel owners' immediate response to this challenge is to invest in clean technology and efficiency solutions. While they are an important part of the decarbonisation process and in reducing fuel costs, they are also a significant capital investment on top of the increased costs of future fuels. Online auctions offer an easy and low-cost way for buyers to reduce fuel bills even before they consider the hardware or technology to improve energy and fuel efficiency."

Per Funch-Nielsen, Director, AuctionConnect, said: "Ship owners and operators are already familiar with the importance of using clean technology to reduce fuel consumption to mitigate against rising fuel costs, particularly in a future fuels' world. "Purchasing departments within these organisations now need to change their mindset in

relation to fuel procurement and seize the opportunity of reducing the cost of fuel at source, which they should view as the first part of the vessel optimisation process. While the traditional elements of bunkering will always exist in the relationship between buyers and suppliers, the opportunities of digitalising and using technology for transactions are huge in creating efficiencies, transparency and reducing costs."

AuctionConnect analysed 1.3 million tonnes fixed on the platform across a range of global ports over an 18-month period against a Platts benchmark, identifying total cost savings of US\$7 per tonne. In a future fuels' world, this opportunity for cost saving is greater and even more important with the rising costs of fuel.

Funch-Nielsen concluded: "With fuel already the major constituent part of an owner's operational costs, it is clear that any reduction in these bills is commercially critical, no matter the fuel being used. With fuel costs only rising over the coming years in line with the energy transition, reducing fuel costs, by stripping complexity out of price negotiations and increasing their transparency will be of huge value to owners and operators in an increasingly complex supply chain."



The pilot transfer of ammonia shows that bunkering operations are entirely feasible. ©GCMD

AUSTRALIA TAKES THE LEAD

A pilot STS ammonia transfer shows the promise for the country's hydrogen bunkering, John Rickards reports

Australia seems to be on track to begin green hydrogen bunkering at scale in the next few years, given recent developments in the Pilbara region of northern Western Australia. In September, a demonstration ship-to-ship ammonia transfer took place at anchorage in the Port of Dampier between MOL's 35,000 cubic metre Green Pioneer and Navigator Gas's 22,500 cubic metre *Navigator Global*, with the idea of mimicking the capacities of ammonia bunkering vessels. Around 2,700 tonnes of ammonia was transferred from the Green Pioneer in the first operation, then the same cargo was then transferred back, taking six hours each. The pilot operation was arranged under the umbrella of the Global Centre for Maritime Decarbonisation, working in collaboration with Pilbara Ports and Yara Clean Energy.

Pilbara Ports CEO Samuel McSkimming said: "The Pilbara is an obvious beachhead for investment in green fuels. It has all the ingredients for success: a vast industrial base, stable demand, ample access to solar and wind energy, and world-leading export infrastructure. The scale of maritime operations in the Pilbara, together with its critical role in supplying half the world's iron ore, make it the centrepiece of efforts to decarbonise the world's bulk shipping fleet. Ammonia is already produced, stored and exported in industrial quantities from the Port of Dampier. The GCMD/Yara Clean Ammonia trial leveraged that experience to incrementally advance the potential of ammonia as a green marine fuel, to the benefit of others across the global maritime sector. At Pilbara Ports,

by working with industry partners, we will continue to facilitate efforts to safely, productively and effectively decarbonise the maritime industry."

Yara is already building facilities to produce green ammonia at its Pilbara plant, which should be online at some point in 2025, and in February 2024 the Commonwealth and Western Australian governments agreed funding for a proposed green hydrogen hub in the Pilbara. The \$140m project, first mooted two years ago, should produce 492,000 tonnes of hydrogen per year to decarbonise the Burrup Peninsula's existing ammonia production.

The GCMD collaboration isn't the only operation pushing forward with ammonia bunkering - and fuel export - plans for Dampier. May saw Oceania Marine Energy and Hexagon Energy Materials ink a deal aiming to launch ammonia bunker supplies from 2028. However, Hexagon's ammonia will be produced from blue hydrogen and rely on carbon capture and storage for emissions reductions. CCS is a favoured decarbonisation option in some quarters and various CCS projects are under development in the Pilbara, but it remains highly contentious as the success of long-term secure storage is uncertain.

Oceania has itself taken part in a joint study with Italian class society RINA on reducing CO₂ emissions on the iron ore trade to Asia. The LNG bulker design concept RINA used for the study included modular onboard hydrogen production and CCS, allowing

mixed fuel with - as technology develops over time - less and less LNG in the mix for a modelled reduction of over 90% of CO₂ emissions by 2050, albeit with the same potential caveats about CCS.

On the opposite side of the country, ABEL Energy has announced plans to accelerate development of a new \$1.7bn green methanol manufacturing project in Townsville in Queensland in order to supply Singapore MPA with green methanol bunkers under a deal between the two countries. Once fully operational, the plant is expected to produce 400,000 tonnes of green methanol per year for export. The site would be the company's second, after Bell Bay Powerfuels in Tasmania, with which the company has set up a joint project with various parties to look at supplying green methanol bunkers at the port of Melbourne.

ABEL Energy CEO Michael van Baarle said the Townsville project would seek to replicate Bell Bay. "ABEL Energy's green methanol production process uses 100 per cent renewable power, fresh water and biomass residues. Townsville poses an ideal location for our second green methanol production facility due to the availability of wind and solar energy, along with the large amount of readily available biomass in the forms of sugar cane waste, invasive pest species prickly acacia and woodchip."

A final investment decision will fall by the end of 2027, with operations commencing in 2029.



FUEL QUALITY STILL “CRITICAL ISSUE”

Lloyd's Register's new report into the “evolving landscape of marine fuel quality and its implications for the maritime industry”

Ongoing concerns around fuel quality continue to be a critical factor and significant expense for the maritime industry, according to the Lloyd's Register (LR) *Fuel Quality Report 2024*.

The report, produced by LR's Fuel Oil Bunker Analysis and Advisory Service (FOBAS), is designed to provide marine fuel purchasers, shipowners, and operators with a deeper understanding of current fuel quality trends and the evolving regulatory environment.

The report reveals the overall state of fuel quality in 2024 remains much like that of the past few years, particularly since the transition to predominantly VLSFO in 2020. Persistent issues such as cat fines, stability, sulphur content, and flash point continue to be challenging, and isolated incidents of chemical contamination are still occurring.

A significant section of the report is dedicated to exploring the growing adoption of biofuels, with an increasing number of ship operators starting to use biofuels onboard on a regular basis or at least trialling to gain necessary experience.

Looking ahead, the report considers the implications of the newly implemented ISO8217:2024 standard, as well as the EU ETS and other regulatory pressures from IMO, EU, and the broader industry. This shift is expected to drive the growth of the multiplicity of the biofuel supply market, which could present challenges

related to availability, costs, and fuel quality control. Additionally, there is continuing development and progress on alternative fuels, such as methanol, hydrogen, ammonia.

IMO's updated fuel oil sampling guidelines

MSC-MEPC.2/Circ.18, issued on 11 July 2024, extends the use of the MARPOL Delivered Sample to also be available for checking the flashpoint requirement under SOLAS Regulation II-2/4.2.1. It revokes the previous MEPC Resolution 182(59) *2009 Guidelines for the sampling of fuel oil for determination of compliance with the revised MARPOL Annex VI*.

In a circular LR highlights notable changes: Minimum sample size: The basic requirements (as given by the 2009 Guidelines regarding the sampling location, arrangements and procedures for what the joint circular refers to as the “Representative Sample”) are unchanged apart from the minimum sample size being increased from 400ml to 600ml. Also unchanged are the sample labelling and sample storage aspects.

Fuel oil definition: For the purpose of these Guidelines, and for the application of SOLAS Regulation II-2/4.2, oil fuel is as defined in Regulation 2.1.14 of MARPOL Annex VI, including oil fuel as defined in Regulation 1 of MARPOL Annex I.

Sampling and preparation: There are now explicit references in the circular to the need for personnel undertaking this sampling and the subsequent MARPOL Delivered Sample preparation to be familiar with the use of the equipment and the Guidelines. Also, that the sampling operation itself should be witnessed by representatives of both the ship and supplier.

New Section 10: This covers the procedures and documentation requirements in those instances where the fuel oil's flashpoint is to be checked. LR notes: “This in no way impacts on the MARPOL Annex VI Appendix VI requirements in respect of the sulphur verification procedures, which are unaltered.”

Tracking of Delivered Samples: With regard to the key point of keeping track of these MARPOL Delivered Samples, this is now given as being the company's responsibility rather than the responsibility of the ship's master, as previously stated in the 2009 Guidelines. This will be important where samples are taken off the ship for testing, but the remaining material is not subsequently returned.

The MARPOL Delivered Sample should only be used by a Party to either MARPOL Annex VI or SOLAS, to test for compliance with the convention requirements. The MARPOL Delivered Sample should not be used for any other purposes such as the resolution of commercial quality disputes.



BALLAST-FREE CAR CARRIERS

New concept reduces fuel consumption

Wallenius Marine's new car carrier, the "Future Way", based on the innovative Sleipner design concept, was christened in Emden, Germany, in September. The 200 metre, 6,500 car equivalent units ship was built in China by CIMC Raffles, China

According to Wallenius, with an advanced hydro and aerodynamic design, the new vessel contributes to reducing emissions, energy use and environmental impact. This is the first of two car carriers that will go on charter for Volkswagen between Europe and North America.

With the Sleipner concept and the Future Way vessel, Wallenius Marine and Danish design firm Knud E Hansen claim to have "raised the bar for innovation in the Pure Car and Truck Carriers (PCTC) segment".

"The Sleipner concept is the result of close co-operation between Wallenius, Knud E Hansen and VW Group.

The customer's needs and experience, combined with the shipbuilding and design expertise of Knud E Hansen and Wallenius Marine, have enabled us to take further steps towards truly sustainable shipping with Future Way," says Johan Mattsson, CEO of Wallenius Marine.

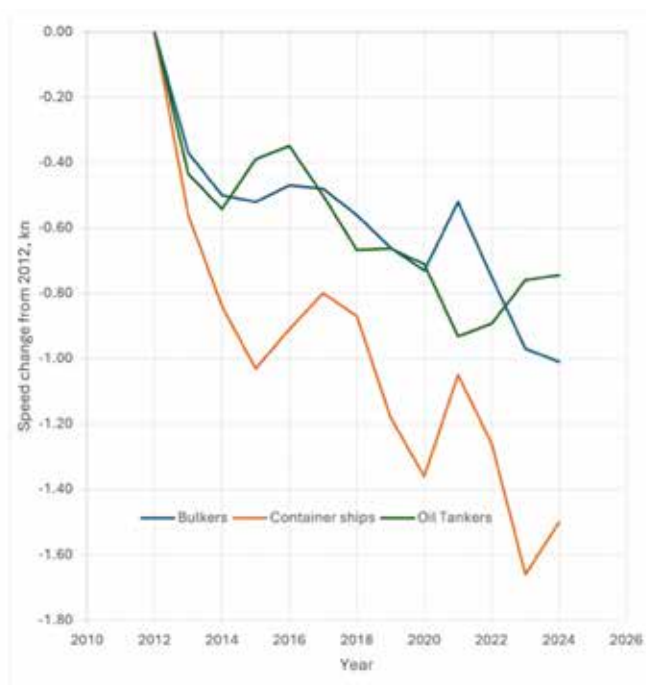
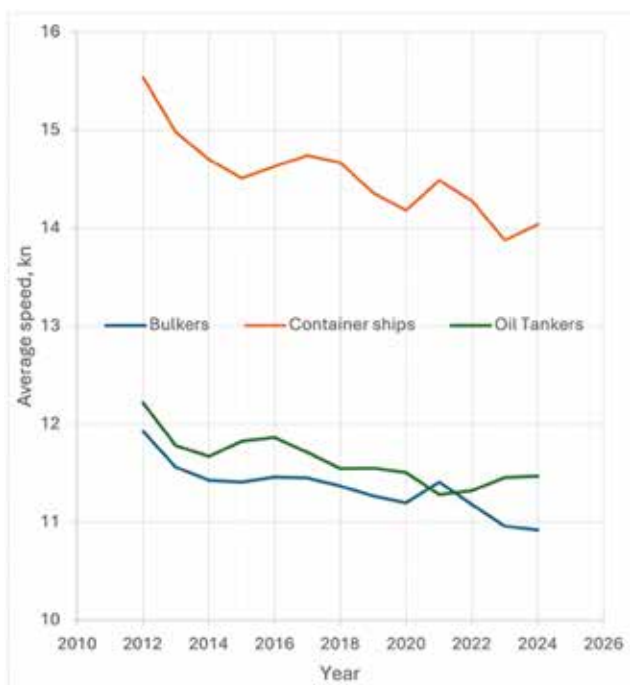
"A distinctive feature is that the ship, thanks to its innovative design, can cross the Atlantic without ballast water in loaded condition. This both reduces the risk of spreading invasive species and makes the vessel lighter, leading to lower fuel consumption," says Hansen's Managing Director Finn Wollesen.

"As Volkswagen Group Logistics, we want to be pioneers in climate-friendly logistics. The Future Way and its sister ship, Way Forward, are helping us achieve this on the North Atlantic with their future-proof, flexible, and efficient engines from MAN Energy Solutions.

They not only emit less CO₂, but also fewer nitrogen oxides, soot particles, and sulphur oxides, leading to better local air quality. The innovative design of these vessels results in lower fuel consumption and allows us to reduce emissions even further today until alternative fuels made from green energy hopefully become more broadly available in the next decade," says Simon Motter, Head of Volkswagen Group Logistics.

The vessel's cargo of up to 6,500 cars are loaded and unloaded through the innovative centre ramp system consisting of a long ramp serving all decks.

On the ship, the crew has a gym, recreational facilities and modern social areas that Wallenius says follow its concept of the ship being 'a home away from home'.



OUR REGULAR ROUND-UP OF ENVIRONMENTAL DEVELOPMENTS

Slow steaming poses risks as well as benefits

Many shipowners are turning to slow steaming, but UK-based design and engineering firm Houlder urges caution. It warns that “owners not informed by data analysis, risk a series of unintended financial consequences.” Houlder adds: “The practice could even hinder progress towards IMO greenhouse gas (GHG) reduction targets.

According to Houlder, slow steaming can have a positive, negative or neutral impact on vessel efficiency, depending on the ship's original design parameters, hydrodynamic performance and unique operational profile.

Houlder's research using Clarkson's data indicates a noticeable trend in the reduction of average service speeds across different vessel types – oil tankers, bulkers, and container ships – from 2012 to 2024. Specifically, container ships experienced the most significant decrease, with a reduction of 1.50 knots (-11%) by 2024, followed by bulkers and oil tankers, which saw reductions of 1.01 knots (-9%) and 0.74 knots (-6%) respectively.

The firm notes that slow steaming is a ship operation strategy aimed at reducing fuel consumption and emissions by intentionally reducing engine power from its original rated level. Speed and power

are related by a power law, meaning that a reduction in speed results in a disproportionately larger reduction in power consumption. This relationship makes it a viable way to reduce GHG emissions.

Lebum Shin, Data Analytics Lead at Houlder cautioned: “Any speed reduction could result in a significant departure from a vessel's original design parameters, so the benefit of corrective measures should be considered too. For example, a simple hull retrofit or propeller optimisation to align with the vessel's new operating conditions could be the difference between slow steaming delivering minimal or real benefits.”

The analysed data shows that while subject vessel types have reduced speed, the rate of reduction varies, reflecting differing impacts of slow steaming across vessel categories. The associated speed changes from 2012 underscores the unevenness in speed reduction, emphasising the need for a detailed and tailored approach when considering slow steaming as a strategy for reducing GHG emissions.

Shin added: “It's important to carry out a ship-specific analysis to establish what the real saving will be from a range of speed

reductions and to consider these against the other, perhaps unintended, or unseen, consequences.”

Slow steaming has largely been popular because it is relatively simple to implement. In theory, it doesn't require extra capital expenditure (CAPEX) and, as long as the rest of the fleet is doing it to the same degree, then market economics should push the freight rate up to compensate the owner or charterer for the reduced annual cargo carrying capacity.

Houlder highlights that, in reality, slowing down is not necessarily a no-, or even low-cost option. There is often hidden CAPEX for the ship to address the consequences of slow steaming, such as modification to the turbocharger – and if engine de-rating is considered (as opposed to mechanical/software power limiters), CAPEX should be expected to be more significant.

There can also be unintended consequences of slow steaming on operating expenditure (OPEX) meaning that the expected fuel savings (and resulting OPEX reductions) may never be realised. Also, consistently operating outside the ship's design parameters may mean costly engine maintenance is required more often – for example, cold



corrosion, and fouling on the exhaust gas boiler, injector and piston rings.

Commenting on the bigger picture, Rupert Hare, CEO of Houlder said: "There is real potential for significant financial impact in additional days on hire or in reduced cargo revenue if the market doesn't compensate with increased freight rates. If you can improve the ship's efficiency without a high cost and without slowing down, this will offer a competitive advantage in terms of earning capacity.

"Ultimately, if the fleet slows down, it will need to expand to maintain the same cargo-carrying capacity. More ships can easily result in more GHG emissions for the same cargo miles, hindering progress towards IMO GHG reduction targets. While slow steaming can lower emissions in some circumstances, it can also deter investments in a more ambitious, long-term, sustainability strategy – including investments in energy efficiency technology, optimised operations and new fuels."

Meanwhile the Australian Maritime Safety Authority (AMSA) has published a Marine Notice to address the risks associated with the use of engine power limiters (EPL) and similar power restriction systems on ships.

The notice provides essential guidance for ship operators, masters, navigational officers, and AMSA-licensed coastal pilots to ensure that these systems do not compromise the safety and manoeuvrability of vessels in these critical waters. The notice also outlines regulatory requirements and best practices for managing these power-limiting systems to support both safe navigation and compliance with international energy efficiency standards.

Clean Maritime Fuels Platform launched

European shipowners and fuel producers have launched the Clean Maritime Fuels Platform which is said to be "a bottom-up industry initiative aiming to enhance communication between the shipping sector and fuel producers and to identify common challenges and possible solutions, considering the implementation of the Fit for 55 package and the transition to a net-zero economy by 2050".

A statement notes: "Access to clean maritime fuels is a top priority for the decarbonisation of the shipping sector. The recently published Draghi report on the Future of European Competitiveness identifies shipping as one of the most difficult sectors to decarbonise, requiring around 40 billion in annual investments between 2031 and 2050. The report highlights that, while the EU is a world leader in sustainable renewable and low-carbon fuels for the decarbonisation of transport, it has limited installed capacity and planned production. The EU needs to start building a supply chain for clean fuels, or the costs of meeting its targets will be significant."

Representatives of ECSA, FuelsEurope, eFuel Alliance, EWABA, HydrogenEurope and Methanol Institute held their first meeting in early November "and agreed on the objectives and the working principles of the new platform". Members also started to discuss the key topic of infrastructure gaps. The platform will focus on policies and tools to support the production and uptake of clean maritime fuels in Europe including areas such as maritime in EU ETS and funding opportunities.

"Today, the shipping and energy industry join forces and launch a dialogue platform that can facilitate better flow of information about the common challenges we are facing. We need all hands on deck to make the energy transition happen. In order to meet our targets, we need clean fuels available in the market in sufficient quantities and at an affordable price. European shipowners are proud to launch with the fuel producers the Clean Maritime Fuels Platform," said Sotiris Raptis, ECSA Secretary General.

Greek owners could be hit hard by FuelEU Maritime

Greek shipping companies are set to face a total bill of over €175m in penalties incurred under FuelEU Maritime after it takes effect next year but can also capitalise on the use of alternative fuels both to curb their financial exposure and generate compliance surpluses, according to OceanScore.

The maritime solutions and data firm has calculated the prospective FuelEU exposure for over 370 Greek-registered companies based on the average GHG intensity of their past voyages. Based on these calculations, OceanScore has determined the crude tanker, RoPax, bulk and containership segments would be hardest hit, with tankers accounting for €55m (32%) and RoPax €44m (25%) of potential penalties.

It has determined the top three shipping companies would be looking at a combined penalty of €25m, with the largest company facing the highest overall penalty of €11.75m and an average per-vessel penalty of €309,200, versus an average per-vessel penalty across all companies of €84,200. The second and third largest hard hit players would each have total penalties of around €6.5m.

The overall Greek fleet of 2100 vessels would be left with a negative compliance balance, or deficit, of 71,666 tonnes of VLSFOe, according to global provider of compliance and data solutions for the maritime industry, OceanScore. This estimate is derived from a Greek fleet-wide average GHG intensity of 90.81g of CO₂e per megajoule (MJ) of energy versus the initial FuelEU hurdle rate of 89.3g CO₂e/MJ - a 2% reduction on the 2022 baseline of 91.16g CO₂e/MJ that is the initial target from 2025-30 under the regulation.

However, OceanScore's co-Managing Director Ralf Garrn says: "This should only be considered the starting point for Greek shipping and not the final scenario as much will depend on how companies take advantage of biofuels, low-carbon technologies and the FuelEU pooling mechanism to minimise their exposure.

"Vessels with a very high penalty structure will also gain the greatest beneficial effects from fuel switching with biofuels to reduce their penalties and can even convert these into opportunities by creating compliance surpluses that can generate revenue through pooling."



NorthStandard Fuel Insights offers real-time fuel procurement knowledge

MAKING INFORMED CHOICES

P&I club provides members with live information on fuel quality

UK-based P&I club NorthStandard has launched an “exclusive real-time marine fuel intelligence service for members in partnership with Veritas Petroleum Services (VPS)”.

Powered by VPS, the Fuel Insights digital platform is said to offer real-time fuel procurement knowledge based on exclusive live data from the leading provider of fuel quality testing and inspection services in the marine industry.

According to the marine mutual liability insurer, bunkering and operations departments can use this range of data to improve decision-making, by including off-specs and calorific value to the rationale, whilst technical managers can use the data to anticipate fuel quality risks to avoid bad bunkers. Platform users can make more informed choices on the best fuel to meet their operational requirements, including fuel with the lowest environmental footprint.

Fuel Insights will be offered free of charge to NorthStandard members as part of its Get SET! digital portfolio of pioneering technologies to improve safety and reduce operating costs.

“This is a unique collaboration in marine insurance,” said Colin Gillespie, Global Head

of Loss Prevention, NorthStandard. “It offers NorthStandard members easy access to global fuel statistics, as well as the tools to trade with confidence by managing risk and reducing claims in one of the most challenging areas of ship management.”

John Oosthoek, VP Operations Digital & Decarbonisation, VPS, added that, “The launch of the Fuel Insights platform is the culmination of a growing partnership between NorthStandard and VPS over the past few years. By utilising reliable fuel quality data owners and operators can anticipate and mitigate the risks associated with fuel quality, such as cat fines, cold-flow, and stability.

“Every single test parameter in the Fuel Insights platform is there for a reason,” Oosthoek continued. “This includes the usual ISO 8217 parameters, but also additional proprietary quality parameters from VPS, such as an indicator of chemical contamination and specific cold-flow parameters for new fuels. The platform also provides insights beyond off-specs, by highlighting cautionary cases that may require additional treatment or operational advice. With the advent of various types and blends of biofuels in the marine industry, VPS is committed to enriching this platform with relevant and actionable insights now and in the future.

“Testing remains essential for verifying quality, but accumulated data helps owners make informed fuel procurement decisions,” said Steve Bee, Group Commercial & New Business Development Director, VPS. “The services we provide ensure engines or fuel delivery systems do not suffer damage, crews stay healthy and safe, and ships meet expectations on the environment. For NorthStandard, Fuel Insights, powered by VPS will help ensure members and shipowners know what to look out for and subsequently enhance their ability to plan preventive maintenance.”

“Beyond mitigation, data could be invaluable to a claim or contract dispute,” added Gillespie. “For example, if substandard fuel was repeatedly linked to a single port, or if fuel issues on board had an onward impact of cargo delays. Shipowners and operators also need full transparency on fuel availability and quality, especially given the rapid rise of alternative fuels,” he said.

VPS says it has shipping’s largest marine fuel quality database, including the most extensive analysis of newer products, such as biofuels and methanol.

INVESTING IN EMISSIONS REDUCTION

Major firms put money into companies dedicated to cutting shipping's carbon profile

Sustainability startup Signol, which uses behavioural science to reduce emissions in shipping and aviation, says it has raised £2.5 million (US\$3.3 million) from leading industry-focused investors. The company's "tech-enabled behaviour change service helps hard-to-abate industries fully engage their human workforce to make the most of the opportunities they already have to reduce emissions through their daily tasks".

The investment round was led by New York-based venture capital firm TMV, which invests in legacy industries ripe for disruption, such as healthcare, the future of work, maritime, ports and mobility. The round included participation from leading industry stakeholders: Ultrana, a global diversified ship-operator, and MOL PLUS, the venture arm of Japanese shipping company Mitsui OSK Lines. London-based venture capital firm East Innovate, which led Signol's previous funding round, has reinvested.

TMV's co-founder and general partner Marina Hadjipateras said: "It's crucial that we invest in solutions which can have an immediate impact to improve the sustainability and efficiency of legacy industries like shipping. There's always a human factor when it comes to transforming industries - especially in maritime, whose overall market size is valued at over \$152bn and which is responsible for 90% of the way in which goods are transported. Signol harnesses the real power of people to shift operational behaviour and culture towards more sustainable practices.

He added: "We believe this approach can extend to multiple verticals beyond aviation and shipping, making it an attractive investment case, particularly given Signol's plans to explore how AI can further empower individuals to perform their jobs as efficiently and effectively as possible. This use of AI will maximise the potential of human decision-making and increase the value of the human workforce."

Following the latest investment in the company, Signol says it will "focus on enhancing its solution and increasing commercial traction in the aviation and shipping industries". It will also implement a proof-of-concept (POC) in the corporate travel sector, using behaviour change to reduce avoidable emissions from business travel.

Signol's CEO, Michael Fanning, said: "Securing investment from industry-leading companies like Ultrana and MOL is a significant endorsement from the maritime industry that our human-centric approach is seen as a critical lever in companies' sustainability strategies".

Meanwhile, in a separate development, Rotterdam-based firm Shipping Technology, which develops supportive tools for the shipping industry, has secured a "significant investment" from First Dutch in combination with the founders of Platform Zero. The hardware and software of Shipping Technology assists shipowners and crew to improve the safety, sustainability and efficiency of their operations and management decisions.

The First Dutch family of companies aims to promote sustainable progress and invests in pioneering solutions and infrastructure that help the maritime industry in its digital and energy transition.

In its statement Shipping Technology does not say how much extra funds it has been given but says it "will both scale up internationally, especially in the Inland Shipping industry, and further develop and improve its already successful products and services, adding features that are being developed based on feedback from early adopter clients". In addition, it says, the company's team will be substantially expanded in the coming years in order to serve its growing number of customers.

Shipping Technology gathers, analyses and connects nautical and vessel data to future-proof shipping companies in the fields of digitisation, operational efficiency, sustainable sailing and safety. According to the company, several insurance companies give shipowners up to 50% discount when Shipping Technology's main product, the ST BRAIN, is installed on board.





Wärtsilä is to supply its latest CCS-Ready scrubbers for retrofitting on three Leonhardt & Blumberg container ships

“FUTURE PROOFING”

Two new projects from Wärtsilä aim to ensure scrubbers will continue to have a role as regulatory pressures increase

Technology group Wärtsilä says it is to supply its latest carbon capture and storage (CCS)-ready scrubber systems for three container ships owned by German operator Leonhardt & Blumberg. The 3600 TEU vessels will each be fitted with a CCS-Ready, Vessel General Permit (VGP)-compliant, 27.5 MW system.

According to the manufacturer, the CCS-ready solution will assure Leonhardt & Blumberg that it has continued regulatory compliance for SOx emissions today and opens the door to a smooth CCS system adoption in the future. Following a number of newbuild orders for CCS-ready scrubbers, this will be one of the first retrofit projects prepared for CCS in the marine industry. The order was booked by Wärtsilä in Q3 2024.

The Wärtsilä solution significantly reduces a vessel's operational expenses by enabling it to operate with less costly and more readily available fuel (HFO). At the same time, it significantly reduces the ship's carbon footprint in line with the industry's decarbonisation targets.

“We are working hard to operate our fleet in the most sustainable way possible,” says Tim Goettsche, Fleetmanager, Leonhardt & Blumberg. “This retrofit project with

Wärtsilä's advanced exhaust treatment system represents an exciting step forward in reducing GHG emissions with CCS technology. It will give our ships a head-start in being compliant with future regulatory requirements.”

Wärtsilä says it calls these scrubbers “CCS-ready” because, as part of their installation, it will perform additional design and engineering work to ensure that future retrofits for a full CCS system on the vessels are accounted for.

It adds: “An integrated CCS system, working in harmony with a scrubber system, is based on the principle of removing as many main pollutants from the exhaust as possible, tackling each pollutant in a modular fashion. Once other gases are removed, the remaining exhaust can then be scrubbed for carbon which can be safely stored onboard and disposed of on arrival at port.”

Meanwhile Wärtsilä will upgrade the exhaust treatment system onboard four vessels in Norwegian operator Color Line's fleet by adding close-looped functionality to the ships' current open-loop scrubbers. The technology company says the work will enable the ships to operate at

maximum efficiency, safely and in the most environmentally sustainable way possible. However, the move comes against increasing regulatory prohibitions on wash-water discharges. Wärtsilä says that the upgrade to a hybrid scrubber system will give Color Line control over any abatement from the scrubber washwater, ensuring its vessels remain compliant with tightening regulations.

“This scrubber upgrade supports our focus on minimising the environmental impact of our operations. Switching to Wärtsilä's system will not only ensure our continued compliance with existing rules and regulations but will also future-proof our vessels against future requirements,” says Per Erik Olsen, EVP Color Line Marine.

Wärtsilä says its hybrid scrubber systems feature the “latest in exhaust cleaning technology, thus minimising sulphur oxide (SOx) emissions and allowing the vessel to comply with emission control regulations around the world”. The solution, which can operate in both open and closed loop using seawater to remove SOx from the exhaust, removes 98 percent of SOx emissions. This also notably reduces nitrogen oxide (NOx) and particulate matter emissions.

PureServ

THE SERVICE PROVIDER

PureServ, a cerertified service organization by PureteQ A/S, provides maintenance services for all brands of scrubbers and sensors worldwide.

PRE-DRYDOCKING INSPECTION

PureteQ offers inspections that assess all components and structural conditions, creating a work scope for the yard, crew, suppliers, and stakeholders well before the scheduled drydocking. Scrubbers installed around 2018 have operated for thousands of hours, making motors, dampers, sensors, and moving parts due for overhaul or replacement, some of which can have long lead times.



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Meroil Tank facility pictured centre at the port of Barcelona. ©Trafigura

BUNKERING INDUSTRY NEWS

New report finds "strongest annual shipping demand growth for 15 years" as GHG emissions grow "marginally"

Clarkson Research's six-monthly outlook for the global shipping markets, Shipping Review & Outlook, released at the end of September, reports "a strong earnings environment across much of shipping". Clarkson's industry wide "barometer", the cross-sector ClarkSea Index, averaged US\$25,584/day in 2024 (+10% y-o-y and +35% on the 10-year trend) and with underlying trade volume growth, with disruption to trade patterns amplifying shipping demand, remaining supportive alongside some supply side constraints from low order books in certain sectors and a "tight" shipbuilding market.

Clarkson predicts that GHG emissions will increase marginally in 2024 and contribute ~2% of global emissions. The regulatory landscape continues to evolve ('FuelEU Maritime' limits fuel GHG intensity from 2025, IMO is debating 'mid-term measures'). Green technology uptake continues with 7% (forecast >20% by 2030) of fleet tonnage now alternative fuel capable along with 52% of order book tonnage (LNG dual fuel the leading option this year). Retrofitting is also playing an important role (~34% of fleet tonnage is fitted with ESTs) along with slower speeds. Energy Transition will impact the industry's cargo base in the long term (i.e. strong potential in gases) and support growth in offshore wind.

Steve Gordon, Managing Director of Clarkson Research commented: "We now expect seaborne trade volumes to grow by 2.2% and reach 12.6 billion tonnes in 2024 and by 2%, to 12.8 billion in 2025. China remains a key driver, importing 400 tonnes more volume than two years ago, supported by inventory building despite mixed domestic economic signals. Geopolitically driven disruption to trade flows continues to materially impact shipping demand with global tonne-mile trade up 6% in 2024, its highest growth for 15 years. Tonnage transits through the Red Sea are still running 70% below typical levels, with diversions adding an estimated 3% to overall global vessel demand, up 12% for container shipping. The re-distribution of energy flows in response to Russian sanctions also continues to add tonne-miles, whilst growth in long-haul Atlantic exports to Asia (e.g. oil, gas, iron ore, other minerals) also supports longer haul trends. Restrictions at the Panama Canal however are now normalising. So, growth, increased[distance and disruption in trade [are likely] as shipping manages an increasingly complex demand outlook."

Trafigura buys into Meroil Tank

Singapore-based commodities company Trafigura has completed the acquisition of 50% of the shares in Meroil Tank from Spanish oil company Meroil, for an

undisclosed sum. Meroil Tank will now operate as a 50:50 joint venture company with assets that include 356,000 cubic metres of refined oil products storage infrastructure within the port of Barcelona. The company will continue to serve its current as well as future customers to store refined oil products including gasoil, gasoline and jet fuel, as well as biofuels.

"We are delighted to join forces with Meroil, a prominent logistics provider and wholesale fuel operator in Barcelona," said Jamie Torrance, Global Head of Distillates for Trafigura. "The asset is integral for the import of refined products and biofuels in the region, offering advanced logistics and flexibility to our current and future customer base. We look forward to working with the Meroil team on the further development of the terminal's logistics, while staying attentive to the market's evolution towards low-carbon fuels."

LNG bunker vessel newbuild for Peninsula

John A Bassadone has ordered an 18,000 cubic metre LNG and bioLNG bunkering vessel from Hyundai Mipo Dockyard through his private shipping company Hercules Tanker Management. She will be operated by his marine energy company, Peninsula.



The new vessel is expected to be delivered during 2027, and the agreement provides an option to construct a second vessel. Peninsula has been operating the 12,500 cubic metre LNG bunkering vessel, *Levante LNG*, since October 2023. It says it is supplying LNG as marine fuel to multiple customers across the Strait of Gibraltar and Western Mediterranean, including Royal Caribbean, Eastern Pacific, K-Line & MSC.

Bunker One launches physical LNG bunker supply

Bunker One is to start physical LNG deliveries in January 2025 through a newly established subsidiary Bunker One LNG which will manage the physical LNG fuel portfolio, including last-mile delivery, and will be headed by Managing Director, Michael Behmerburg.

Bunker One LNG is set to start supplying LNG bunkers in northwestern Europe using the 10,000 cubic metre Coral Fraseri.

"We are working hand in hand with the vessel's owner Anthony Veder to bring the vessel into operation. The vessel will undergo a regular class renewal at the end of 2024, during which several modifications will be carried out to enhance her capabilities as an LNG bunker vessel," says Michael Behmerburg.

The purpose of the modifications is to prepare the vessel for best-in-class service to the majority of seagoing vessels,

including tankers, container ships, and car carriers. Bunker One LNG says it is currently in the process of securing bunker permits which will cover key ports in Northwest Europe.

GoodFuels shuts up shop in Singapore

Biofuel supplier GoodFuels closed down its biofuel supply operation in Singapore in early November, after less than three years of operating. Although there no was reference to the move in the FincoEnergies subsidiary the General Manager of GoodFuels Asia Pacific Jing Xieng Han announced the closure on social media.

She posted: "I will be departing from GoodFuels Asia Pacific, a company where I've significantly contributed from its inception in Singapore to delivering physical biofuel bunkers to our customers and establishing it as a leader in quality and innovation in the biofuels bunker space. FincoEnergies has decided to consolidate GoodFuels operations in the Asia Pacific and ARA regions. Whilst the GoodFuels team will continue its efforts to decarbonise global shipping from the Amsterdam office, we will be stopping all biofuel deliveries in Singapore with immediate effect. Our Amsterdam team remains dedicated to furthering the decarbonisation of global shipping 'the Good Way' and I wish them continued success."

Oilmar DMCC expands

Dubai based bunker trader Oilmar DMCC is opening two new branch offices, in London and Copenhagen. The company says in a statement: "This expansion marks a significant milestone in our commitment to better serve our clients and partners across the region, enhancing our reach and operational capabilities. Our new offices are set to be fully operational by 2025. This development represents not only an opportunity for growth for Oilmar but also for our dedicated employees and potential new team members.

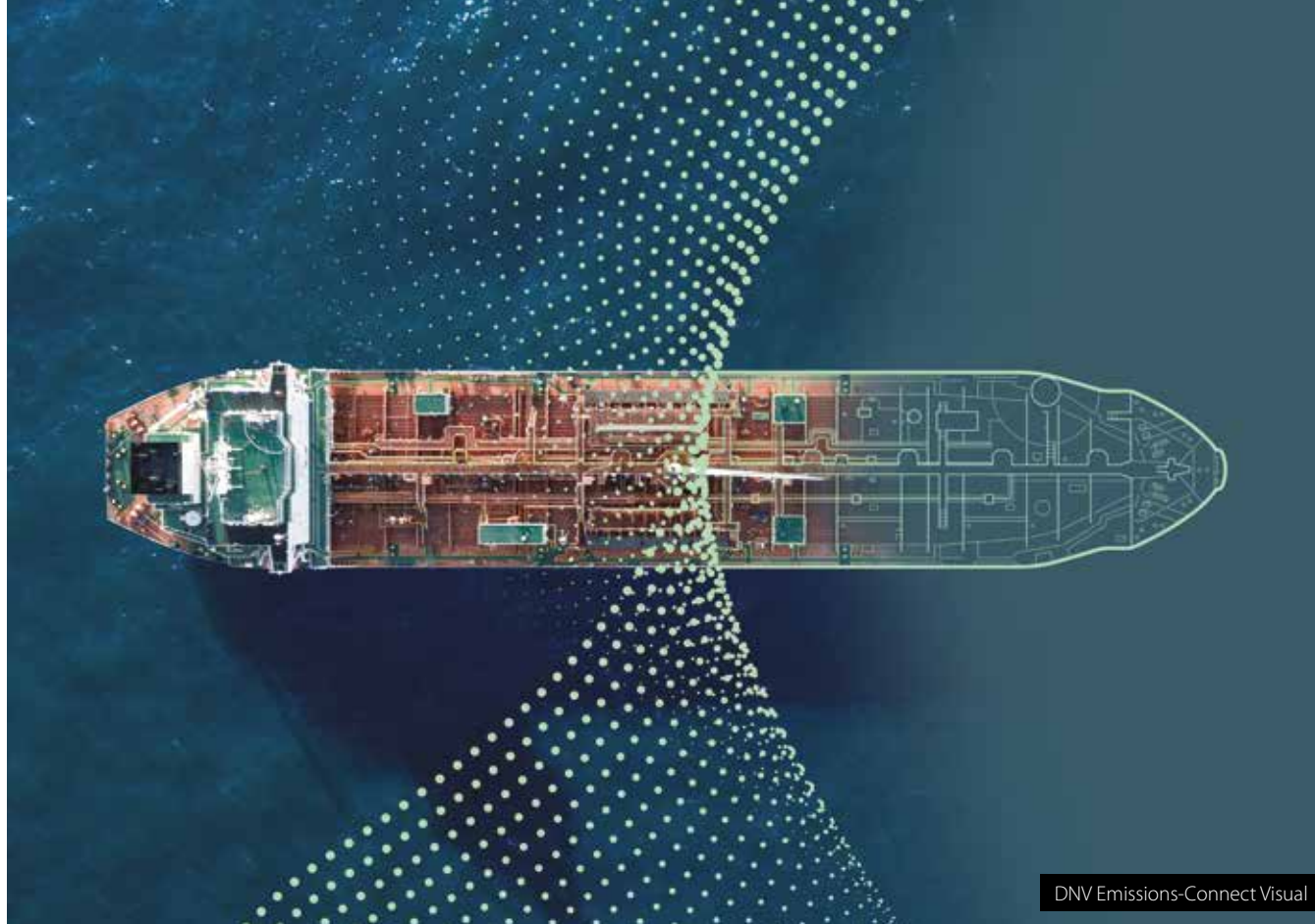
Singapore spill charges

The master and three other crew members of Netherlands-flagged dredger *Vox Maxima* have been charged with allegedly failing to perform their duties properly on 14 June, causing about 400 tonnes of after the vessel hit the Singapore-flagged bunker vessel *Marine Honour* while she was moored at Pasir Panjang Terminal, the *Straits Times* reports.

The spill was reportedly the worst Singapore has experienced in a decade and spread along the shores of East Coast Park, Labrador Nature Reserve and Sentosa and also to Malaysia's Johor coastline at Kota Tinggi.

The four Netherlands nationals were charged under the Merchant Shipping Act 1995 for failing to act appropriately following a steering gear failure.





DNV Emissions-Connect Visual

MITIGATING FUELEU MARITIME CHALLENGES

Service providers move to support shipowners navigate new EU regulations

DNV has announced an upgrade to its emissions data verification and data management platform, Emissions Connect, which will enable the maritime sector to handle the commercial challenges and risks that come with the implementation of FuelEU Maritime.

FuelEU Maritime sets limits on the greenhouse gas (GHG) intensity of fuels used by ships calling at EU ports and progressively reduces these levels towards 2050. The regulation covers well-to-wake emissions from the entire fuel life cycle and requires ship managers to submit a monitoring plan, report emissions data annually and have their compliance balance verified. GHG intensity which is too high can lead to a negative balance, which, if not compensated in a pool with other ships, will trigger a penalty that the shipping company must pay to the national authorities.

The Norwegian classification says its platform was first launched in 2023 “to support the industry with the operational impact of multiple regulatory requirements and decarbonisation trajectories. Specifically, it helps the industry manage and control Carbon Intensity Indicator (CII) performance, manage the commercial obligations arising from the European Union’s (EU’s) Emissions Trading System (ETS) and now also the implications of FuelEU Maritime”.

Pål Lande, Product Line Director, DNV Maritime said: “The introduction of new regulation to drive decarbonisation is creating a complex environment for organisations across the shipping sector. To assist companies in dealing with this change, we are pleased to be offering a solution that will help them manage the commercial impact of these new rules and collaborate across the supply chain.

Accurate and verified data is crucial to instil trust and ensure effective collaboration within this complex environment.”

Meanwhile New York-based software-as-a-service company OrbitMI says it is now providing advanced data-driven tools “to effectively navigate the complex regulation together with partner Bureau Veritas (BV)”.

The latest EU regulation, coming on the heels of the EU ETS, entails new operational challenges as vessel operators must carefully manage and monitor their fuel mix across voyages to optimise compliance and minimise penalties for non-compliance with GHG intensity reduction targets.

OrbitMI CEO Ali Riaz says: “Companies trading in the EU need to understand the regulation and adapt their operations to FuelEU as the clock ticks to implementation in 2025. His company, together with? BV Marine & Offshore, has enhanced its



Orbit vessel performance platform for FuelEU planning and monitoring to optimise operations, while facilitating data management and collaboration for efficient regulatory compliance.

According to OrbitMI, the collaborative platform allows seamless communication between stakeholders to ensure decisions affecting FuelEU compliance are visible to all parties. It asserts: "By providing visibility into the vessel's itinerary, position, daily fuel consumption and weather conditions, both the vessel owner and operator can avoid post-voyage surprises and take decisions that minimise or eliminate penalties."

Permanent magnet shaft generators for LNG carriers

Technology company ABB is to equip 15 LNG carriers being built at Samsung Heavy Industries with the permanent magnet shaft generator technology.

The 174,000 cubic metre capacity ships are due for delivery between mid-2026 and August 2028 to multiple leading owners serving the supply chain needs of charterer Qatar Energy.

ABB says its permanent magnet shaft generator technology enhances operational efficiency of vessels by utilising the power from the shaft and main engine, resulting in better fuel economy compared to getting the power from high-speed, fuel-intensive auxiliary engines.

In addition, it says, the permanent magnet shaft generator is optimised for converter control, enabling better efficiency than either induction or electrically excited synchronous machines can offer at full and partial load.

According to ABB's estimation, this helps to cut ship fuel costs by up to 4%. Working with ABB's advanced ACS880 Converter and Control System with D/C Link, the technology can increase fuel efficiency by a further 1%.

"The scale of this order suggests that key LNG stakeholders now recognise permanent magnet shaft generator system benefits that are widely accepted by owners in the container ship, oil tanker and bulk carrier markets," says Michael Christensen, Global Segment Responsible for Cargo, ABB Marine & Ports.



Data quality is a key factor for effective decision-making in maritime, says OrbitMI ©123RF



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HANDLING HYDROGEN SAFELY

New study looks at challenges of bunkering liquefied hydrogen

The Maritime Technologies Forum (MTF) is a group of IMO flag states and classification societies which aims to bridge the gap between technological progress and regulatory process.

MTF has carried out a study on the current technological progress, and potential regulatory gaps, relating to liquid hydrogen (LH2) with an emphasis on the bunkering of the fuel.

While IMO is currently working on the development of guidelines for the safe design of ships with hydrogen as fuel, with the target completion already at CCC10 in September 2024, MTF notes the guidelines will stop at the bunkering manifold on the ship.

The details related to the bunkering operations are not part of the scope for that work. The MTF study is intended to supplement CCC10 with input on the bunkering side of LH2 fuel safety.

The new report discusses the potential use of hydrogen as a zero-emission fuel to meet the IMO Strategy on Reduction of GHG Emissions from Ships by 2050. It acknowledges the lack of experience in the maritime sector with hydrogen as cargo and fuel, and the increased risks associated with its use as a fuel compared to LNG. As of the writing of the report, there are

no international standards covering the bunkering of liquefied hydrogen. However, information collected from ongoing developments in ISO for related areas, as well as the experience gained from the Norwegian ferry "Hydra", serves as the basis for the guidelines and recommendations of this report.

The objective of this project is to review barriers and enablers to safe bunkering operations of liquid hydrogen (LH2) with focus on the ship-to-shore interface and to produce a framework for LH2 bunkering guidelines. Experience with bunkering of hydrogen for ships is limited and the design, operation and regulatory approval processes are complex. The project has conducted a review of existing standards and experience that can be applied to LH2 marine bunkering and proposed structure and main topics of importance for bunkering guidelines which can help to accelerate the development and standardisation of LH2 bunkering procedures for ships.

The bunkering processes for LH2 will need to be developed with the properties of liquefied hydrogen clearly in mind. This report provides a starting point for development of guidelines for bunkering of LH2, and this work is recommended to be discussed at IMO and further developed by industry.

Importantly the study finds that experience from bunkering LNG as fuel cannot directly be re-used. The properties of hydrogen, and in particular the very low temperature of LH2, means that experience gained from bunkering arrangements for LNG cannot be re-used directly.

According to MTF, the bunkering process will be more complex than what is known for LNG, since no nitrogen can be present inside the piping systems when LH2 is introduced, as this will freeze and clog the systems. Extreme properties of hydrogen require careful material selection and more temperature insulation. The potential risks associated with hydrogen properties such as extremely low temperature, flammability, explosivity, and permeability can lead to damage to equipment and detonation. A careful material selection is required to prevent hydrogen embrittlement and leakage. The extremely low temperature also means that more extensive use of vacuum insulation for components and piping will be necessary.

The study asserts that vessel-specific procedures for bunkering operations will be needed, and the added complexities with LH2 bunkering may also lead to a need for more automated bunkering processes. Inherent complexity of LH2 systems requires high emphasis on training and safety management.



The ammonia-fuelled tug Sakigake, built for NYK Line and IHI Power Systems. She is said to be the world's first ammonia-fuelled vessel for commercial use ©NYK

SAFETY FIRST

As more ammonia-fuelled ships are being ordered there is increased focus on ensuring safe operation

ClassNK says it is set to provide the world's first accreditation for Machinery Room Safety (MRS) for ammonia, for ammonia-fuelled medium gas carrier (AFMGC) currently being developed by a consortium that includes Nippon Yusen Kabushiki Kaisha (NYK) and Nihon Shipyard. The class notation demonstrates the ship is equipped with excellent ammonia safety measures for the machinery room. MRS also confirms the vessel meets the highest safety measures under the guidelines for ammonia-fuelled ships.

The ship is slated for delivery by the end of November 2026. The vessel development is under the Green Innovation Fund Project by Japan's New Energy and Industrial Technology Development Organization (NEDO).

ClassNK says: "One of the biggest challenges in the ship's development is to overcome toxicity in the machinery room. It is essential to have measures to keep the crew safe, such as a design to avoid ammonia leakage from piping and tanks. To overcome toxicity, the consortium has conducted a risk assessment reviewed by ClassNK, risk assessments and safety measures from a user's point of view led by NYK's engineers, and a study of the ship's specifications to realise the world's highest level of safety."

The minimum design requirements for using ammonia safely on board are regulated in the ammonia-fuelled ship guidelines issued by ClassNK. To receive an MRS notation, it is necessary to satisfy the optional functional requirement to minimise personal exposure to leaking ammonia in the machinery room. This notation shall be granted only to ships that meet the functional requirement and secure the highest level of safety.

Meanwhile new fuels consultancy Stream Marine Technical (SMT), part of Stream Marine Group, is ramping up its consultancy and advice services on ammonia awareness training.

SMT notes that ammonia is fast becoming a potential alternative fuel for the future of green shipping but there is still a long way to go in the development of the fuel as it takes a leading role in ammonia awareness training. SMT has recently been acting as a consultant in Singapore and Western Australia in ammonia awareness training. It has also been assisting in the development of emergency response plans in bunkering. Meanwhile in Rotterdam, SMT has been involved in developing ammonia training for port staff in bunkering.

Although ammonia is certainly gathering pace and companies are considering it more as an alternative fuel, it still has a way

to go in terms of the availability of being totally carbon free and its affordability, explained Group CEO Martin White.

Ammonia fuel system

German fuel supply systems company Auramarine has launched an ammonia fuel system that is "designed in adherence to all safety, design and material requirements". It is said to be suitable for both two-stroke and four-stroke engines as well as other ammonia consumers. Safety measures include gas and leak detection, ammonia capture, reliquefying and ammonia release mitigation (ARMS) functions.

The system has been developed in collaboration with experts on ammonia as well as using findings from the HENNES research project which Auramarine is part of. The company says: "In developing the ammonia system, the partnership with HENNES helped in mitigating any risks, as well as ensuring that the system meets the full scope of client needs and complies with the highest safety requirements and regulations.

Commenting on the announcement, John Bergman, CEO, Auramarine said: "Ammonia offers a zero-carbon pathway to shipping's net zero transition and, as experts in fuel supply systems for the last 50 years, we see it as our role in making its adoption a safe and viable reality."



OCC “TECHNICALLY FEASIBLE”

DNV says onboard carbon capture could be commercially attractive if the right regulatory and market drivers are in place

A new DNV white paper aims to provide a “comprehensive overview” of all key considerations around onboard carbon capture (OCC). The classification society's white paper, *The potential of onboard carbon capture in shipping*, comes as several pilot projects are being conducted or planned on ships worldwide to plug gaps in knowledge of OCC technologies and their use.

The paper notes that while onboard carbon capture can be safely implemented on ships, further development and optimisation are needed for maritime use and integration. It concludes that for OCC to appeal to shipowners, regulations crediting carbon capture must be adopted, and greater development of carbon capture, utilisation and storage (CCUS) is needed to complete the value chain. Key factors in the paper's economic analysis include cost elements of the system, as well as the regulatory and competitive landscapes.

“The paper offers guidance to shipowners, technology providers and other stakeholders on central matters related to onboard carbon capture,” says Dorte Slotvik, Consultant, Environment Advisory at DNV and the lead author of the paper. “It's techno-economic insight helps inform a decision-making process for investing in decarbonisation technology options to future-proof fleets as emissions regulation continues to evolve and tighten.”

DNV notes that, among the known technologies for carbon capture, the category of post-combustion methods, which separate carbon from the exhaust after burning fuel, are the most relevant for conventional marine energy systems. These methods include chemical absorption, membrane separation, cryogenic separation and mineralisation. For fuel-cell systems with liquefied natural gas as fuel, pre-combustion or oxy-fuel combustion are possible but currently underdeveloped methods in shipping because of the low adoption of such fuel cells. It adds that other candidate technologies are related to the conversion of CO₂ to other molecules, “but these are at a less mature stage”.

Onboard carbon capture requires energy, usually heat and electricity, to operate capture and treatment systems, which may lead to additional fuel consumption, a ‘fuel penalty’. The trade-off between the achievable emissions reduction and the fuel penalty is a key challenge in onboard carbon capture, affecting both the environmental and economic viability of the technology.

The fuel penalty depends on the capture technology and capacity, and its utilisation during normal vessel operation. Systems that achieve a high emissions reduction can deliver low emissions but may have excessive energy demands, making them less feasible from operational and cost perspectives.

DNV says that the EU Emissions Trading System is currently the only regulatory framework incentivizing onboard carbon capture, though not including a verifiable method to measure and monitor the derogated emissions. However, IMO plans to include onboard carbon capture in its Lifecycle Assessment (LCA) Guidelines. In March 2024, MEPC 81 established a group to develop a regulatory framework for using onboard carbon capture systems.

“A continued drive to rapidly develop regulations that credit onboard carbon capture will reduce uncertainty for the industry and support the development of relevant technologies,” says Chara Georgopoulou, Head of Maritime R&D and Advisory Greece, OCC Manager and co-author of the paper.

According to the paper, wider uptake of onboard carbon capture also depends on its integration in broader carbon capture, utilisation and storage (CCUS) value chains. Scaling up CCUS infrastructure globally will underpin the uptake of onboard carbon capture technology, the paper concludes.

“This infrastructure is not yet established. Maritime should collaborate with CCUS development projects near major shipping hubs to discuss how shipping can connect to CCUS value chains for depositing CO₂ in the system,” says Slotvik.



COSCO Shipping New 14kTEU Vessels

“LEVEL PLAYING FIELD FOR BIO- AND E-METHANOL”

New study finds EU regulations will boost economic value of sustainably produced methanol as a marine fuel

A new White Paper prepared for the Methanol Institute by Dr Jeroen Dierickx, an energy and fuel expert at iDefossilise, concludes that the FuelEU Maritime Regulation and EU Emissions Trading System (ETS) will create a level playing field for bio- and e-methanol, making them economically competitive compared to fossil marine fuels.

The Methanol Institute notes: “Under the EU’s Fit for 55 regulatory package, vessel operators are incentivised to transition to these sustainable fuels through significant penalties levied on continued fossil fuel use. For fuel producers, the regulations offer a stable, long-term framework from 2024 to 2050, paving the way for secure investment opportunities in the maritime sector.”

Gregory Dolan, CEO of the Methanol Institute, stated: “The study confirms the profound impact of regulations on the demand for methanol as a marine fuel. The findings indicate that the emerging EU regulatory framework is robust enough to enhance the business case for low-carbon and renewable methanol fuels and fuel blends, supporting the transition to a sustainable maritime industry.”

The FuelEU Maritime Regulation sets targets for reducing greenhouse gas emissions from the maritime sector and imposes increasingly severe penalties on

fossil fuels such as Very Low Sulphur Fuel Oil (VLSFO). Non-compliance costs for vessel owners will escalate from €39 per tonne in 2025 to €1,997 per tonne by 2050. EU ETS implementation: Regulatory costs under the EU ETS carbon emission trading scheme that also covers the maritime sector, are phased in from 40% in 2024 to 100% in 2026. With a projected market price of €100 for CO₂ emission allowances, the additional cost for VLSFO is estimated at €321 per tonne.

To avoid these penalties, vessel owners can use bio- or e-methanol, or blends of fossil and sustainable methanol as viable compliance options and encourage the development of a sustainable methanol supply chain. The analysis forecasts the average maximum price for bio-methanol to be €1,193 per tonne from 2025-2050. For e-methanol, prices are estimated at €2,238 per tonne from 2025-2033, decreasing to €1,325 per tonne from 2034-2050 when the reward factor for using renewable fuels of non-biological origin (RFNBO) expires in 2034. Including EU ETS costs, these prices rise by €150 per tonne for both fuels.

Every five years, the FuelEU Maritime greenhouse gas emission targets increase, from 2% in 2025 to 80% by 2050. These targets can be met by blending bio- or e-methanol with conventional natural-gas based methanol, increasing from 14% bio-methanol and 7% e-methanol in 2025

to 28% bio-methanol and 25% e-methanol in 2035, and fully 100% bio-methanol and 91% e-methanol by 2050.

COSCO Shipping orders dual-fuel methanol container ships

China’s COSCO Shipping Container Lines has ordered 12 14,000 TEU container ships with dual-fuel methanol propulsion from COSCO Shipping Heavy Industry.

The new ships belong to a new generation of ship types developed jointly by the COSCO companies and the China Shipbuilding and Ocean Engineering Design and Research Institute. With a length of 335.9 metres, a width of 51 metres and an invisible bulb bow and stern energy-saving device, the new vessels adopt innovative design and advanced technology.

The new vessels are equipped with what is described as the “world’s most powerful permanent magnet shaft generator” as well as a bow wind deflector, an air lubrication system for the hull and intelligent systems developed by COSCO Shipping that fulfil the third phase of EEDI energy efficiency indicators and the latest cyber security regulations. The dual-fuelled main engine and generator can both be powered by methanol to significantly reduce greenhouse gas emissions.



LNG FLEET KEEPS GROWING

590 LNG-powered ships now in service and almost the same number on order as efforts to curb methane slip ramp up

LNG lobby group SEA-LNG says that active LNG-fuelled vessels now account for more than 2% of the global shipping fleet. It adds that, once the order book is taken into account, this number increases to 4% by vessel numbers or 6% by deadweight tonnage (DWT).

Numbers have grown from 21 LNG-fuelled vessels in operation in 2010, many of them smaller ships operating regionally, to 590 in operation globally today, including the world's largest container ships twice the size of any operating in 2010. With a further 564 on order, the total number of LNG-powered vessels in operation by the end of 2028 will be 1,154. Added to these are 772 LNG carriers in operation, with a further 341 on order at the end of 2023. This means that over 2,000 of the world's 60,000 largest vessels are LNG-powered. Quoting classification society DNV, SEA-LNG notes that LNG dual-fuel vessels make up one third of the new build order book. If DWT is used, the LNG-powered fleet in operation and on order of 142.5 million DWT represents 6% of the world's total 2,224 Mt DWT.

Peter Keller, Chairman, SEA-LNG, said: "It is gratifying that LNG is finally gaining favour amongst so many shipowners. LNG is the only practical and realistic alternative fuel pathway available today – even for those shipowners that may also be considering other such pathways. While we have always said that a basket of fuels will be required for shipping to meet the 2050 emissions reduction targets, the rationale for the LNG pathway remains unchanged. The LNG pathway using liquefied biomethane and eventually hydrogen-based e-methane currently provides the only viable option to making progress towards 2050, starting with immediate carbon reductions, now. LNG also continues to help solve critical local emissions and health related environmental concerns."

SEA-LNG says that, in support of this expansion in LNG dual fuel vessels, LNG bunkers are currently available in 185 ports, with an additional 50 being added next year. The bunkering vessel fleet has increased from a single vessel in 2010 to 60 in operation today, with a further 13 on order and significant interest

in the maritime community to continue to invest in these needed assets. The lobby group asserts: "This expanding infrastructure is immediately ready for liquefied biomethane (bio-LNG) as it scales, and eventually e-methane (renewable synthetic or e-LNG), providing ship owners and operators with the confidence that vessels ordered today are future proofed for 2050 and beyond. The use of liquefied biomethane as a marine fuel can reduce GHG emissions by up to 80% compared to marine diesel on a full well-to-wake basis. When produced from the anaerobic digestion of waste materials, such as manure, methane that would otherwise be released into the atmosphere is captured, resulting in negative emissions of up to -190% compared with diesel.

On LNG's green credentials SEA-LNG notes: "LNG has virtually zero SOx and particulate matter emissions, up to 95% reduction of NOx emissions, and up to a 23% reduction in GHG emissions. The environmental benefits are compelling. With continued collaborative engineering efforts across the value chain, methane slip will be eliminated



for all engine technologies within the decade. Today, 2-stroke diesel cycle engines account for approximately 75% of the LNG-fuelled vessel order book. These engines have effectively eliminated slip already. For low-pressure engine technologies where methane slip remains a challenge, manufacturers have already cut the levels of slip from low-pressure 4-stroke engines by more than 85% over the past 25 years."

There is however general agreement that more needs to be done to reduce methane slip and the Methane Abatement in Maritime Innovation Initiative (MAMII) has opened a new protocol for consultation to encourage methane reductions in shipping.

The Methane Measurement Protocol (MMP) is the first industry-wide effort to establish a universal method for measuring methane. This initiative aims to provide a practical system for the global shipping sector to credit, validate, and certify methane performance. Building on established frameworks, such as those from the International Organization for Standardization (ISO) and the International Maritime Organization's NOx code, the protocol has been released for public consultation.

Panos Mitrou, MAMII Chair and Global Gas Director at Lloyd's Register, said: "This protocol represents a proposed framework for emissions measurement and performance evaluation. Assessing and crediting performance in a consistent manner is essential to actively reducing methane emissions. We believe that the effort to regulate and establish a certification process to credit methane emissions performance will substantially encourage the development and adoption of technology and cleaner practices by rewarding those who take meaningful steps towards sustainability. Methane abatement is critical for the shipping industry's transition to greener operations."

The MMP features five testing scenarios that could lead to methane certification, from testing in controlled environments to continuous emissions monitoring (CEM) onboard ships. Currently, it includes the measurement of methane (CH₄) emissions from marine diesel engines and could soon include the measurement of nitrous oxide (N₂O) emissions.

Meanwhile technology group Wärtsilä, in partnership with Chevron Shipping

Company LLC plans to convert engines on six of Chevron Transport Corporation's LNG Carriers from dual-fuel (DF) to spark gas (SG) operation. The conversions are intended to reduce greenhouse gas emissions by lowering methane slip in support of Chevron Shipping's broader efforts to reduce the carbon intensity of its operations. This marine industry first was made possible after two years of collaboration between the companies. The order for the first two vessels was booked by Wärtsilä in Q3 2024.

A Wärtsilä statement explains: "LNG, when burned as a fuel, results in small amounts of methane that may not fully combust leading to methane escaping into the atmosphere, referred to as methane slip. Methane exists in the atmosphere for a shorter time than CO₂ but traps approximately 25–30* times more heat over a 100-year period. Addressing methane emissions is a key part of lowering carbon intensity. Wärtsilä's 50DF to SG conversion project is designed to modify the engines in service to operate as SG, using spark ignition versus diesel pilot fuel to initiate combustion. This enables a more optimised combustion process, thereby reducing the methane slip and improving efficiency."

Methodology for cutting methane slip

Swiss-based "climate deep-tech" company Daphne Technology says that The Gold Standard has approved its "pioneering carbon credit methodology". The Gold Standard, established in 2003 by WWF and other NGOs, aims to ensure that carbon credit projects deliver genuine and measurable climate and sustainable development impacts. In a statement Daphne says: "This milestone directly targets reducing methane emissions from internal combustion engines using any methane-rich fuel."

The methodology comprises the following elements: advanced methane after-treatment, real-time measurement (based on the use of the UN Framework Convention on Climate Change's approved methodological tools), quantification/verification, economic incentives and broad applicability.



SEA LNG Chairman Peter Keller



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“NO NET-ZERO WITHOUT NUCLEAR,” FIRM CLAIMS

LR and CORE POWER to conduct next-generation nuclear container ship regulatory study

Lloyd's Register (LR) and CORE POWER have announced a joint regulatory assessment study to conduct research on the regulatory feasibility and frameworks that would need to be established for a nuclear container ship using a fourth-generation reactor noted for its high inherent safety to undertake cargo operations at a port in Europe. Soon after the launch of the study AP Moller-Maersk has joined the study, as has an unidentified port authority.

According to Mikal Bøe, CEO, CORE POWER, said: "There's no net-zero without nuclear. A critical key to unlocking the vast potential for nuclear energy to transform how the maritime sector is powered, is the standards framework for commercial insurability of floating nuclear power plants and nuclear-powered ships that would operate in nearshore environments, ports, and waterways. We're immensely pleased to be working with some of Europe's most respected industry participants to set out the conditions for how this can be achieved."

The intention is to investigate the requirements for updated safety rules along with the improved operational and regulatory understanding that is needed for the application of nuclear power in container shipping. In addition, this study will provide insight for members of the maritime value chain who are exploring

the business case for nuclear power to help shape their fleet strategy towards achieving net zero greenhouse gas emissions.

Nick Brown, CEO, Lloyd's Register, said: "The initiation of this joint study marks the beginning of an exciting journey towards unlocking the potential of nuclear power in the maritime industry, paving the way for emissions-free operations, more agile service networks and greater efficiency through the supply chain. A multi-fuel pathway to decarbonising the maritime industry is crucial to ensuring we as an industry meet the IMO's emission reduction targets and nuclear propulsion shows signs of playing a key role in this energy transition."

"Since Maersk launched its energy transition strategy in 2018, we have continuously explored diverse low emission energy options for our assets," explained Maersk's Head of Fleet Technology Ole Graa Jakobsen. He added: "Nuclear power holds a number of challenges related to, for example, safety, waste management, and regulatory acceptance across regions, and so far, the downsides have clearly outweighed the benefits of the technology. If these challenges can be addressed by development of the new so-called fourth-generation reactor designs, nuclear power

could potentially mature into another possible decarbonisation pathway for the logistics industry 10 to 15 years in the future. Therefore, we continue to monitor and assess this technology, along with all other low emission solutions."

Meanwhile the British Royal Navy (RN) is considering the possibility of using nuclear power to propel surface ships. The country's Ministry of Defence has issued a Request for Information (RFI). The RFI's summary states: "The Royal Navy is seeking information regarding the integration of Generation-IV nuclear technologies for surface ship employment. Exploring scopes for alternative energy paradigms, the Royal Navy is gathering information on various energy solutions for powering large surface ships."

It adds: "The primary objective of this RFI is to gather detailed information on Gen-IV nuclear reactor designs, their feasibility for large surface ships (including support vessels and surface combatants), and the potential benefits and challenges associated with their use. This information will help inform our future strategic decisions and potential investments in this technology."

Until now the RN has operated nuclear-powered submarines but has not used the technology for surface vessels, in contrast to the US and French navies.



DNV Wallenius Wilhelmsen B100 verification

OVERDOING IT, AND CASHING IN

Over-compliance with FuelEU Maritime through biofuel use "could generate surpluses"

Maritime data and technology firm OceanScore says it has identified tangible savings on the cost of compliance with FuelEU Maritime that can be made through burning biofuels to generate surpluses for vessel pooling and through financial gains from over compliance with carbon intensity reduction targets.

"While many shipping companies are struggling to get to grips with the complexities of this new regulation, it also presents significant commercial and revenue opportunities for those that understand FuelEU and are taking a proactive approach to adoption of alternative fuels," says the company's managing director Albrecht Grell.

He states it is natural for the industry to take a defensive stance towards the regulation, with many players focused on technical aspects such as finalising monitoring plans, data provision and verification, while seeking clarity on charter parties and Bimco's Shipman clauses as they relate to FuelEU.

According to Grell the issue is compounded by the tight time-frame ahead of implementation on 1 January 2025 and the fact it is being introduced when shipping is still trying to gain control of the EU ETS, amid ongoing operational challenges due to geopolitical developments.

Grell says FuelEU "can understandably be seen as annoyingly complex and just another cost burden for shipping", with players facing a hefty penalty of €2400 per tonne of VLSFOe for compliance deficits and the prospect of increasing costs if

no action is taken as intensity reduction targets are tightened towards 2050.

However, he also highlights business opportunities arising from the concept of surpluses and deficits under the FuelEU pooling mechanism whereby over compliance for vessels using alternative fuels can be used to offset compliance deficits of other units running on conventional fuels to create a neutral compliance balance - both for internal fleets and with vessels from third parties.

Explaining the two key drivers for these opportunities, Grell says: "Generating compliance surpluses through burning the right biofuels will be much cheaper than paying penalties. And if sufficient compliance surpluses are generated, these can be 'sold' via FuelEU pooling arrangements with others."

OceanScore has calculated the net value of surpluses generated by replacing for example HFO with rapeseed-based biofuel will be around €440 per tonne of HFO replaced, taking into account the different bunker prices and calorific values of these fuels, as well as FuelEU penalties and EU ETS costs.

And this benefit could increase to up to around €1250 per tonne of HFO replaced with the use of bunkers based on waste cooking oil, which have an especially low carbon intensity in the context of FuelEU.

The surpluses generated by each of these alternative fuels will vary according to their different well-to-wake CO₂e emissions, including the climate effect of methane and nitroxide. Rapeseed-based biofuels

have a default carbon intensity of 51.584g of CO₂e per megajoule (MJ) of energy, giving a solid surplus versus the initial FuelEU hurdle rate of 89.3g CO₂e/MJ, while waste cooking oil-based fuels come in at only 16.384g CO₂e/MJ, basically doubling the positive effect on compliance balances.

"Given comparable low calorific values and bunker prices, the need to carefully select bunkers based on the feedstock used becomes apparent," Grell says.

Biofuel insetting

DNV awarded shipping and logistics company Wallenius Wilhelmsen its first biofuel insetting verification statement following the company's use of 100% biofuel (B100) in a recent voyage.

According to DNV, biofuels can help to make an immediate impact on shipping's GHG emissions. However, they do come at an increased cost and owners need to be sure that they can benefit from their extra investments in sustainability and compliance. Verified biofuel insetting enables this, by creating transparency in a "book and claim system" across the entire supply chain.

DNV has worked with Wallenius Wilhelmsen to verify the GHG reductions it has achieved by using B100 on the vehicle carrier Morning Post. Bunkering B100, "derived entirely from sustainable sources", at Port of Antwerp-Bruges, the vessel consumed the biofuel over its scheduled voyage, "resulting in a reduction of 90% CO₂ equivalent on well-to-wake basis".

This is DNV's first commercial verification of Biofuel insetting with 100% biofuel (B100)



“GROWING PAINS INEVITABLE”: LR

Applying Wind-Assisted Propulsion to ships “is in its late childhood” says classification society

The installation of wind assisted propulsion (WAPS) systems is experiencing a significant growth spurt, Lloyd's Register (LR) finds in its new *Energy Efficiency Retrofit Report 2024*. It cautions however: “The associated growing pains are inevitable.”

According to LR, lack of familiarity with the technology – not necessarily helped by multiple suppliers promoting many different systems – is one obstacle, both for shipowners hoping to retrofit WAPS technology and for the majority of shipyards that will be needed to perform those installations. Lack of standardisation of fuel-saving claims and methodologies for verifying them is another. These challenges are, LR notes, in hand but “will remain a challenge for early adopters”.

Despite the challenges, LR asserts that “the significant impact of harnessing the wind – on fuel cost, carbon cost exposure and environmental compliance – should not be ignored”. “And,” LR adds, “the indications are that it will not be. Projections are hard to ascertain but based on the best available analyses and the volume of feasibility studies being requested from LR, uptake of both retrofit and newbuild installations is poised for a sharp upward tick within the next two years.

For retrofit projects, LR comments, the scaling up of technology supply will be a particularly acute consideration. It cautions: “Taking ships out of service to find components not waiting for installation adds to the already extra expense of such conversions. Choosing the right supplier and the right yard will be vital. So too will navigating the potential pitfalls of new technologies – costs not predicted, operational constraints unanticipated and regulatory regimes unknown or incomplete.”

Meanwhile, in a steady stream of WAPS developments, classification society has issued a Type Approval Design Certificate (TADC) for bound4blue's eSAIL system. The issued certificate validates complete compliance with the classification society's Wind Assisted Propulsion Systems (WAPS) technical standard, demonstrating that the team's breakthrough suction sail technology is in line with the industry's most advanced rule set.

With the TADC in place, bound4blue says it expects “accelerated technical due diligence processes with customers, paving the way for a simpler system roll-out”. This, the company says, will help shipowners remove the burden of individual quality validation, speed up access to eSAIL® benefits, including reduced fuel

consumption and emissions, lower OPEX, and simplify compliance with the most stringent regulatory demands.

The fully autonomous system works by dragging air across an aerodynamic surface, generating exceptional propulsive efficiency. The simple, low weight and easy to install units significantly cut main engine loads, fuel use and emissions. Customers include Odfjell, Eastern Pacific Shipping, Amasus, Marflet, and Louis Dreyfus, according to bound4blue.

DNV has also awarded Hanwha Ocean Type Approval (TADC) for its rotor sail technology, the first certification of a rotor sail approved for installation in hazardous zones in South Korea. The TADC confirms that Hanwha Ocean's Rotor Sail, designed with composite materials, is in line with DNV and international safety standards, guidelines and regulations and ready for practical application on commercial vessels. The certification process involved detailed design reviews and assessments, ensuring that the rotor sail meets the rigorous standards for real-world deployment. The TADC also covers the installation of the rotor sail in hazardous zones onboard vessels, for example on tankers and vessels carrying explosive liquids, gases, and dangerous cargo.



Imperial College London. © Thomas Angus

RESEARCHING THE ALTERNATIVES

Academic institutions and shipping industry organisations are exploring the bewilderingly wide range of alternative fuels and technologies that could take us to Net Zero

Lloyd's Register (LR) has announced that its business advisory team is partnering with energy companies ROTOBOOST and Amogy on a fuel cell and pre-combustion Carbon Capture Storage System (CCS) study to assess opportunities for emissions reduction. The joint development project (JDP) will evaluate the use of hydrogen fuel cells, ammonia and methane cracking technology and CCS from a technical readiness, financial and regulatory perspective.

According to LR, outcomes will determine the technologies' ability to reduce emissions and costs across a specific container feeder fleet, in relation to EU ETS (Emissions Trading Scheme) FuelEU and IMO CII (Carbon Intensity Indicator) requirements, compared to conventional fuels.

Amogy's ammonia-to-electrical power system, ROTOBOOST's Marine Hydrogen production technology, as well as PowerCell's Marine System 200 hydrogen fuel cell will be central to the research, which also considers additional associated costs compared with other emerging fuels.

Jack Spiros Pringle, Lead Consultant, Business Advisory, Lloyd's Register, said: "This JDP represents a significant step forward for alternative forms of propulsion as shipowners explore options to align with the new EU carbon market requirements and international regulations. As a trusted adviser to the maritime industry, Lloyd's Register is working with partners to validate these innovative energy converters and ensure that they offer maximum savings and benefits."

Amogy's CEO Seonghoon Woo asserted that its ammonia-to-power systems provides a clean energy solution for the maritime industry. He added: "The adoption of Amogy's system presents a strong competitive edge by not only lowering carbon emissions for this hard-to-abate sector but also affecting commercial upside by avoiding European carbon taxes and improving compliance with the CII regulations."

"ROTOBOOST's Marine Hydrogen technology not only generates solid carbon as a byproduct during the hydrogen production process, but also enables LNG to become a compliant fuel many years into the future, in addition to its wide availability and affordability," said the company's CEO Kaisa Nikulainen. He added: "By removing carbon from LNG before it combusts, ROTOBOOST's thermocatalytic decomposition process system transforms what would have become CO₂ into a highly valuable solid carbon. This approach bridges the gap between economic viability and environmental sustainability. This Joint Development Project combines commercial and technical expertise to explore emerging emissions reduction technologies, ultimately driving shipping's decarbonisation through truly sustainable solutions."

LR issued a feasibility statement for Amogy's Technology Qualification Plan in February this year and issued Approval in Principle to Rotobost's pre-combustion carbon capture system in March 2023.

Meanwhile, in separate development, the UK's Imperial College London and the Maritime and Port Authority of Singapore (MPA) have signed a memorandum of understanding (MoU) aimed at advancing innovations in zero carbon shipping and achieving Net -Zero port emissions to support the decarbonisation of the maritime sector.

The MPA says the MoU cements a five-year partnership, which brings together scientists and maritime experts from Imperial College London and Singapore, to develop cutting edge digital technologies, including smart port systems, and cybersecurity solutions for maritime Internet-of-Things devices, industrial control and operational technology systems.

Under the MoU, Imperial College London and MPA will also explore talent development initiatives such as student exchange programmes, industry internships, research, teaching and knowledge exchanges with Singapore's universities.

Earlier this year, Imperial College London launched its first overseas research and innovation hub, Imperial Global Singapore, to strengthen UK-Singapore collaboration. The centre, which builds on Imperial College London's long standing partnership with Nanyang Technological University, Singapore, aims to help scientists translate new scientific breakthroughs and technology to commercial application rapidly.



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CRACK-DOWN ON 'SHADOW FLEET'

British government sanctions Russia's sanction-busting tankers

The UK has sanctioned 10 vessels it says are in Russia's 'shadow fleet' that "use illicit practices to avoid sanctions on Russian oil. The move, in September, was described as the "latest crack down on critical revenue sources funding Putin's war machine".

The UK's Foreign, Commonwealth & Development Office (FCDO) said the action would "directly target vessels in Putin's 'shadow fleet', used by Russia as a desperate attempt to undermine UK and G7 sanctions and continue unfettered trade in Russian oil". The 10 vessels targeted are the: *Nikolay Zuyev* (IMO 9610781), *NS Clipper* (IMO 9341081), *NS Corona* (IMO 9341079), *Zaliv Aniva* (IMO 9418494), *Olympiysky Prospect* (IMO 9511387), *Leonid Loza* (IMO 9412347), *NS Asia* (IMO 9413561), *SCF Baltica* (IMO 9305568), *Vladimir Tikhonov* (IMO 9311622) and *SCF Vankor* (IMO 9316127).

According to FCDO, Russia's oil exports are Putin's most critical revenue source for funding his illegal war in Ukraine, accounting for roughly a quarter of the Russian budget in 2023.

An FCDO statement said: "The ships targeted are all 'high-volume offenders'

– vessels operating around the clock to transport as much Russian oil as possible. These ships will now be barred from entering UK ports and will be refused access to the UK Ship Register. Just three of the vessels targeted today; *Nikolay Zuyev*, *NS Asia* and *Zaliv Aniva*, have collectively carried more than US\$5 billion worth of Russian oil since Russia's full-scale illegal invasion begun."

Announcing the additional sanctions, British Foreign Secretary David Lammy said: "Putin's war machine is funded by a dark and illicit economic system that this government is committed to destabilising. Today's sanctions further undermine Russia's ability to trade in oil via its shadow fleet. Alongside our partners, we will continue to send a stark message to Russia that the international community stands with Ukraine, and we will not tolerate this illicit fleet."

He added: "Russia has been forced to spend over \$8 billion amassing this shadow fleet. But with sanctioned tankers loitering and unable to load oil, we are determined to make Putin's investment an expensive misstep for the Kremlin. Our action will help to counter Russian attempts to undermine and dodge

economic sanctions. Previous UK action against individual shadow ships have left vessels materially disrupted, with the vast majority of them idling outside ports, and unable to carry on their trade in Russian oil."

Today's announcement brings the total number of 'shadow fleet' ships specified to 25 and followed the UK's 'call to action' in July which aimed to "bring a halt to this dangerous trade".

According to the FCDO, ships specified under the Russia (Sanctions) (EU Exit) Regulations 2019 are prohibited from entering a port in the UK, may be given a movement or a port entry direction, can be detained, and will be refused permission to register on the UK Ship Register or have its existing registration terminated. In addition, the Oil Price Cap exception is not applicable to services in relation to specified ships, or to the supply or delivery of Russian oil or oil products in specified ships. The UK's Office for Financial Sanctions Implementation has published guidance on the Russian Oil Services ban. Limited exceptions apply and licences may be granted for specified ships, as set out in Part 7 of the Russia (Sanctions) (EU Exit) Regulations 2019.



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New Projects

ReSeaWorld continues to expand its influence across Europe, built in longstanding relationships and market insights to deliver top-tier services. We have established strong connections across key markets, where our tailored solutions and specialized offerings have made us the go-to provider. These strategic efforts underline our commitment to fostering trust and delivering unmatched value.

New Hires

We are proud to welcome a new wave of talented professionals to our growing team which all share a common passion for excellence. These new hires bring a wealth of expertise across various disciplines to integrate with our current and future day-to-day business aspects. Their diverse skills and fresh perspectives are set to fuel innovation and enhance our ability to serve clients with even greater efficiency and care. As we expand, we continue to prioritise creating a dynamic workplace where innovation thrives and collaboration drives success.

New Office Space in Italy

Our recent move to larger, modern offices in Torre del Greco, Naples, is a reflection of ReSeaWorld's growth and forward momentum. This upgraded space is more than just an office; it's a hub designed to enhance employee well-being and productivity, providing a vibrant and collaborative environment that inspires creativity and efficiency. Equipped with the latest tools to support our team in delivering exceptional service with readiness to tackle future challenges and capitalize on new opportunities.

The new operational headquarters seamlessly integrates with our Greek branch office, fostering a unified approach to serving our clients. Together, our Italian and Greek teams work in close coordination to deliver unparalleled service, supporting customers wherever their ships make port calls, spanning nearly every corner of the globe.

Adoption of new Digital Systems

ReSeaWorld is adopting advanced digital systems to optimise operations and enhance client experience. From real-time tracking and data analytics to automated reporting and predictive tools, these technologies help us streamline processes and reinforce our leadership in a rapidly evolving industry while enhancing our decision-making, and improve client satisfaction.

Looking Ahead

"The move marks a significant milestone for ReSeaWorld," said Valeria Sessa, CEO and Founder. "The new offices symbolise not just our growth in numbers, but our readiness to embrace the future with energy and determination. We're expanding not only in size but also in the scope of our ambitions."

Adding to this exciting period of growth, Valeria Sessa was recently honored with the "Lady of Shipping" award at the second edition of the Ship2Shore Awards in Genoa. This recognition celebrates her unwavering commitment to professionalism in the maritime industry, as well as her leadership in expanding ReSeaWorld's global presence. It serves as a testament to her

tireless efforts in building lasting relationships and delivering exceptional services to the shipping and energy sectors.

With our growing team, innovative projects, and enhanced workspace, ReSeaWorld is positioned to continue its mission of delivering tailor-made solutions to the maritime industry.

We remain committed to building trust, fostering partnerships, and leading with professionalism and integrity.

We all in Reseaworld, would like to extend our heartfelt gratitude to our customers for placing their trust in us as their preferred supplier of bunkers and lubricants.

This expansion stands as a testament to our unwavering commitment to enhancing service delivery and exceeding expectations. Their confidence inspires us to continuously prioritise innovation, reliability, and customer satisfaction in everything we do.

Stay tuned as we chart new waters.

For updates and inquiries, please contact us at:

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PureteQ offers pre-drydocking inspections that assess all components and structural conditions, creating a work scope well before the scheduled drydocking

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When properly maintained, a scrubber system not only provides reliable service performance throughout your ship's lifetime but also reduces operational expenses. A PureteQ pre-drydocking inspection can help you achieve this at lowest possible cost.

PureteQ specializes in designing and maintaining scrubber systems. With established offices in Europe and Asia, PureteQ is a leading service provider for all brands of scrubbers worldwide, backed by extensive expertise in exhaust gas cleaning. PureServ, PureteQ's certified service organization, supports shipowners and operators in ensuring the continuous operation, reliability, and MARPOL compliance of scrubbers through a dedicated team of experienced marine engineers.

ENERGY OPTIMIZATION AND MINIMAL CARBON FOOTPRINT

PureteQ Maritime Scrubber Systems are known for their high energy efficiency. Even less efficient systems can be fine-tuned to reduce energy consumption associated with over scrubbing.



Installation of PureteQ scrubber tower



To accommodate this, PureteQ offers all shipowners, with a service agreement, access to Pure-SPOT, a web-based Scrubber Performance Optimization Tool designed to reduce energy consumption across all scrubber systems. Data is automatically uploaded to a cloud-based platform, enabling optimized environmental performance reporting for scrubber-equipped ships.

This tool facilitates reduced operating costs, and improved Carbon Intensity Indicator (CII) rating.

Reducing carbon intensity in shipping is critical to combating climate change and transitioning to a more sustainable, low-carbon future. Many ships are now slowing down and derating engines to save costs and reduce carbon emissions. Prioritizing energy efficiency is essential, as the cost of all energy is high, with low-carbon fuels being even more expensive. Since alternative fuels and onboard carbon capture technologies are still years away from widespread availability, maximizing energy efficiency is the best approach for today.

ALL-IN-ONE SERVICE

A PureteQ Service Agreement provides everything needed to maximize the potential of your scrubber system.

Tailored to fit each ship's operational pattern and crew skill level, it includes, but is not limited to:

- 24/7/365 hotline service
- Spare parts management
- Crew training, offered on-site or remotely via our Internet for Remote Assistance Services (IRAS) – a complete hardware and software installation providing ship-wide WiFi access and real-time support
- Operational advice & reporting
- Certified calibration & sensor replacement program

A scrubber's pH sensor requires calibration every three months, while gas analyzers need it annually. Our sensor replacement program notifies you in advance of calibration needs, delivering a newly calibrated sensor before the old one is sent to us for refurbishment.

PRE-DRYDOCKING INSPECTION

Scrubbers installed around 2018 have accumulated thousands of operating hours, meaning motors, dampers, sensors, and moving parts may now require overhauls or replacements.

The most cost-effective solution is to inspect, replace, or refurbish these components. Since some parts have long lead times, scheduling a pre-drydocking

inspection well in advance of drydocking is wise. This inspection evaluates all components and structural conditions to create a detailed work scope for the yard, crew, suppliers, and stakeholders. PureteQ offers these inspections worldwide, customized to meet the needs of shipowners.

ABOUT PURESERV

PureServ is a registered trademark and certified service organization providing maintenance and support for all scrubbers and sensors. This includes the shipment of critical spare parts and replacement of compliance equipment, such as Continuous Emission Monitoring Systems (CEMS) and Water Monitoring Systems (WMS).

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Operating Uninterrupted for 22 years within the esteemed bunker hub of Fujairah, ranked among the world's top three, OMTI has consistently delivered unparalleled service to discerning clients. The company's commitment to being a dependable and adaptable partner in the Gulf region has solidified its reputation as a premier choice for those seeking superior service. Over 2000 vessels put their trust in OMTI in 2022 for their legacy of reliability and flexibility in an important hub of the global maritime industry.

Boasting a collective experience exceeding 150 years, OMTI's operations team expertly manages a dynamic fleet of SIRE approved and Oil Majors recognized vessels as well as a barge with a mass flow metre capable for quantity determination. Charterers can take pride in selecting OMTI's services, confident in the team's seasoned proficiency. To complement the operations team, strategically positioned offices in Fujairah, Dubai, Singapore, and Greece provide a 360° perspective and seamless contact with the majority of the world's ports and clients.

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OMTI ensures each interaction is marked by punctuality, personalization, and seamless execution. The company adopts a ONE-STOP shop approach, providing tailored fuel procurement, risk management, and bunkering solutions that meet the

specific needs of each partner, reflecting OMTI's commitment to elevating clients' businesses.

In addition to its supplying operations, OMTI maintains a floating storage of 75,000MTs with a mass flow metre fitted for accuracy in quantity and enabling uninterrupted loading – supplying – loading cycles independent of terminal congestions and shortages. This strategic approach offers flexibility and assurance to both OMTI and its clients, aligning with the practical needs of shipping companies.





The proximity of neighbouring ports, Kalba and Khorfakkan, further expands supply options, accommodating the schedules and routes of OMTI's clientele. The company delivers a comprehensive and adaptable approach to fuelling success in the maritime industry, grounded in operational efficiency and strategic foresight.

OMTI specializes in the supply of all distillate and residual grades of bunkers, deploying experienced barge crews and officers for seamless operations. The company pioneered the provision of high-quality Very Low Sulphur Fuel Oil (VLSFO) following the enforcement of the IMO 2020 regulation, maintaining this commitment across all bunker grades.

Integral to OMTI's operational success is a robust supply chain management system that ensures the quality of its products. With meticulous oversight from sourcing to delivery, OMTI adheres to stringent quality standards at every stage. This dedication to a meticulous supply chain empowers the company to consistently deliver bunkering solutions that meet or exceed industry regulations. OMTI stands as a reliable and quality-focused leader in the Fujairah fuel sector.



Since April 2022, OMTI has strategically aligned with Fujairah Engineering Company (FECO), the exclusive fuel supplier in Salalah, Oman. As the operator of the port's bunker terminal and the sole bunker barge in the region, FECO has been providing fuel and Marine Gas Oil (MGO) at the anchorage and berths of the bustling port since April 2022.

Remaining forward-focused, OMTI and FECO are well-prepared to address and fulfill the biofuel requirements of their clients.

With established facilities and enduring relationships cultivated over two decades, the forthcoming milestone in bunkering comes with the assurance of OMTI's steadfast commitment and guarantees.

Oil Marketing & Trading International

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<https://www.oil-marketing.com/>





AXIOM GLOBAL

MAKING WAVES WITH RELIABLE AND SUSTAINABLE SOLUTIONS

Axiom Global, founded in 2019, is a dynamic energy solutions company revolutionizing the sector with innovation and sustainability.

Operating in key regions across the Indian subcontinent, and the Middle East, its diverse portfolio includes Axiom Marine, Axiom Aviation, and Axiom Renewables. Guided by integrity, collaboration, and a relentless pursuit of innovation, it has garnered industry recognition and built trust through its motto:

"Our word is our bond."

Axiom Marine is the cornerstone of Axiom Global's oil and gas network, specializing in efficient and sustainable logistics for global energy transportation. One of the key focuses of the Marine division is the provision of high-quality marine fuels. These fuels are tailored to meet the specific needs of various vessels involved in the transportation of oil and gas. The offerings include reliable bunkering, trading, ship chartering, barge services, risk management and more.

Achievements

Since 2019 right into 2024, Axiom Global metrics showcase its dedication to deliver superior results for its stakeholders and contributing to a sustainable future for the maritime industry.

- 3.5+ Million Metric Tonnes Handled
- 7,000+ Ship-to-Ship Transfers
- 50+ Global Team Members
- 100+ Satisfied Customers

Innovating Across Borders

Axiom Global strategically operates its oil and shipping services across key markets in the Indian subcontinent, and the Middle East, delivering essential energy solutions with reliability and expertise.

It has offices in Dubai and Fujairah in United Arab Emirates, Singapore, and Cochin, Mumbai, Visakhapatnam and Kandla in India.

Fuelling Your Global Operations Across High-Performance Marine Fuels

Provides a comprehensive portfolio of tailored fuel blends, including low-sulphur options and high-quality bunker fuels, which comply with international standards like ISO and MARPOL, as well as local norms to meet the diverse needs of oil and gas vessels. The product portfolio includes Marine Fuel Oil, Gas Oil, Petrochemicals, Marine Lubricants and other petroleum products.

Manage Price Risks

Risk management plays a very important role at Axiom. The company identifies threats to client's margins from unstable fuel prices and mitigate their oil price risk exposure in a volatile market. It's hands-on approach allows customers access to real-time updates on changes in market conditions. It also offer spot prices and prices linked to benchmarks like Platts, Bunker Wire, and more.

Seamless Vessel Chartering

It leverages industry relationships to secure reliable charters that match customer's cargo and route requirements.

Expert Route Planning & Optimization

The experienced team plans efficient shipping routes to minimize fuel consumption and maximize operational efficiency.

Global Reach & Competitive Pricing

The extensive network ensures competitive fuel prices at major and minor ports worldwide.

Advanced Fuel Delivery Systems

The online bunkering platforms allow for seamless order placement, real-time cargo tracking, and electronic documentation (eBDNs) for faster turnaround times and reduced paperwork. The company implements Electronic Bunker Delivery Notes (eBDNs) to digitize bunker operations, reducing paperwork and optimizing data use. This streamlines operations, boosts efficiency, and lowers environmental impact across the supply chain.

Expertise – The Backbone of Bunkering Services

Prioritizing unwavering quality and reliability by sourcing fuels from reputable suppliers and adhering to stringent international standards. Safety is paramount, and it collaborates with regulatory bodies to ensure the highest safety standards throughout the transportation process.

Committed to sustainable practices by exploring cleaner-burning fuel options like LNG and partnering with others to promote sustainable shipping.



Axiom Global



HAWKS COLOMBO PVT LTD

One of the leading bunker fuels in Sri Lanka

Hawks Colombo Pvt Ltd commenced physical supply operations at the start of 2024. The company is proud to bring the well-known Hawks brand to the Sri Lankan market.

Hawks Colombo deploys two fully owned bunker barges in Sri Lanka, MT Hawks Majesty (8,750 DWT) and MT Hawks Victory (2,950 DWT) in Sri Lanka.

Our barges deliver VLSFO 0.5% and LSMGO 0.1% in all Sri Lankan ports, including Colombo, Galle, Trincomalee and Hambantota.

Hawks Colombo is committed to be a market leader in the physical supply of bunker fuels in Sri Lanka, with a clear aim to expand our assets and operations in the country.

The Hawks Group is the leading supplier of bunkers, ship agency and a full range of support services to vessels in the Maldives, where we have been active for 18 years.

In Maldives we own a 30,000 cu.m tank storage, 3 floating storage tankers, 15 gasoil barges and 50 other craft, including tugboats, landing craft, support craft and launches.

To support our oil supply and trading activities in Maldives and regionally, Hawks owns and operates 5 clean product tankers trading cargoes internationally.

The Hawks Group has bunker trading offices in Maldives, Dubai, Singapore, Shanghai, Kuala Lumpur and Monaco. We focus on the timely delivery of quality bunker fuels at competitive prices, maintaining the highest levels of service.

In addition to bunker supply, tanker ownership and oil trading, Hawks controls a diversified group active in shipbuilding and repair, light industry, petrol station networks, hotels, construction, real estate and numerous service sector industries.

www.thehawks.biz

FOR YOUR BUNKER ENQUIRIES IN SRI LANKA PLEASE CONTACT OUR TEAM



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ENACOL, CONNECTING CONTINENTS

Based in Cape Verde, strategically located on the main maritime routes between Europe, West Africa and the Americas

ENACOL, offers high quality fuels and lubricants and ensures efficient delivery service to all types of vessels:

Guaranteed Marine fuels quality according with ISO 8217: 2017 standards:

- LS MGO Max 0,1%S (constant availability)
- IMO 2020 Compliant Fuel Oil with max 0.5% Sulphur Content
- Competitive prices in the region
- Safe and efficient supply service
- Fleet compliant with international standards: MARPOL, SOLAS, ISPS and ISM
- High quality lubricants in partnership with GALP-LUBMARINE

Enacol can deliver bunker fuels to international fleets in Cape Verdian main ports of **Mindelo** (alongside berth and anchorage) and **Praia** (service alongside berth only) by barge, truck or pipeline.

Mindelo have been reinforcing its position as a recognized and specialized "bunker-only" port due to its perfect anchorage conditions for a safe and efficient quick turnaround bunker operation without congestion, bad weather or security risks.

The port, supported by an international airport nearby and quality hotels for accommodations, offers a wide range of

maritime services, such as crew changes, spare parts supply, ship chandling, sludge disposal, fresh water, among others.

We look forward for your enquiries!

Phone: (+238) 5346065;

Mobile: (+238) 9968405; (+238) 991 5964

E-mail:

bunker@enacol.cv | energia@enacol.cv

www.enacol.cv



GOIL
Good energy

GOIL PLC
PROFILE

GOIL PLC (GOIL) is a Public Listed Oil Marketing Company. The company is ISO 9001:2015 as well as ISO 14001:2015 Certified. GOIL has as its subsidiaries, GOEnergy Limited, a Bulk Distribution Company, GOIL Upstream Limited to cater for its offshore business and GOBITUMEN Limited, a joint venture bitumen production and distribution company.

GOIL is currently the market leader in additivated premium quality fuel (Super XP RON 95 and Diesel XP) and has the largest and growing retail network in Ghana with over 440 stations. The marketing arm is represented in eight zones country-wide. GOIL also supplies Mining Diesel and lubricants to mining firms and the leading LPG marketer in Ghana.

GOIL supplies Marine Gas Oil, (MGO) at offshore and Anchorage through ship-to-ship (STS) via ex-pipe, and Road Tank Wagon (RTW) from three main ports, Tema and Takoradi as well as the Sekondi Naval Base and markets premium Lubricants some of which are blended locally. GOIL also supplies aviation fuel to major Airlines.

In line with GOIL's commitment to contribute towards building a resilient national economy with free-flow of goods and services, the company has taken steps to diversify its product range by constructing a 35-million-dollar Bitumen plant in Tema. The plant is expected to supply higher- grade Polymer Modified Bitumen (PMB) for the expansion of the nation's road network.



TANK YOU.

For relying on our **40 years** of experience in marine bunkering in the Mediterranean and for realizing that this headline truly means what it says.

BUNKEROIL.IT

+39 0586 219214

bunker@bunkeroil.it

BUNKEROIL.

PHYSICAL SUPPLIER AND BUNKER TRADER IN THE MEDITERRANEAN SEA

Passionately engaged in the bunkering and supply of marine lubricants for over 40 years

Throughout this period, we have earned the trust of many prominent shipowners and have become the reference supplier in the Mediterranean, relied upon by foreign shipowners when they navigate our waters.

We work with passion, both as a physical supplier and as a trader, aiming to cover all ports where our clients need to refuel.

Our experience as a physical supplier in Italy has taught us that shipowners today place increasing importance on service, precise and timely communication, continuous management along the entire supply chain and expertise in proactively addressing any unexpected issue. In addition we ensure the maximum attention is paid to the quality of the products delivered.

Given the high price levels that marine fuels have reached in recent years, financial services enabling tailored and deferred payment conditions for the customer have become a decisive factor, allowing us to differentiate ourselves from competitors and expand our clientele.

In recent years, we have heavily invested in expanding our know-how and expertise in the field of alternative fuels and also managing the energy transition in the marine sector. As a result, we are now able to offer many clients, upon request, our consultancy service on alternative fuels.

In ports where we act as physical suppliers, we work to complement our comprehensive offering of traditional fuels with biofuels capable of immediately reducing greenhouse gas emissions.

Furthermore, in various ports where we operate as traders, we are collaborating with different suppliers to ensure that alternative fuels are increasingly integrated into the package of solutions offered to the customer.

We also operate as a physical supplier and as a trader of marine lubricants. In 2018 we launched a constantly stocked lubricants storage service as leading ExxonMobil Distributor for the local market in Italy.

BUNKEROIL CONTACTS:

For bunker enquiries please send an e-mail to: bunker@bunkeroil.it

For lubricant enquiries please send an e-mail to: lubricant@bunkeroil.it

Phone: +39 0586 219214

Address: Via Pietro Paleocapa 11, 57123, Livorno, ITALY.

EVENTS DIARY 2025

24 FEBRUARY 2025

**IBIA ANNUAL DINNER 2025
LONDON, UNITED KINGDOM**

Join us for an unforgettable evening on Monday, 24 February 2025, at the luxurious Grosvenor House Hotel for the IBIA Annual Dinner—a prestigious event dedicated to our valued members and guests. Renowned for fostering connections and creating lasting memories, this must-attend gathering in the bunker industry sells out quickly, so book your tickets soon. For more information: <https://ibia.net/event/ibia-annual-dinner-2025/>

26 MARCH 2025

**IBIA ASIA GALA DINNER 2025
SINGAPORE, ASIA**

Join us at the IBIA Asia Gala Dinner 2025, a key feature of the Singapore Maritime Week's (SMW) social calendar, gathering over 220 industry leaders, stakeholders, and professionals from the bunkering, marine energy and maritime sectors. The evening will offer an unmatched opportunity for connecting with peers, exchanging insights, and celebrating industry achievements in a sophisticated setting.

For more information contact:
<https://ibia.net/event/ibia-asia-gala-dinner-2025/>

24 – 27 MARCH 2025

**MARITIME WEEK AFRICA
MAURITIUS**

Maritime Week Africa, will debut in Mauritius from March 24-27, 2025. Hosted at the Hilton Mauritius, it will bring together top marine fuel professionals, including bunker buyers, suppliers, ports, and regulators, to address key industry issues and opportunities in Mauritius, Africa, and globally. For more information: <https://www.petrospot.com/events/mwaf25>

1 – 3 APRIL

**CMA SHIPPING
STAMFORD, UNITED STATES**

CMA Shipping is North America's most influential gathering of maritime professionals and will return for its 40th edition on April 1-3, 2025. For more information: <https://www.cmashippingevent.com/en/home.html>

7 – 9 APRIL 2025

**THE NIGERIA INTERNATIONAL BUNKER INDUSTRY
CONFERENCE 2025 (NIBIC 2025)
LAGOS, NIGERIA**

IBIA is a proud supporting association of the inaugural Nigeria International Bunker Industry Conference 2025 (NIBIC 2024), which will bring together stakeholders from Nigeria's oil, gas, and maritime sectors to explore bunkering opportunities, regulatory issues, maritime security, and the impact of energy transition and IMO 2020 on West Africa. This three-day event will feature presentations, panel discussions, and a focus on women's participation in the maritime industry. For more information: <https://nibunkerindustryconference.com/>

7 – 9 APRIL 2025

**FUJCON
FUJAIRAH, UNITED ARAB EMIRATES**

IBIA supports the 14th International FUJCON, hosted by S&P Global Commodity Insights with the Government and Port of Fujairah, will be held on April 7-9, 2025, under the patronage of His Highness Sheikh Hamad bin Mohammed Al Sharqi and supported by the Fujairah Oil Industry Zone. For more information: <https://commodityinsights.spglobal.com/fujcon.html>

5 – 9 MAY 2025

**UAE MARITIME WEEK
DUBAI, UNITED ARAB EMIRATES**

A showcase of regional maritime markets, UAE Maritime Week is the essential platform for showcasing the best of local maritime markets across a series of in-person events, conferences and experiences. For more information: <https://www.uaemaritimeweek.com/en/home.html>

6 – 8 MAY 2025

**IBC (INTERNATIONAL BUNKER CONFERENCE)
OSLO, NORWAY**

The 44th International Bunker Conference IBC 44 will be taking a look at new fuel availability, focusing on all potential fuel types, the timelines, challenges and not least the opportunities. Is the green shift slowing down, or are we on the right track? IBC 2025 navigating our energy options, turning challenges into opportunities. For more information: <https://www.bunkerconference.com/>

19 – 22 MAY 2025

**MARITIME WEEK AMERICAS
TAMPA, UNITED STATES**

Maritime Week Americas (#MWA25) returns to the United States in May 2025, to the fabulous new location of Tampa, on Florida's Gulf Coast. MWA25 will look at shipping and bunker markets throughout North, Central and South America and the Caribbean, examining traditional bunker markets and the 'new' fuels whose take-up is rapidly picking up pace. For more information: <https://www.petrospot.com/events/mwam25-tampa>

15 – 19 SEPTEMBER 2025

**LONDON INTERNATIONAL SHIPPING WEEK
LONDON, UNITED KINGDOM**

International Shipping Week will celebrate its 12th anniversary in September 2025, playing host to thousands of international industry decision-makers who will attend the hundreds of official events during the week. For more information: <https://lisw.com/>



All dates were correct at time of going to print but may be subject to change, please review the related websites

TRAINING DIARY 2025

**19 – 20 MARCH 2025
21 – 22 MAY 2025**

**TWO-DAY ADVANCED BUNKERING COURSE
(SS600:2022 & SS648:2019) – MPA APPROVED
SINGAPORE, ASIA**

IBIA offers a 2-day Advanced Bunkering Course that is MPA-approved and designed for professionals looking to deepen their knowledge of bunker delivery processes in Singapore. The course aims to provide advanced knowledge and skills for utilizing the latest industry practices and standards. It is focused on enhancing industry professionalism and improving workforce competitiveness and employability. The program provides formal qualifications recognised by the industry. It creates opportunities for workers to advance their careers through structured training and progression pathways. This measure enhances the career prospects of workers in the bunker industry.

Please note course dates may be subject to change.
For more information contact: noraini.salim@ibia.net

**11 – 12 DECEMBER 2024
16 – 17 APRIL 2025**

**TWO-DAY BASIC BUNKERING COURSE
(SS600:2022 & SS648:2019) – MPA APPROVED
SINGAPORE, ASIA**

IBIA offers a 2-day Basic Bunkering Course (SS600:2022 & SS648:2019) approved by the MPA. This program provides essential knowledge of Singapore's bunker industry and aims to establish a solid foundation for participants. The course covers the guidelines outlined in SS600:2022 – Code of Practice for Bunkering and SS648:2019 in Singapore, including technical and operational principles related to mass flow meters, system integrity, sealing requirements, and processes. Emphasis is placed on personal safety, the necessity of personal protective equipment (PPE), safe boarding practices, dispute resolution, workshop activities, and case studies to enhance learning.

Please note course dates may be subject to change.
For more information contact: noraini.salim@ibia.net

9 APRIL 2025

LAGOS, NIGERIA

IBIA BASIC BUNKER COURSE

IBIA will host a one-day Basic Bunker Course the day before the inaugural Nigeria International Bunker Industry Conference 2025 (NIBIC 2025). This course, led by IBIA Africa Regional Board Member Siyamthanda Maya, is designed to introduce new entrants or those with limited knowledge to the key aspects of the bunker industry.

For more information contact: tahra.sergeant@ibia.net

**19 FEBRUARY 2025 (ROTTERDAM)
12 MARCH 2025 (ANTWERP - BRUGES)
16 APRIL 2025 (ROTTERDAM)
14 MAY 2025 (ANTWERP - BRUGES)**

**THE ROLE OF SURVEYORS IN THE
MFM-EQUIPPED INDUSTRY**

ROTTERDAM, NETHERLANDS & ANTWERP, BRUGES

The bunkering landscape in key European ports, including Rotterdam and Antwerp-Bruges, is on the verge of a significant transformation with the imminent implementation of Mass Flow Meter (MFM) mandates.

Surveyors, who have traditionally played a key role in verifying fuel quantity and quality, will now find themselves with a new and evolving set of responsibilities. To prepare industry professionals for these changes, IBIA, in partnership with C4 Fuel and with the endorsement of the Ports of Rotterdam and Antwerp-Bruges, is offering a highly anticipated one-day course.

For more information contact: sofia.konstantopoulou@ibia.net

All dates were correct at time of going to print but may be subject to change, please review the related websites

WORLD



ADVERTISE IN BUNKERING

Increase your visibility to the global bunker industry with an advert in World Bunkering. The ONLY official magazine to IBIA.
For more information about our media packages or to make a booking please contact our Projects Manager **Alex Corboude**.

Alex Corboude - Project Manager, IBIA's World Bunkering

Tel: + 44 203 935 1474 • **Mob:** +44 7957 472 317

Email: alex@worldbunkering.net

www.worldbunkering.net

WORLD BUNKERING

Q1 2025... NOW OPEN FOR BOOKINGS

Q1 2025

SPECIAL FEATURES:

I.T.

Paper bunker delivery notes will soon be replaced by electronic equivalents. How ready is the industry for this major change? What implications will it have for bunker suppliers and their customers?

.....

Lubricants

We look at the latest developments lubricant manufacturers keep up with challenges created by the move to new fuels.

.....

GEOGRAPHICAL FOCUS:

Western Mediterranean

Our annual survey of the bunkering ports in the Western Mediterranean region. In previous years we have described it as 'located on the main East-West sea route'. To a large extent geopolitics have changed that. What are the consequences for the bunker sectors? Meanwhile, suppliers are having to prepare for the Mediterranean ECA and the increasingly diverse range of alternative fuels.

.....

Americas and Caribbean

Throughout the Americas suppliers are adjusting to the diversity of fuels emerging as the industry moves towards net zero. The cruise industry continues to expand while global shipping is looking forward to less restrictions on Panama Canal transits.

.....

Regular Features

IBIA News, IBIA Africa Report, IBIA Asia Report, Events Reports, Views & Analysis. Plus: Interview – Industry News – Environment – Testing – LNG – Lubricants – Innovation – Legal – Scrubbers – Carbon Capture – Electric Propulsion Methanol – Biofuels – Hydrogen – Ammonia – Alternate Fuels – Diary – Legal Equipment and Services – Diary – Event Previews & Reviews

GOIL PLC OCEAN BUNKERING



GOIL BUNKERING

GOIL PLC has attained the enviable Integrated Management System (Quality, Health, Safety and Environment) and has successfully been certified ISO 9001:2015, ISO 14001:2015. This endorsement attainment makes GOIL PLC stand out among the majority of the Oil Marketing Companies (OMCs), with such international excellence in providing bunkering services in Ghana and towards West Africa Coast.

Our Marine Gas Oil (MGO) meets the requirements of our esteemed clients in accordance with the ISO 8217-2017 fuel standard. GOIL is IMO 2020 - Low Sulphur Fuel (VLSFO 0.5%) compliant. We have built an ultra-modern state of the art bunkering facilities at the Sekondi and Takoradi Ports in Ghana to serve our numerous customers and also deliver by barges through ship-to-ship (STS).

Our barges serve as mobile fuel or filling stations, where our bunkering team supplies MGO and Marine Lubricants offshore across the coast of Ghana to a diversified portfolio of customers.

We leverage on GOIL's brands and sales strategies ensuring a seamless service from product sourcing to delivery by focusing on quality and reliability, thereby guaranteeing product quality, quantity, and availability.

GOIL Bunkering thrives on our customers trust in our management principles which are focused on EHS, quality products, exact quantity or equitable distribution and reliability as well as timely deliveries.

GOIL, GOOD ENERGY.
GOIL, YOUR RELIABLE AND EFFICIENT PARTNER.
GOIL, WE DO IT RIGHT THE FIRST TIME.

KEY ACTIVITIES

Our key activities include, cargo sourcing, marketing, and credit management. We deliver at offshore, anchorage and at ports through Ship-to-Ship (STS) and ports via ex-pipe and Road Tank Wagon (RTW).

KEY RESOURCES

Our key resources include, Cargo Sourcing Network, Sales Network, and Operational knowhow.

SERVICE & PRODUCT

Marine Gas Oil (MGO) and Marine Lubricants.

GOIL OCEAN BUNKERING STRENGTH

MARKETING ABILITY

We provide high quality product and Service. Our product is on-Spec, on-time, accurate quantity ensuring value-for-money and nationwide sales network.

OPERATIONAL EXCELLENCE

We have an excellent team of highly trained professionals equipped with a wealth of knowledge in marine industry practices.

COMPETITIVE EDGE

We operate in a very competitive environment and therefore employ best in class competitive strategies. We have been able to weather the storm with our experience onshore, and expertise in the field of bunkering to maintain the number one spot in the industry.

OPERATIONAL AREA

We cover offshore, anchorage, and ports in Tema and Takoradi.



email: bunkers@goil.com.gh
website: www.goil.com.gh



Think smart – Supply fast

Seamless Bunkering Services Across Sri Lanka's Coastline

We provide bunkering services at **every major port in Sri Lanka**, with a dedicated tanker barge at Galle Port for maximum efficiency. Benefit from fast turnaround times and high-quality fuels.



 **IBIA**
2025 ANNUAL
DINNER

PLATINUM SPONSOR

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