

# Sea ASIA Voice

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## The Opportunities In Meeting Shipping's Decarbonisation Challenges

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# The Opportunities In Meeting Shipping's Decarbonisation Challenges

By Marcus Hand, Editor of Seatrade Maritime News



The multi-trillion dollar task of decarbonising the global shipping fleet and reaching net zero emissions by 2050 presents both huge challenges and opportunities.

It is not a task that can be achieved overnight as it involves tens of thousands of existing vessels, many with significant lifespans of 20 years or more to go, and then a massive number newbuildings equipped for new fuels and engine types which to large extent don't even exist yet.

The challenge essentially splits into three with the existing fleet, newbuildings that are being ordered today, and future zero-emission vessels yet to be built.

The existing fleet is currently dealing with the challenges of the new International Maritime Organization's (IMO) regulations Energy Efficiency Existing Index (EEXI) and Carbon Intensity Indicator (CII). According to classification society executives compliance with EEXI and CII for most vessels can be met at the present phase with the use of optimisation tools and engine power limitation. For a small number of vessels retrofits are also required.

For owners looking for greater efficiency and fuel cost savings, there are a variety of retrofit options available including bulbous bow refits, Mewis ducts, air lubrication, rotor sails, and even wind shields fitted onto the front of containerships to reduce

aerodynamic drag. While none of these options will enable shipowners to meet net zero emissions, they can significantly reduce the carbon footprint of an existing fleet.

There is also the possibility of engine retrofits to run on alternative fuels such as LNG, but these remain expensive and time consuming even for vessel with alternative fuel "ready" notations from classification societies. Engine makers such as Wartsila are working on new retrofit kits which should be significantly lower cost and not require lengthy stays in drydock.

Another option that is in early stages is carbon capture and storage (CCS). The first CCS scrubbers, which not only remove sulphur from high sulphur fuel oil (HSFO), but also remove and store CO<sub>2</sub> in special tanks on the vessel are starting to come on the market. Eastern Pacific Shipping has retrofitted a CCS scrubber onto the Pacific Cobalt, which will capture up to 40% of CO<sub>2</sub> emissions from main and auxiliary engines. CCS solutions give an immediate pathway to reduce emissions but are in their infancy and there needs to be development of the market and supply chain for captured carbon emissions.

When it comes to newbuilding orders in the present market and recent years, dual-fuel capabilities have become increasingly common. In 2022 dual-fuel and dual-fuel

ready contracts accounted for more than half of all tonnage ordered.

Until recently LNG has dominated dual-fuel newbuilding contracts. According to DNV's Alternative Fuels Insight, at the end of 2022, the tally of LNG-fuelled ships either in operation or on order totalled 876 ships, with 104 vessels powered by LNG commissioned during 2022. However, methanol dual-fuel vessels are becoming more popular and in February this year, 22 methanol-powered newbuilds were ordered compared to 10 with LNG propulsion.

Looking further ahead to future new buildings, the first ammonia-fuelled ships are expected to be on the water by the middle of the decade, with green ammonia offering a pathway to zero emissions, although it would also require the development of fuelling infrastructure. There are also developments around hydrogen fuel cells primarily on smaller vessels such as ferries at this stage.

But with many of the world's top shipyards already full up with newbuilding orders through to 2026 and 2027, and zero emission technology and infrastructure in its nascent stages, reducing emissions on the existing remains the immediate challenge.

Join Sea Asia 2023 as it serves as a platform to discuss and explore the latest developments in decarbonisation solutions for the maritime industry. One of the highlights is the Decarbonisation Solution Arena, which showcases the latest technologies, products, and services for reducing emissions and achieving net-zero targets.

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**ABS and Affiliated Companies** - A leading global provider of classification and technical advisory services to the marine and offshore industries, is committed to setting standards for safety and excellence in design, construction and operation.



**DNV** - An independent assurance and risk management provider, operating in more than 100 countries. As the world's leading classification society and recognized advisor for the maritime industry, DNV enhances safety, quality, energy efficiency and environmental performance of the global shipping industry – across all vessel types.



**The French Chamber of Commerce in Singapore** - Belongs to a worldwide network of 127 French Chambers (CCIFI) in 92 countries with over 37,000 companies. We represent a dynamic business platform of over 650 companies and individual members representing a total network of 7,000 contacts in Singapore



**International Trade Promotion Center of Jiangsu Province** - In China, entrusted by Department of Commerce of Jiangsu Province is responsible for the organization and implementation of international trade fairs and expositions which are sponsored, co-sponsored or participated by Department of Commerce of Jiangsu Province, and the organization of various trade promotion activities.



**Lloyd's Register** – A global professional services company specialising in engineering and technology for the maritime industry. We are the world's first marine classification society, created more than 260 years ago to improve the safety of ships. Trusted maritime advisers, partnering with clients to drive performance across the ocean economy.



**ROBOT++** - With the mission empowering humans with robots, ROBOT++ is specialized in the development of robots for the asset intensive industries such as maritime, petrochemical and process industries. To date, over 300 robots have been deployed with 50 operators such as CSSC, COSCO, CNPC and Vopak.



**SICK** - From factory automation to logistics automation and process automation, SICK's sensor solutions are keeping industry moving. As a technology and market leader, SICK provides sensor intelligence and application solutions that create the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents, and preventing damage to the environment.



**Singtel Satellite** - Asia's leading managed satellite solution provider. With a strategic focus on Maritime communications, Singtel engages the key needs of Maritime customers with broadband satellite communications and digital solutions in Cyber Security, Crew Welfare, Operational Efficiency and Control & Monitoring for ship and shore.



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**Sino Satellite Communications** - Founded in 1994, Sinosat is a core subsidiary of China Satcom, engaged in application services of space-earth integrated satellite communication. MarineTel is a brand of maritime VAST broadband sitcom.



**Wilhelmsen Ships Service** - Supplying market-leading marine solutions, including the Unitor™ and Nalfleet™ brands of products, Timm™ ropes and Unicool™ refrigerants, Wilhelmsen Ships Service has an extensive global maritime supply network in over 2,000 ports, and in more than 100 countries.

and many more..



# Sea Asia 2023 features a brand new and exciting showfloor with dedicated zones and top-level networking opportunities



Sea Asia Academy is designed to provide professional development and dedicated learning opportunities for maritime industry stakeholders. The Academy is in partnership with leading industry professionals, top-notch consulting firms and industry bodies to provide continuous education and training in the Maritime sector especially tailored for the critical areas with a solution-oriented course outline.



MarineTech exhibition features PIER71™, which is a leading Innovation and Technologies Bay that showcases start-ups and maritime community solutions aimed at advancing the challenges and adaptation of digitalisation in the maritime industry.



Sea Asia Executive Networking is a series of exclusive maritime industry dialogues\* in a confined setting. The sessions are aimed at providing access to critical market information and enabling connections among senior decision-makers and subject matter experts. They are customised and designed to discuss commercial, technological, solutions to net-zero challenges and to forge partnerships in a formal yet relaxed setting.

*[\*By-Invite only]*



Sea Asia will bring to light a plethora of innovative decarbonisation technology that are to tackle environmental challenges and make a business case. The dedicated Decarbonisation Solution Arena is designed to help the shipping industry navigate the transition and to be a one-stop solution area for a showcase of the latest climate-friendly technologies.



Sea Asia centre stages a Marine Fuel and Lubricant marketplace as the industry continues to evolve and accelerate towards decarbonisation goals.



Sea Asia unlocks commercial opportunities and drives connection for various essential marine suppliers across the value chain.

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