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INDIA'S MARITIME SECTOR FACES A PIVOTAL MOMENT

Capt Ramji S Krishnan
Sloan Fellow, London Business School





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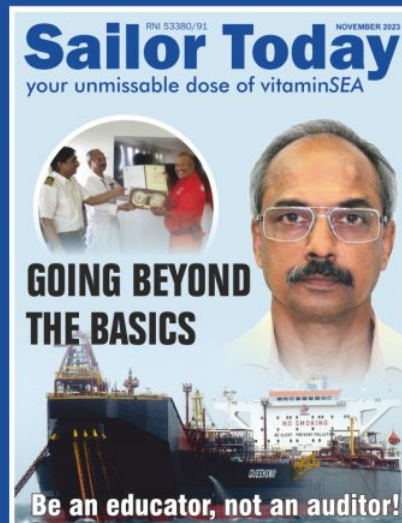
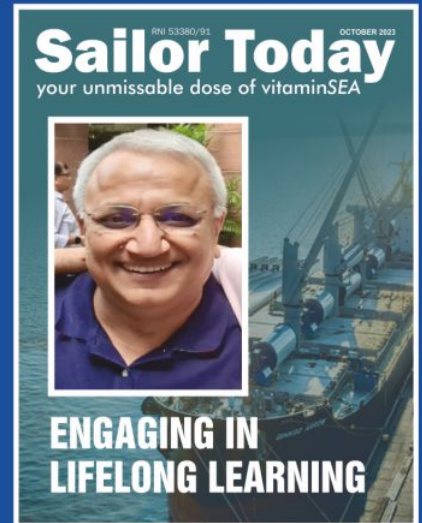
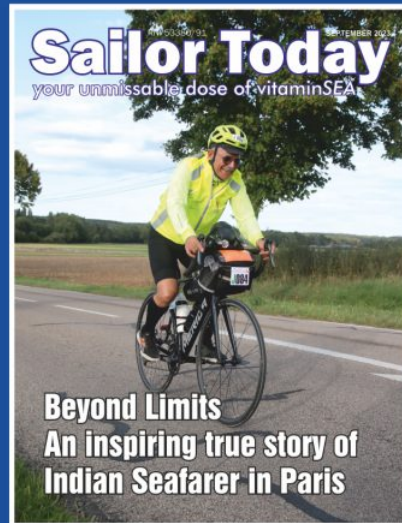
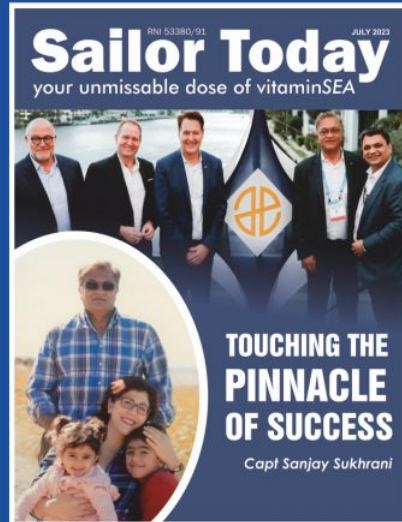
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Navigating the Turbulent Waters of India's Maritime Industry



Capt Ramji S Krishnan

Sloan Fellow, London Business School

“When confronted with facts I change my opinion. What do you do Sir?”

JM Keynes

INTRODUCTION:

India's maritime sector faces a pivotal moment grappling with the challenges posed by the Directorate General of Shipping's (DGS) Order 06 of 2023 and the formidable task of transitioning to alternative fuels. This article critically analyzes the implications of the DGS order, shedding light on its potential impact on the shipping industry and the hurdles anticipated during its implementation. Additionally, it explores the challenges shipowners confront in adopting alternative fuels, delving into the associated retrofitting costs and operational implications.

DGS ORDER 06 OF 2023: A DOUBLE-EDGED SWORD

Effectively enforced since February 24,

2023, the DGS Order establishes age limits for vessels, ranging from 25 to 40 years based on their type. While designed to bolster maritime safety and mitigate environmental risks, the order presents challenges for both Indian and foreign-owned vessels. This article scrutinizes the intricacies of the age limits, exemptions for existing vessels, and the three-year operational window granted to affected ships.

The age norms policy encompasses a broad spectrum of vessels, encompassing both Indian and foreign-owned entities. It casts a regulatory net over various vessel types, including tankers, bulkers, and general cargo vessels, subjecting them to the policy if they surpass 25 years of age. However, a nuanced approach is taken, with the age limit extended to 30 years for specific categories such as containers, gas/chemical carriers, cement vessels, harbour tugs, and specialized vessels like diving support, geo-technical, pipe laying, seismic survey, well simulation, and accommodation barges. Dredges, operating under specific conditions, face an extended age limit of 40 years.

The correlation between the age of ships and marine accidents is often complex – Sailor Today – “Argumentum Fortiori”

For newly acquired second-hand ships by Indian entities and vessels registered under the Indian flag state, a distinct age limit of 20 years is uniformly applied across all categories. These regulations extend their reach to encompass commercial ships, whether chartered or owned, by Indian shipping companies or foreign-flagged vessels engaged in trade within the Exclusive Economic Zone of India. This comprehensive approach aims to regulate vessel age across diverse categories, ensuring safety, operational efficiency, and adherence to global maritime standards.

For all 'existing vessels' impacted by this stipulation, irrespective of their age, a grace period is granted allowing them to operate for a duration of up to 3 years from the date of the order. The term 'existing vessel' is defined as a vessel already registered under the Indian flag state on or before the order's issuance date. Furthermore, it includes a vessel for which a Memorandum of Agreement had been initiated for acquisition, with the buyer having deposited at least 10% of the purchase price on or before the order date. Notably, this provision is extended to foreign-flagged vessels falling under Section 406 and 407 of the MS Act.

DGS Order No. 06 of 2023, issued by the Directorate General of Shipping (DGS), India, is based on the following key premises / principles:

1. The Merchant Shipping Act, 1958, aims to develop and maintain the Indian mercantile marine efficiently, aligning with national interests.
2. Ensuring quality tonnage is crucial for the secure growth of the maritime sector and sustainability in ocean governance.
3. The safety of life at sea relies on the quality of tonnage registered under a country's flag.
4. Despite the declining global fleet age, the average age of Indian tonnage is increasing, necessitating the modernization of the Indian fleet.
5. To meet International Maritime Organization (IMO) targets for greenhouse gas reduction, vessels must transition to alternate fuel ships. Age norms facilitate the gradual phase-out of fossil fuel ships and promote energy-efficient alternatives.
6. Modernizing the Indian fleet requires a comprehensive review of ship registration and operation requirements to ensure quality tonnage under the Indian flag.
7. Establishing a level playing field for Indian ships involves applying quality tonnage requirements to foreign-

Indian coast is neither a high accident density area nor an area of high relative accident density - Sailor Today – “Argumentum Fortiori”

flagged vessels, mandating compliance with Sections 406 & 407 of the Merchant Shipping Act, 1958.

We evaluate some of these premises below.

Premise 1 - The safety of life at sea relies on the quality of and age of tonnage and thus we need to modernize Indian tonnage –

India's prohibition on vessels surpassing a specified age threshold stems from a multifaceted rationale. Foremost among these reasons proffered by the DGS order is the paramount concern for safety associated with aging ships. The Order posits older vessels are inherently more susceptible to accidents and breakdowns, posing an elevated risk that can result in events with severe consequences, including environmental damage and potential loss of human lives. Through the imposition of restrictions on ships exceeding a certain age, the Indian government endeavours to elevate safety standards,

mitigating the probability of mishaps within its ports. However, as we found in our earlier studies this assertion is simply not true.

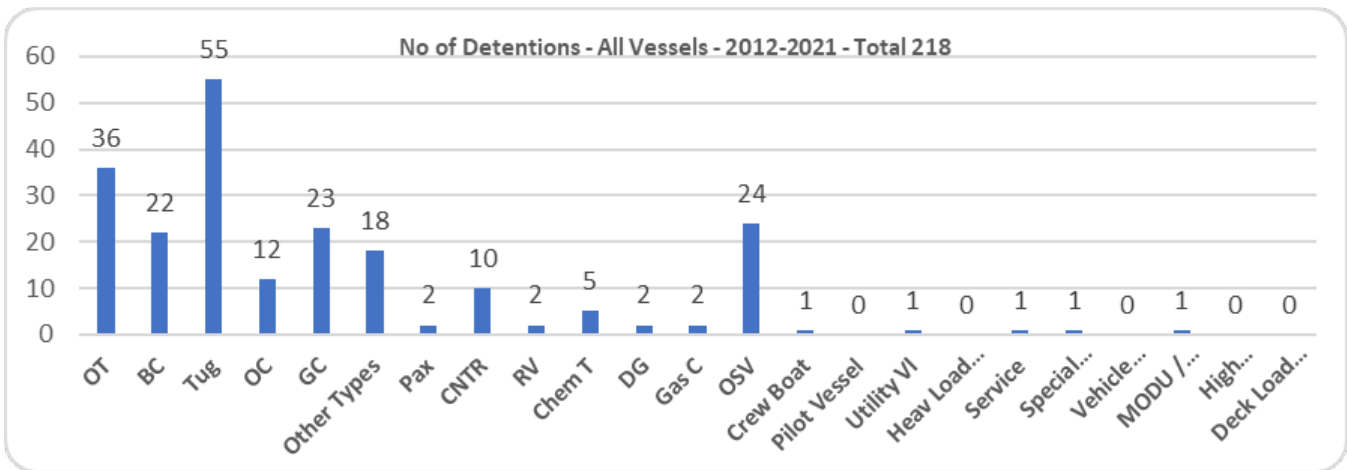
The DGS fulfils its obligation under United Nations Law of Sea (UNCLOS) by carrying out Flag State Inspections (FSI) of Indian flag vessels. FSI regime is implemented based on age, that is, more the age of a vessel - more frequent are the number of inspections. We lay out statistics culled out from the Annual Reports compiled by the DGS on FSI.

The graph shows a total of 218 vessel detentions for ALL Vessel types between 2012-21. However, as we can see from the graph of these 218 detentions, approximately half (108 detentions) were of OSVs, Tugs, Other Types of vessels. We then address an interesting question of the age profile of groups of vessels detained –

More importantly, a significant number of vessels (63 vessels) below 20 years also have been detained.

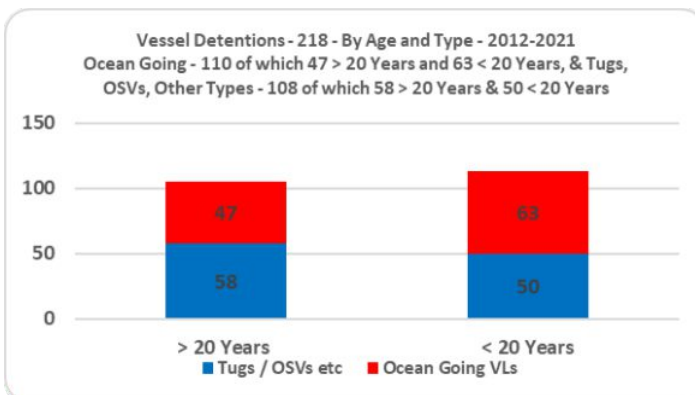
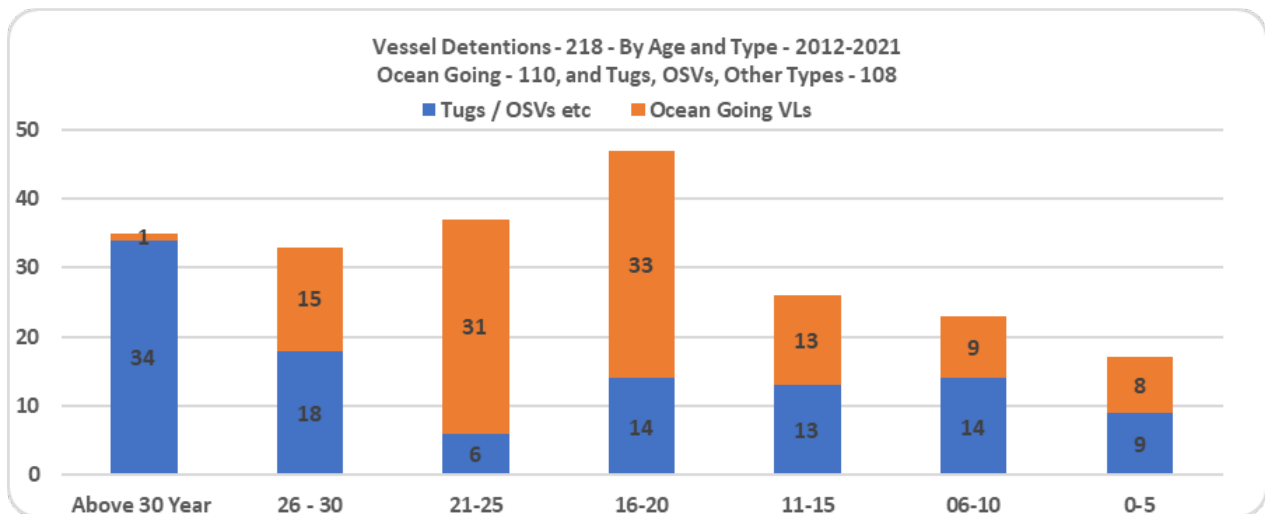


A lack of port state supervision allows older and poorly maintained vessels to continue trading thereby increasing risks - DNV



The data begs a question as to how many of these detentions were age related? Unfortunately, we do not have adequate data to answer that question!

More importantly, experts have pointed out that the DGS order goes against the International Maritime Organization's (IMO) guidelines, which do not specify an age limit for ships.



Premise 2 - The average age of Indian tonnage is increasing -

However, our analysis showed otherwise and is as below -

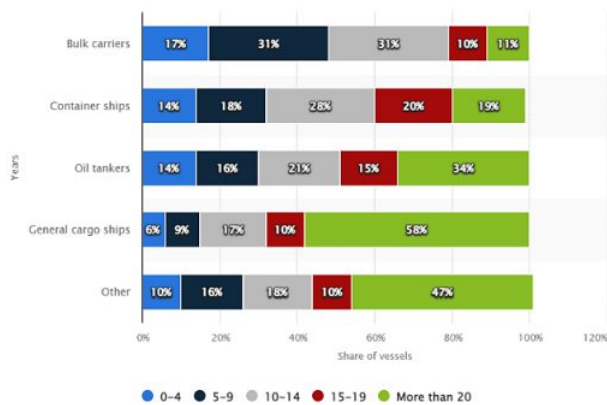
As of 2022, the average age of all vessels in the world merchant fleet (Source: Statista) was just over 20 years. General

How many of the detentions by FSI were age related? We do not have adequate data to answer!

cargo ships were the oldest type of vessels, with an average age of around 27 years. Approximately, 68 percent of the world's cargo ships were older than 15 years, in contrast with about 21 percent of bulk carriers.

The average age of ships > 5,000 GT under Indian Register of Shipping (IRS) is 17.4 years. Over 72% of such vessels classed under IRS are aged equal to or less than 20 years. Due to time constraints we could not get age profile data for each ship type. However, it is well known that bulk of those aged > 20 years are OSVs, Tugs, Other Types of vessels and not ocean-going vessels.

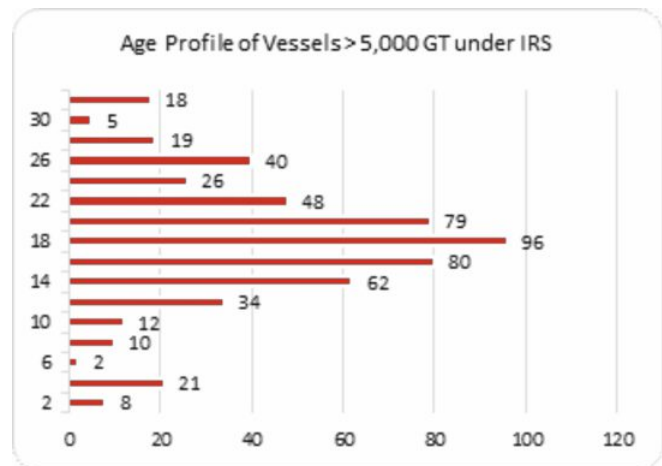
Age distribution of the world merchant fleet in 2022,



Premise 3 - The order on Age norms facilitates the gradual phase-out of fossil fuel ships and also promote energy-efficient alternatives using alternative fuels to meet IMO targets -

India's vessel age norms aim to promote modern, fuel-efficient ships, addressing environmental concerns and aligning with global commitments. The ban enforces age-specific safety checks, emphasizing stringent standards for operational safety and environmental sustainability, reinforcing the nation's commitment to reducing greenhouse gas emissions

ANNUAL FUEL CONSUMPTION REPORT –



AS OF 2022, THE AVERAGE AGE OF ALL VESSELS IN THE WORLD MERCHANT FLEET WAS JUST OVER 20 YEARS. AS OF 2024, AVERAGE AGE OF INDIAN FLEET CLASSED BY IRS (> 5,000 GT) IS JUST 17.4 YEARS

Statista & IRS

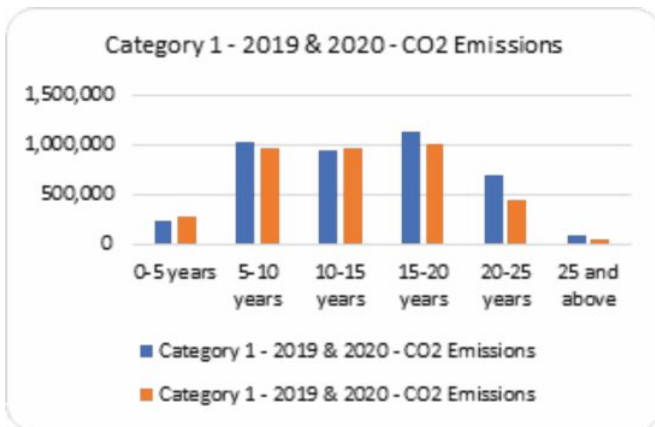
India actively addresses greenhouse gas emissions, as per DG Shipping Circular 2 of 2018. DGS extends IMO's Data Collection System requirements nationally, covering all Indian Flag vessels under the Merchant Shipping Act, creating a holistic maritime emissions inventory.

On average, FSI detained around 22 Indian-flagged vessels annually between 2012 and 2021. Of these detained vessels only 12 vessels / year were over 20 years old!

As stipulated in the DGS Engineering Circular 2 of 2018, the ships have been divided into 3 categories as below:

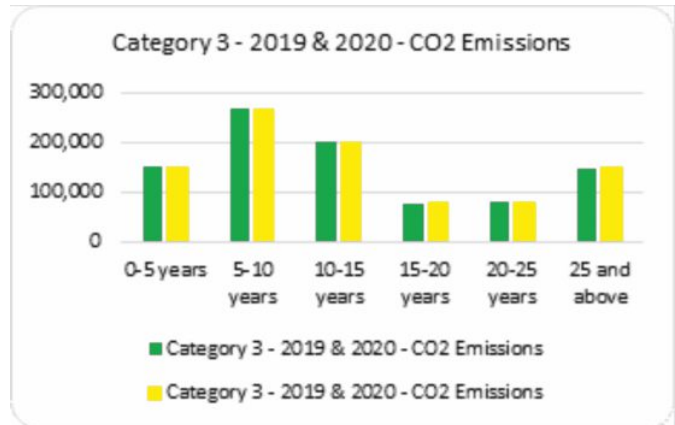
- **Category 1:** Ships of 5000 GT and above certified for international voyages
- **Category 2:** Ships of 5000 GT and above certified in accordance with RSV Notification or Indian Coastal Vessel Notification.
- **Category 3:** Ships of Less than 5000 GT

As per this report released by DG Shipping, the total CO2 emission from Indian Flag ships of all 3 categories is approximately 5.1 million tonnes and 4.62 million tonnes for 2019 and 2020 respectively. Majority of the vessels (667 out of 920) in 2019 and (631 out of 876) in 2020 fall in category 3 i.e. ships of less than 5000 GT and their area of operation is along the coast of India.



Emissions: Ships of 5000 GT and above engaged in international voyages (Category 1) consistently represented the primary source of CO2 emissions, contributing approximately 81% in both 2019 and 2020. Tankers and Bulk Carriers played significant roles in this emission profile.

2. Fuel Consumption Shift in Category 1: In 2019, 243 ships in Category 1 emitted 4.141 million tonnes of CO2, while in 2020, 233 ships emitted 3.715 million tonnes. The fleet predominantly shifted from Heavy Fuel Oil (HFO) to Light Fuel Oil (LFO) due to the enforcement of the 0.5% m/m sulfur limit on fuel oil from January 1, 2020.



DISCUSSIONS ON 2019 AND 2020 MARITIME EMISSIONS:

1. Category 1 Dominance in CO2

3. Emission Reduction in Category 2: Category 2 ships, registering a 42% reduction in emissions, decreased from 0.0769 million tonnes in 2019 to 0.04494 million tonnes in 2020. This decline is attributed to factors such

The author was unable to find a specific study that quantifies the impact of a ship's age on its fuel consumption in isolation from other factors!

as a lower number of applicable ships and reduced consumption in newly delivered general cargo vessels.

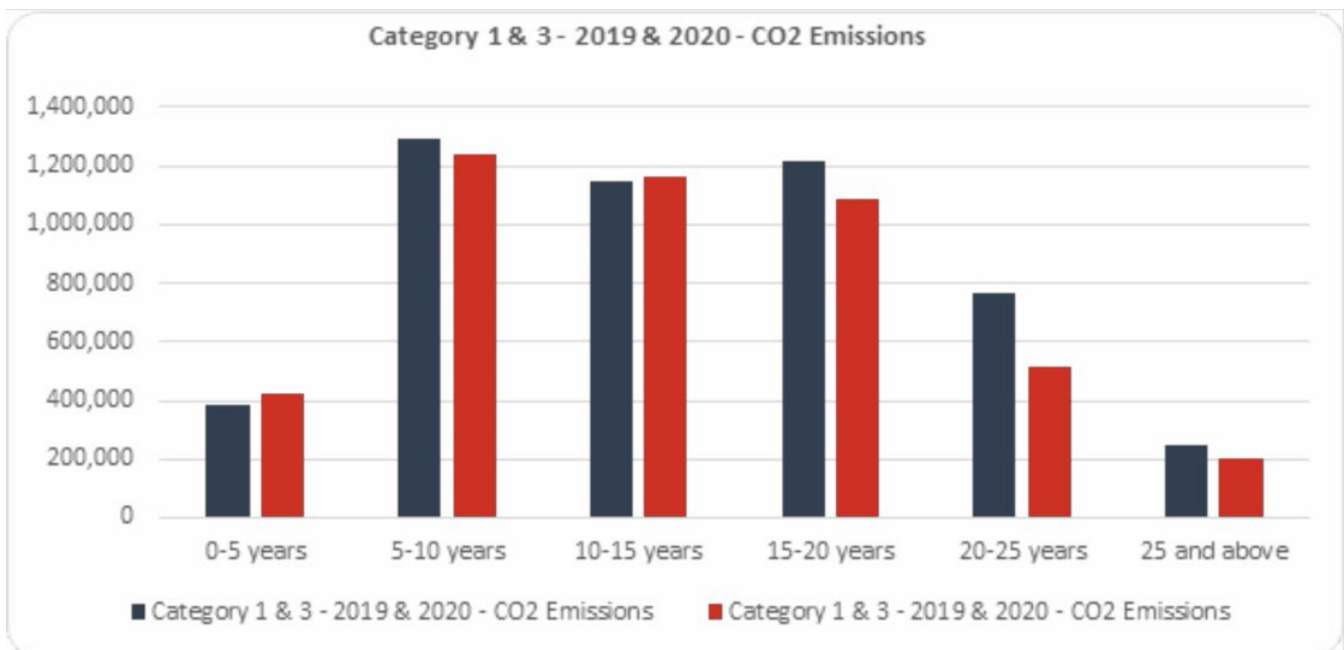
4. Category 3 Contributions in Coastal Operations: Ships operating with less than 5000 GT in Indian coastal waters (Category 3) contributed approximately 17.8% and 18.6% of emissions in 2019 and 2020, respectively. Major contributors in this category included Offshore Supply vessels, Tugs, and Anchoring Handling Tugs/Supply vessels.
5. Diesel Oil remained the primary fuel for Category 3 ships.

In summary, the maritime emissions landscape witnessed a notable shift in fuel usage, emission reductions in specific categories, and the persistent dominance

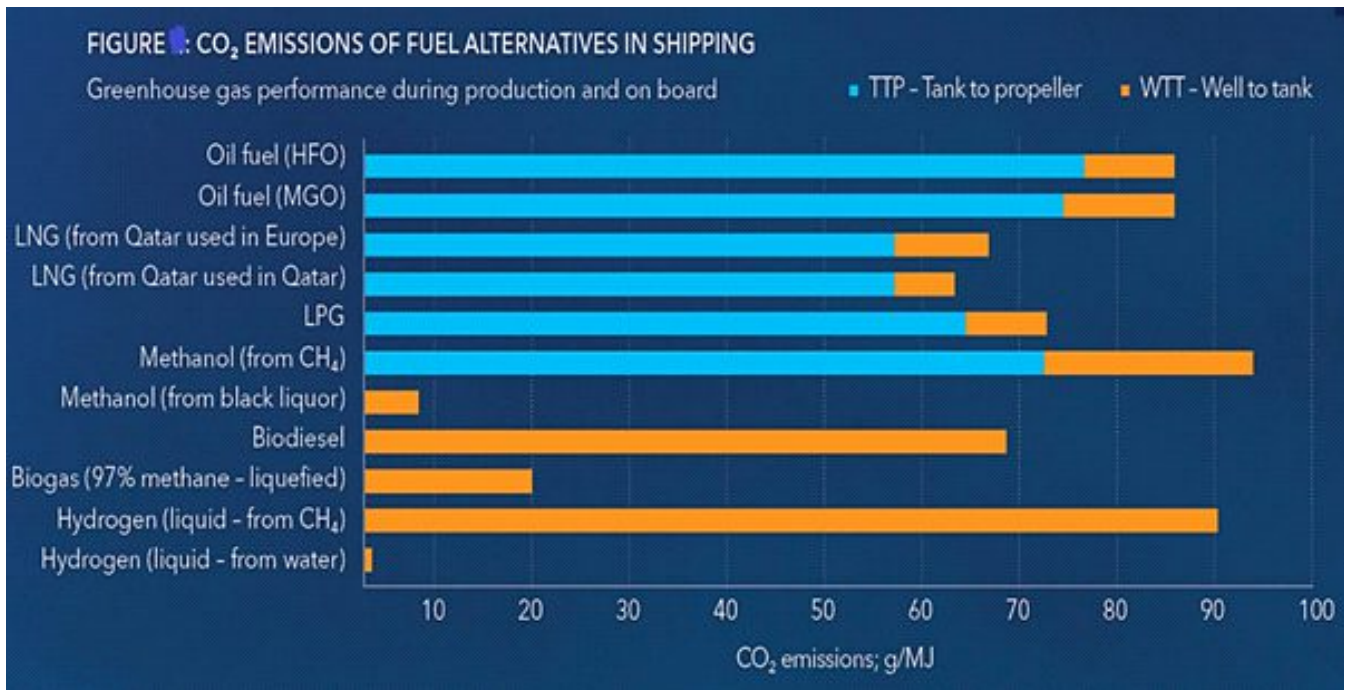
of larger international voyaging vessels in both 2019 and 2020. More importantly, vessels over 20 years hardly contribute any CO2 emissions relative to other age groups.

GLOBAL EMISSION CONTEXT -

The DGS Order stems from concerns about the safety of older vessels and their potential environmental impact. However, it is crucial to contextualize the scale of India's contribution to global emissions. As per the DGS, total CO2 emission from Indian Flag ships of all 3 categories was approximately 5.1 million tonnes and 4.62 million tonnes for 2019 and 2020 respectively. Furthermore, a significant part of these emissions (about 81%) by Indian flagged vessels were in international waters. Category 3 vessels contribute to less than 1 m Tonnes of CO2. And to reiterate these vessels primarily use Diesel.



LNG offers immediate CO2 emissions reductions and benefits from an established supply chain and global bunkering facilities. However, it's essential to address the issue of methane slip.



In Category 1, 243 Category 1 vessels emitted in 2019, 4.141 million tonnes of CO₂, while in 2020, 233 vessels emitted 3.715 million tonnes. More importantly, Category 1 vessels aged 20 and over contributed 0.79 m tonnes in 2019 and 0.49 m tonnes in 2020.

Compare this to 710 m MT of CO₂ emissions from international shipping in 2022! This underscores the comparatively minor role of Indian shipping in the broader global emissions landscape!

MOVING BEYOND OPERATIONAL EMISSIONS: THE IMPERATIVE OF A WTW APPROACH

In the current maritime regulatory landscape, international standards predominantly employ a tank-to-wake

(TtW) approach, focusing on operational emissions. Systems like the EU Monitoring, Reporting, and Verification (MRV) and IMO Data Collection System (DCS) emphasize emissions during a ship's operational phase, neglecting upstream factors. This underscores the need for a well-to-wake (WtW) approach, providing a more holistic understanding of emissions and fuel sustainability.

It is clear from the graph that if CO₂ reduction is a primary reason for the present DGS order, alternative fuels such as Methanol or for that matter LPG or LNG do not contribute much savings.

Premise 4 - Achieving IMO Targets Shift to Alternative Fuels Through Age Norms-

NAVIGATING THE AGE NORMS

In cost competitiveness, renewable fuels face challenges in competing with conventional fossil fuels without taxation or subsidies – Bureau Veritas

ORDER: IMPLICATIONS FOR INDIAN SHIP OWNERS

As the maritime industry adjusts to the age norms outlined in DGS Order 06 of 2023, Indian ship owners find themselves at a critical juncture, with implications spanning collaboration, decarbonization, and the evaluation of alternative fuels.

1. **Collaborative Decarbonization:** The age norms order necessitates a collaborative effort across the entire supply chain. Indian ship owners must actively engage with upstream energy suppliers, chemical providers, regulatory authorities, and financiers.
2. **Impact on Alternative Fuels:** Assessing the viability of alternative fuels under the age norms order requires meticulous consideration of critical factors. Ship owners must analyze the type of vessel, its operating profile, and the inherent characteristics of the alternative

fuel. Safety considerations, fuel accessibility, economic implications, regulatory compliance, compatibility with energy converters, crew training and the overall environmental impact are paramount in this evaluation process.

In summary, the age norms order not only prompts Indian ship owners to adapt to new regulatory frameworks but also necessitates a collaborative and strategic approach towards decarbonization. Evaluating alternative fuels becomes a crucial aspect, demanding a comprehensive understanding of diverse factors to make informed decisions in line with the evolving maritime landscape. How many ship owners can engage in such informed discussions is a moot point.

To evaluate these alternative fuels ship owners, need to consider the following -

Key considerations	Criteria & Considerations
Maturity & availability of technology	Prototype developed, tested and available for use at scale or worldwide. Hazards controlled and operations optimized
Specific energy (weight) & density (volume)	Energy density expressed in either volumetric (MJ/l) or gravimetric density (MJ/kg)
Safety considerations (flammability, toxicity)	Bunkering, storage, onboard fuel distribution, equipment maintenance, crew and passengers
Regulatory framework	IMO, Class and National Authorities – Industry standards or additional industry requirements
Global availability of fuel (terminal network)	Ease of bunkering worldwide
Bunkering facility availability	Number of bunkering facilities, delays in service
Sustainability (ESG/CSR aspects)	Footprint on Common Reporting Standard (audit and report)
Economics: CAPEX	Capital expenditure or investment costs
Economics: OPEX	Operating expenditure or running costs
Flexibility for future adaptation	Enables transition to more optimal fuel solutions

Source: BV

Indian Shipping's CO2 emissions are 0.7% of Global Shipping Emissions. For Category 1 vessels it is even lower at 0.6%. And Category 1 vessels aged 20 or over contribute approximately 0.1 %!

SAFETY AND ACCESSIBILITY: VITAL CONSIDERATIONS

Safety considerations are paramount in evaluating alternative fuels. Thorough assessments of toxicity and flammability are necessary to ensure the safety of the crew, passengers, and the vessel itself. Availability and the presence of bunkering facilities also weigh heavily on the practicality of widespread adoption. A few major studies preclude the usage of ammonia due to its toxicity.

REGULATORY COMPLIANCE: NAVIGATING STANDARDS FOR APPROVAL

Regulatory compliance is a key factor in the assessment of alternative fuels. While LNG has navigated legislative hurdles, LPG and hydrogen await regulatory frameworks within the IMO's IGF Code. However, it is only by 2030, all twelve of India's major ports are expected to be equipped with LNG bunkering facilities. Further, specific information on LPG bunkering facilities in Indian ports is currently unavailable. However, methanol as a bunker fuel is being implemented in India's domestic river shipping sector. The Indian government has released new guidelines mandating the development of storage, handling, and bunkering capabilities for future maritime fuels, including ammonia. Ammonia bunker facilities will be

INTEGRATING AN ALTERNATIVE FUEL SYSTEM ON EXISTING VESSELS – INCLUDING ENGINE, FUEL PREPARATION AND STORAGE TANKS AS WELL AS THE ASSOCIATED CONTROL AND SAFETY FEATURES - HOLDS PARTICULAR CHALLENGES FOR RETROFIT PROJECTS.

Lloyds Register

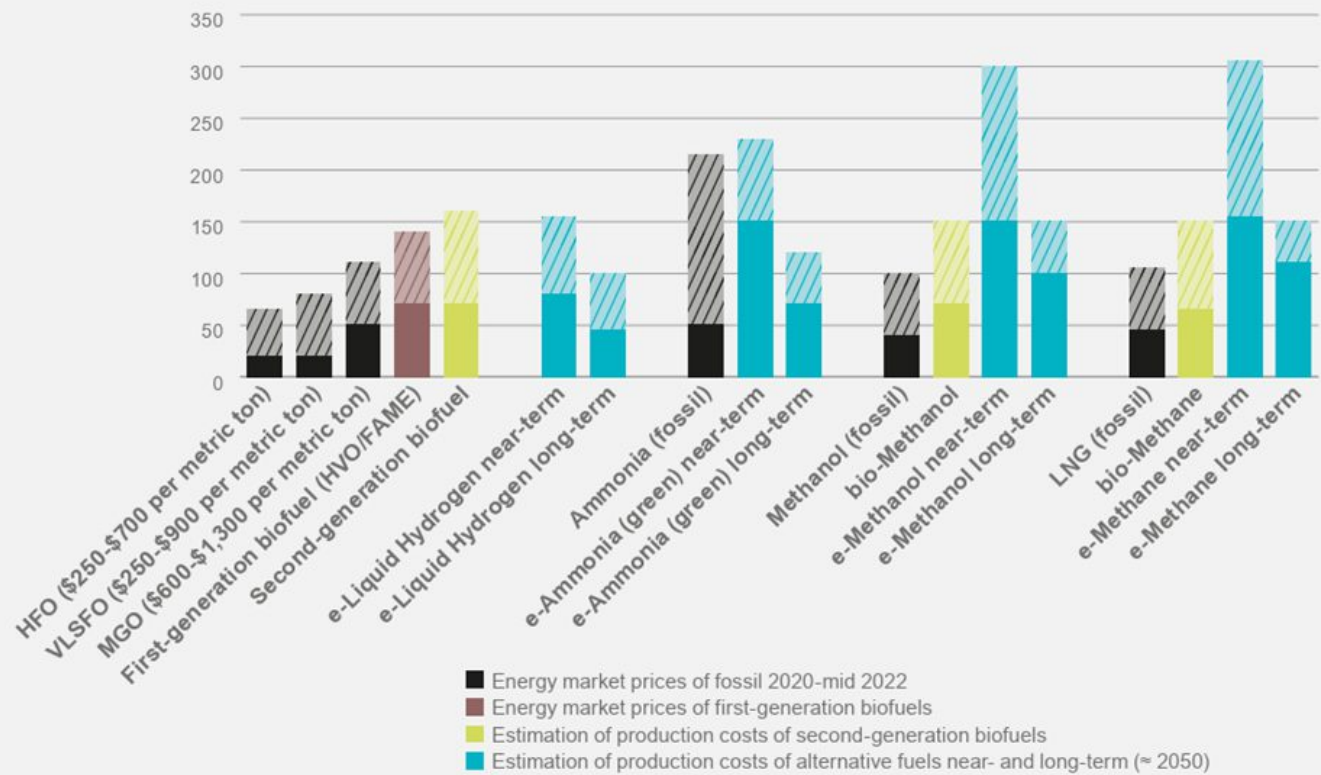
established at all Major Ports only by 2035.

Economic Implications: Balancing Costs for Viability - The economic feasibility of alternative fuels requires a nuanced consideration of both capital and operational expenditures. Stakeholders must evaluate costs associated with infrastructure development, vessel retrofitting or construction, and ongoing operational expenses. We evaluate below the impact of the DGS Order on retrofitting, OPEX and CAPEX.

Impact on OPEX – The cost estimation figure comparing alternative fuels to fossil fuels highlights a disparity between the current energy prices of widely-used fossil fuels and the production costs of alternative fuels, especially e-fuels, in the short term. Taking a long-term perspective, the costs of e-fuels remain higher than the current prices of fossil oils. This aligns with the shipping industry's classification as a "hard to abate" sector. The DGS order needs to take this into consideration and revisit its premise.

The rules to which alternatively fuelled vessels are designed, certified and classed are in various stages of development, with particular challenges for owners considering fuel conversions - LR.

FIGURE 1 PRODUCTION COST ESTIMATION OF ALTERNATIVE FUELS VS. FOSSIL FUELS MARKET PRICES
(US \$/MWh)



Source: Bureau Veritas

Impact on CAPEX – Impact on Second-Hand Vessel Prices:

Considering the challenges associated with New Builds (NB) and retrofits, ship owners face the additional complexity of second-hand vessel prices. Opting for a NB may involve significant risk (due to lack of clarity on fuel of the future), and retrofitting existing vessels pose technological and cost challenges. This dynamic further complicates decision-making. We discuss the impact of vessel prices on a shipowners' decision-making process.

Tonne-Mile Demand and Future Outlook:

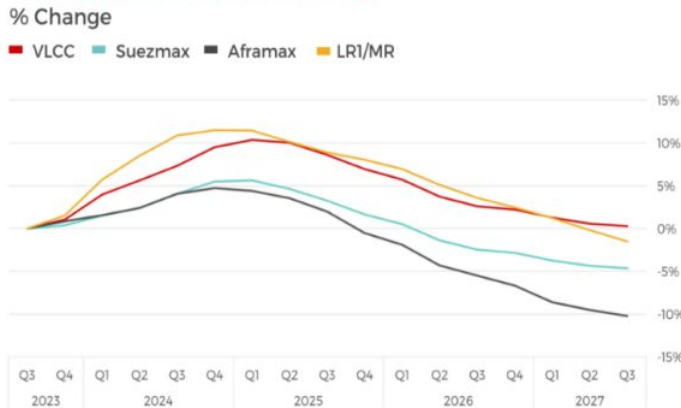
Tonne-mile demand is expected to remain

robust in the near term, contingent on oil demand not being severely impacted by high oil prices and inflation in China's strict zero-COVID policy is anticipated to restore its position as the leading oil demand driver, providing additional support to the tanker prices.

Tanker Market Analysis: Russian exports of crude oil and products are expected to decline, prompting Europe to seek alternative suppliers such as MEG, the US, and Latin America. This shift is projected to increase tonne-mile demand, providing support for tanker rates. Despite a recent uptick in tanker NB, low order numbers over

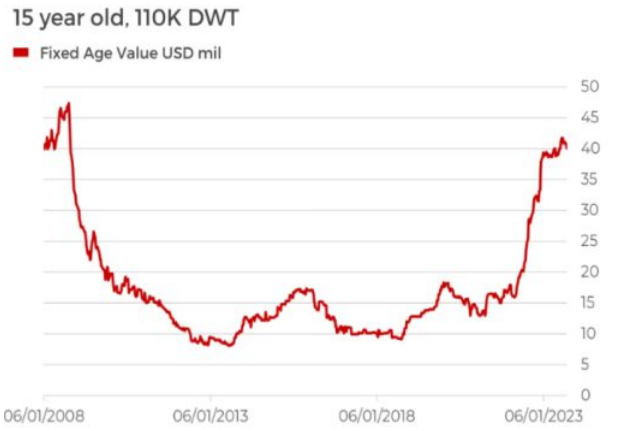
E-Fuels Face Uphill Battle as Long-Term Costs Challenge Shipping's 'Hard to Abate' Status - LR

Tanker Value Forecasting



Source: VesselsValue September 2023

Aframax Tanker Historic Values



Source: VesselsValue

the past two years, coupled with expectations of increased scrapping, contribute to a favourable overall market balance. The current orderbook stands at a modest 5% of the total fleet. This has in turn pushed up Second Hand (SH) prices.

Aframax Market Overview: Aframax values are currently positioned near historical highs. The year-on-year trend reveals a widespread increase in values, notably observed in 15-year-old vessels of 110,000 DWT, experiencing a substantial rise of over 20% (Please see graph).

Notable Sales: Prominent transactions indicate vessel value have increased by over 11 m USD in the last one year! Sales to unknown buyers have become a prevalent trend, constituting around 40% of total sales since the beginning of 2023!

Positive Outlook: The overall sentiment within the Aframax sector remains optimistic, marked by a substantial year-on-year increase of approximately 191.7% in NBs. Additionally, the absence of reported demolition sales in the current year underscores strong demand. The prevailing high values of NBs create favourable conditions for SH sales of older vessels.

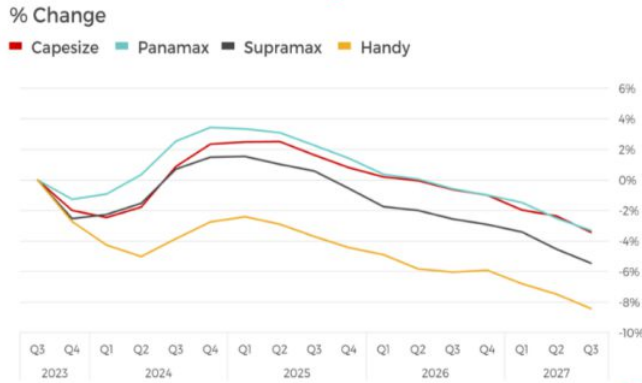
As can be seen from the above forecast, vessel values for Tankers are expected to be high for the next two years making fleet replacement strategy for an Indian ship owner an expensive proposition.

BULKER MARKET OUTLOOK –

For the bulk ship owners supply side remains favourable. The low number of new orders is attributed to uncertainties surrounding future fuels and the increased costs of NBs.

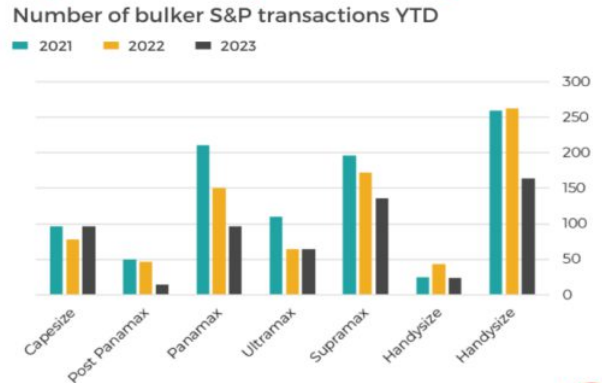
Forecasting where alternative fuels will be available and at what price will be crucial inputs to shipowner decisions on how and when to convert existing vessels – Lloyds Register

Bulker Value Forecasting



Source: VesselsValue September 2023

Capesize sales equal record highs



Source: VesselsValue

Capesize Market Update: SH vessel values of 12-year-olds have increased by over 5% in 2023. Modern Capesize values have strengthened, notably 0-year-old vessels of 180,000 DWT, witnessing a rise of approx. 15%.

As can be seen from the above forecast, vessel values for bulkers too are expected to be high for the next two years. This makes fleet replacement strategy with second hand vessels an expensive proposition thanks to uncertainty about alternative fuels and high new building prices.

CHALLENGES OF RETROFIT TO MEET ALTERNATIVE FUEL NORMS BEING ENVISAGED BY DGS ORDER –

Market Assessment:

Understanding the market for engine retrofits is essential, encompassing factors such as technological readiness and fleet

preparedness.

Regulatory Drivers:

Regulatory efforts focusing on decarbonization are pushing demand for fuel retrofits, with emission reduction targets and market-based measures shaping the landscape.

Fuel Forecast Challenges:

Forecasting the availability and pricing of alternative fuels is critical for shipowners deciding on the conversion of existing vessels.

Regulatory Framework Development:

Rules governing alternatively fuelled vessels are at different stages of development, posing challenges for owners contemplating fuel conversions.

Technology Deployment Timeline:

Engine developers are set to deploy

Aframax values are currently positioned near historical highs and due to uncertainty about future fuels and high NB prices, dry bulk fleet sees very low NB orders

methanol retrofit packages on limited engine sizes, while ammonia conversions are anticipated to begin gradually from early 2027.

Integration Complexity:

Retrofitting alternative fuel systems onto existing vessels involves intricate integration challenges, covering engines, fuel preparation, storage tanks, and control features.

Limited Retrofit Capacity:

The complexity of vessel conversions means that initially, only a few repair yards may have the capacity to carry out such projects, necessitating scaling up of expertise.

Crew Training and Human Factors:

Ensuring crew training and mitigating human factor risks before vessel conversion are crucial challenges for owners and operators of retrofitted vessels.

Viability Determinants:

Fuel availability, retrofit cost, and carbon pricing will be decisive factors in determining the viability of engine conversions, already showing feasibility in some segments.

Classification societies encounter challenges in comprehending and offering solutions for retrofitting. The extent to which Indian shipowners possess the resources to

navigate the intricacies of these challenges remains uncertain.

NAVIGATING THE TURBULENT WATERS OF INDIA'S MARITIME INDUSTRY

Discussion and conclusion - DGS Order 06 of 2023: A Double-Edged Sword

India's maritime industry stands at a pivotal moment, grappling with the implications of the Directorate General of Shipping's (DGS) Order 06 of 2023, which emphasizes the transition to alternative fuels. This analysis critically examines the premises of the DGS order, shedding light on potential impacts on the shipping industry and presenting counter-arguments that call for a comprehensive reassessment.

PREMISES AND ISSUES RAISED:

Premise 1 - Safety of Life at Sea:

COUNTER-ARGUMENT:

1. The DGS order highlights safety concerns with aging ships, but the reality revealed by detention statistics challenges the correlation between age and safety. A significant number of detentions for vessels below 20 years questions the assumption that age alone determines safety.
2. Furthermore, of these 218 detentions

Transition to alternative fuels involves not just the availability of bunkering facilities, but also the development of suitable vessels, regulatory frameworks, crew training and market mechanisms - LR

between 2012-21, approximately half (108 detentions) were of OSVs, Tugs, Other Types of vessels.

3. More importantly, we were unable to find a specific study that quantifies the impact of a ship's age on its fuel consumption in isolation from other factors!
4. Experts argue that the DGS order contradicts IMO guidelines, which incidentally does not specify age limits for ships. This raises doubts about its alignment with international standards and emphasizes the need for a more nuanced safety evaluation.

Premise 2 - Increasing Average Age of Indian Tonnage:

COUNTER-ARGUMENT:

1. Contrary to the claim, the average age of ships under Indian Register of Shipping (IRS) is 17.4 years. Over 72% of these vessels are aged equal to or less than 20 years, challenging the notion of an increasing average age.
2. The emphasis should be on evaluating vessel conditions, maintenance standards, and adherence to safety protocols rather than a blanket age criterion.

Premise 3 - Age Norms Facilitating

Transition to Alternative Fuels:

COUNTER-ARGUMENT:

1. The CO2 emissions report reveals that vessels over 20 years contribute minimally to emissions, challenging the necessity of age norms for emission reduction. The focus should shift to targeted interventions rather than imposing stringent age limits.
2. The global context emphasizes Indian shipping's minor role in global shipping emissions (0.7%) with Category 1 vessels contributing even lower at 0.6%. More importantly, Category 1 vessels aged 20 or over contribute approximately 0.1 %!
3. This underscores the need for a proportional approach, questioning the urgency of stringent age norms and advocating for a phased and adaptive strategy.
4. Challenges of Retrofitting for Alternative Fuels -
 - *Retrofitting readiness and market adaptability may vary, necessitating a flexible strategy for shipowners in determining the feasibility of retrofits.*
 - *The DGS order, while focusing on decarbonization, requires adjustments considering the complexity of retrofitting and*

The complexity of vessel conversions means that only limited numbers of repair yards may initially be able to carry out such projects. Scaling up expertise will be crucial to meeting demand - LR

regulatory challenges associated with alternative fuels.

- *Uncertainty in predicting alternative fuel availability and pricing poses challenges, requiring shipowners to navigate fluctuating energy markets.*
- *The lack of standardized rules and varying regulatory frameworks present practical challenges, emphasizing the need for a comprehensive approach.*
- *The phased deployment of technologies necessitates shipowners to adopt a flexible strategy, considering the evolving landscape of alternative fuels.*
- *Retrofitting alternative fuel systems involves intricate integration challenges.*
- *Only a few repair yards may initially have the capacity to carry out retrofit projects.*
- *Uncertainty Surrounds Indian Shipowners' Capacities in retrofitting.*
- *Crew training and addressing human factor risks are pivotal*

for safe operation, necessitating comprehensive preparation and industry-wide collaboration.

5. Impact on Vessel Prices, CAPEX, and OPEX:

Premise 4 - Achieving IMO Targets Through Age Norms:

COUNTER-ARGUMENT:

1. The CO2 emission analysis challenges the argument that the DGS order is crucial for achieving IMO targets.
2. Impact on CAPEX: Challenges associated with New Builds (NB) and retrofits make fleet replacement a costly proposition.
3. Uncertainty about future fuels and complexity of retrofitting contribute to challenges, urging a careful consideration of fleet replacement.
4. Prices of SH vessels due to Tonne-mile demand impacts tanker and bulker prices with Aframax prices rising by 20% and Capesizes by 15%! In fact, Aframax values are currently positioned near historical highs which is rubbing off on other sectors as well.
5. Complexities in market dynamics reveal challenges in determining the strategic direction for fleet

The DGS order goes against the IMO guidelines, which do not specify an age limit for ships.

replacement, emphasizing the need for careful evaluation.

6. Alternative fuels like methanol contribute insignificantly to CO2 reduction, necessitating a more technology-driven approach for effective decarbonization.
7. Impact on OPEX: The gap between energy prices of fossil fuels and alternative fuels poses challenges to the economic feasibility. The DGS order needs to consider the economic challenges of alternative fuels, with costs of e-fuels remaining higher than fossil oils, making the transition formidable.
8. Instead of age norms, policies should focus on incentivizing and facilitating the adoption of advanced

technologies that align with long-term sustainability goals.

Conclusion: The DGS Order, while aiming to enhance safety and align with global decarbonization efforts, faces substantial challenges and raises questions about its effectiveness. Detention statistics, emission profiles, and global comparisons underscore the need for a re-evaluation.

Our counter-argument suggests that a more nuanced, globally aligned approach is essential. Therefore, holding the DGS order in abeyance, pending comprehensive reassessment and industry stakeholder consultations, becomes imperative to avoid unintended consequences and ensure a balanced, effective transition to alternative fuels in India's maritime industry.

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London International Shipping Week appoints Gareth Long as its new Managing Director

Gareth Long, newly appointed Managing Director of Shipping Innovation/London International Shipping Week

Shipping Innovation (SI), owner and organiser of London International Shipping Week (LISW), is delighted to announce the appointment of Gareth Long as its new Managing Director.

Gareth, who has significant knowledge and experience of LISW, having worked on LISW19, LISW21 and LISW23 as part of the UK

Government team at the Department for Transport (DfT), will head up the SI team delivering this global must-attend maritime event.

He will report to Sean Moloney and Llewellyn Bankes-Hughes, joint Founders and CEOs of SI. All three will sit on the LISW25 Steering Group and Board of Advisors.

This exciting appointment coincides with confirmation that LISW 2025 will take place in London from 15-19 September next year with the Gala Dinner once again booked for the Thursday night at Evolution London in Battersea Park.

Welcoming Gareth to the team, Sean and Llewellyn highlighted the various strengths that Gareth will bring to the position.

“Gareth knows LISW intricately, having worked on the last three events as part of the DfT’s delivery team. He is dedicated to, and passionate about, making it the number one event on the global maritime calendar,” said Sean Moloney.

“His commitment to the growth in global significance of the London and UK maritime sphere coupled with his knowledge of the workings of government can only enhance the working relationships LISW has across Whitehall and the various governments abroad. Now that we have the date fixed for LISW25 and a stronger team in place, we can power ahead to deliver a global event that is even bigger and better than before.”



Llewellyn Bankes-Hughes added: “Gareth’s passion for the maritime sector – and LISW in particular – is undeniable, and I am delighted to welcome him onboard.

“In becoming Managing Director, Gareth will ensure continuity of purpose and uphold the values and aims of this world-scale event. He will also be instrumental in driving the strategic direction of LISW to ensure that it remains an innovative and exciting forum that always delivers the best in knowledge and insights about the increasingly complex global shipping industry.”

Gareth, who will assume his position at the beginning of February, added: “I am delighted to be taking the helm of delivering London International Shipping Week. With global shipping very much in the spotlight at the moment, it’s imperative that we maintain the momentum of LISW23 going into 2025, with the UK firmly at the forefront.”



A Grand Celebration:

The 19th foundation day of The Great Eastern Institute of Maritime Studies, Lonavala

On the 2nd of January 2024, The Great Eastern Institute of Maritime Studies commemorated its 19th foundation day in a spectacular event. Shri. Shyam Jagannathan, IAS Director General of Shipping, (Govt. of India) graced the occasion as the chief guest, accompanied by the esteemed Capt. M. P. Bhasin, MD of MSC Crewing, who was the guest of honor. The event drew the presence of numerous

influential figures from the maritime industry and the Maritime Training Institutes, adding to the grandeur of the celebration.

The festivities commenced with a striking march past by the institute's cadets, a display of discipline, respect, and unity among the future seafarers. The subsequent proceedings unfolded in the auditorium, where the Chief Guest, Guest



of Honor, Head of the Institute, Principal, Vice-principal, and HOD engineering formally inaugurated the event by the traditional lighting the lamp with the serene Saraswati Vandana being played in the background. Mr. David Birwadkar, Head of the institute, introduced the distinguished guests, and the event also marked the launch of the 25th edition of the "True North" an in-house bi-annual magazine. The occasion included the introduction of the new editor, Mr. Sandip Kulkarni, succeeding Mr. S. S. Phalke who was retiring the next day, along with the unveiling of the new editorial team.

Cdt. Simarleen Kaur then captivated the audience by narrating the rich history of GEIMS. The ex-faculty, faculty and the staff of the institute were also felicitated on stage, thanking them for their continuous efforts towards scaling GEIMS to great heights, most of them have been associated with GEIMS right from the time of its inception. The alumni, considered ambassadors of the institute, were also honored during the event, many of whom had risen to very high positions in their respective organizations bringing laurels to GEIMS.



Recognizing the industry's efforts to bridge the gender gap, MSC Crewing Services introduced the 'Best Girl Cadet of the Year' rolling trophy with cash prize of Rs. 10000/- Medal and certificate . This prestigious award was bestowed upon Ms. Simarleen Kaur of the DNS 34B batch for her outstanding performance in the year 2023.

The distinguished guests and dignitaries shared their insights and experiences during their speeches. Capt. Bhasin underscored the importance of small actions in shaping future seafarers and encouraged cadets to become ambassadors for both the institute and the merchant navy profession.

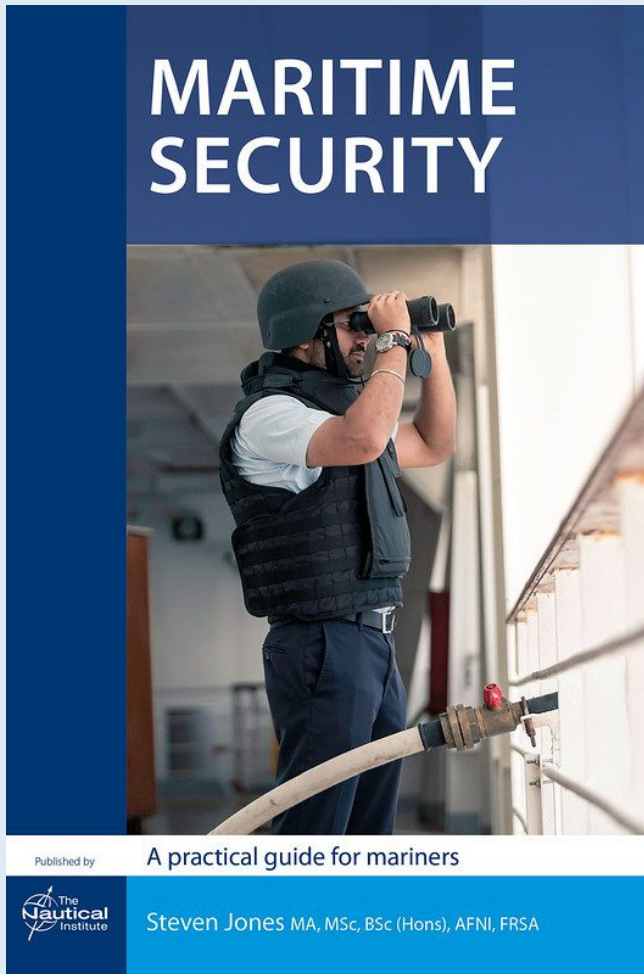




Further, since it was Shri. Jagannathan's 2nd visit to the institute, he was impressed by the benchmarks set by GEIMS towards training provided to the cadets. He also spoke about the need for technological advancement across different industries, compliance to the standards of conventions by the IMU and how, safety and security of seafarers onboard the shipping is given high priority.

The chief guest and guest of honor were presented with mementos as a token of appreciation for their inspiring presence. The celebration reached its pinnacle with a cultural program featuring songs, Bharatnatyam, and Kathak performances by the talented cadets, staff and faculty. The event concluded on a grateful note with a "vote of thanks" proposed by the Vice Principal, Capt. Ghanashyam Deo and subsequent playing of the National Anthem marking a glorious celebration of GEIMS' 19th foundation day.

MARITIME SECURITY: A PRACTICAL GUIDE FOR MARINERS PROVIDES VITAL SAFETY INFORMATION TO SEAFARERS



Code and its implications to practical advice on key topics, such as cybersecurity, crime at sea and dealing with stowaways and migrants.

The book, which updates and expands the content of three existing texts, is aimed at Masters, CSOs, SSOs and anyone else who is involved with maritime security at any level. Topics covered include threats to seafarers, ships and maritime trade; evolution of maritime security; basic shipboard security procedures; elements and implications of the ISPS Code; cybersecurity; piracy; stowaways, migrants and rescue at sea, and crimes and criminality at sea.

Author and global security expert, Steven Jones AFNI FRSA, said: "I've been very proud to work with The Nautical Institute for almost 20 years on the subject of maritime security. This new and expanded book brings many of the themes that we've covered together to try and make the subject more accessible and to provide support and guidance to anyone at sea or ashore who may need it."

The Nautical Institute is pleased to announce that its new compendium of essential maritime security advice, guidance and insights, Maritime Security – A Practical Guide for Mariners, is now available. It covers a wide range of topics, from a detailed examination of the ISPS



Author and global security expert,
Steven Jones AFNI FRSA
pictured with Maritime Security
A Practical Guide for Mariners

Steven Jones continued: "The book tackles many of the issues that we have previously focused on within maritime security, such as coping with piracy, stowaways at sea and migrants. It also covers other challenges faced by officers such as cybersecurity and criminality at sea, in ports and across

the entire supply chain. This has made it a real focal point; a book that can be relied upon to illuminate some of those darker issues within the industry."

Master Mariner and Maritime Consultant, Dariusz Godźik MNI, adds: "I have learned a great deal from reading this updated and extended edition of Maritime Security. The book is written in an engaging and accessible way that makes it essential reading for mariners everywhere."

A recruitment advertisement for Allianz. At the top right is the Allianz logo with the text 'allianz Buik CFR6' and 'RelationSHIP... Beyond Oceans www.allianzwithus.com'. The main headline reads 'WE ARE HIRING' in large, bold, dark blue letters, followed by 'Elevate Your Career with Our Opportunities.' Below this, it says 'OPEN POSITION:' followed by a bullet point: '• Chartering Manager and those aspiring to be one.' The text continues: 'Inviting applications for those who desire to get into the commercial side of shipping. If you have the drive and the passion we have the opportunity. Master Mariner's, Chief Officers, Marine Engineers (4th/3rd/2nd /Chief Engineer would be an added advantage.' On the right side, there is a circular image of two people shaking hands. Below the image, it says 'SEND YOUR RESUME hr@abcf8.com' and 'FOR MORE INFORMATION www.allianzwithus.com'. At the bottom right, there is a dark blue button with the text 'JOIN NOW' in white.



APM Terminals signs MoU with JNPA on Intent to invest in Vadhavan Port Project

APM Terminals, one of the largest container terminal operators in the world, with presence in 65 key locations globally, today signed a Memorandum of Understanding (MoU) with Jawaharlal Nehru Port Authority (JNPA) on development of a new container terminal at the proposed mega port project at Vadhavan in Maharashtra. The MoU aims at initiating willingness and co-operation for development of upcoming Vadhavan Port. Located on the west coast at about 150 kms north of Mumbai, Vadhavan Port is expected to be an ambitious and important port project, undertaken by the Government of India. It has natural draft of about 20 metres and will have easy

connections to the National Highway Road network and the Dedicated Freight Corridor (DFC) rail network. The project is being implemented through an SPV between JNPA and Maharashtra Maritime Board, who will develop and construct the primary infrastructure. APM Terminals currently operates two important infrastructures in India located at Pipavav and Nhava Sheva.

The signing of MoU took place on the side of Vibrant Gujarat Global Summit 2024 in the presence of Honourable Minister of Ports, Shipping & Waterways and AAYUSH, Shri Sarbananda Sonowal and Global Chief Executive Officer of APM Terminals, Mr. Keith Svendsen. Shri Unmesh Sharad Wagh

[IRS], Chairman in Charge, JNPA and Mr. Jonathan Goldner, Regional Managing Director APM Terminals Asia Middle East signed the Memorandum of Understanding.

Mr. Jonathan Goldner, Regional Managing Director APM Terminals Asia Middle East said, "In recent years, APM

Terminals has made significant investments at both the existing facilities in India and delivering world class services. We are excited to partner with JNPA in exploring opportunity to develop the project at Vadhavan. We believe that the location of Vadhavan combined with our ability to build and operate leading ports in the world, creates an attractive opportunity to support the growth of the local manufacturers, exporters, importers, and the regional economy in general. The investment will enable in driving local economy by creating job opportunities for the locals."

Expressing his enthusiasm for this strategic partnership, Mr. Unmesh Sharad Wagh IRS, Chairman in Charge, JNPA, remarked, "We are delighted to announce the signing of the Memorandum of Understanding between Jawaharlal Nehru Port Authority (JNPA) and APM Terminals, marking a significant milestone in the development of the Vadhavan Port Project. The Vadhavan



Port, situated strategically on the west coast, holds immense potential to emerge as a key player in global trade. The signing of this MoU at the Vibrant Gujarat Global Summit 2024 reflects the strong support of the Government of India and our determination to make Vadhavan Port one of the 10 largest ports globally. Once completed, Vadhavan Port will not only contribute to the growth of the local economy but also position itself as a green fuel hub, embodying sustainability in every aspect. We welcome APM Terminals as a partner in this ambitious venture." The proposed Vadhavan port is a top priority project for the Government. To be developed at the cost of US\$ 10+ billion [Rs.76220/- crores], the port will have capacity to handle annual cargo of 23 million TEUs/ 254 million Tons. The port, with natural draft of 20 meters will be able to cater to the larger container vessels of 20,000 TEUs. The project once completed will be one of the 10 largest ports globally and will act as a green fuel hub.

COLUMBIA GROUP ANNOUNCES BIRTH OF VENTURE CAPITAL ARM GALACTIC BEACON VENTURES TO HELP DRIVE INNOVATION



Kyriakos Vlachos

Chief Investment Officer, Galactic Beacon Ventures

A new venture capital entity, acting as a melting pot for innovation, will help transform cutting-edge ideas into viable businesses across the maritime, logistics, energy and leisure sectors.

Galactic Beacon Ventures, powered by Columbia Group, plans to identify, nurture and transform innovative ideas into successful businesses that leave a lasting legacy and are true to the entity's sustainable credentials.

With the backing of the Columbia Group and its vast network of clients, partners and industry contacts, Galactic Beacon Ventures will enjoy unrivalled access and exposure to numerous sectors across the

maritime, logistics, energy and leisure sphere.

Chief Investment Officer at Galactic Beacon Ventures, Kyriakos Vlachos said: "We are seeing a lot of innovative and interesting ideas coming to us from new start-ups and we wanted to launch a platform where we and our partners can get involved and support from the very beginning."

"We thrive on challenging conventional wisdom, spotting potential early on, and backing visionary founders with conviction, long before the more cautious investors catch on. Our commitment goes beyond financial support; we become partners on

your journey, working closely to navigate challenges and seize opportunities."

Galactic Beacon Ventures prides itself on collaboration, innovation and excellence, and is passionate about being more than just an investor. It serves as a hub for nurturing innovation and inventive concepts, providing support for projects to evolve into prosperous and sustainable ventures.

Mr. Vlachos added: "Our commitment to excellence is evident in our streamlined investment process. We assess opportunities meticulously and create pathways for high growth and scalability. We pride ourselves on leaving a legacy of innovation, progress, and positive impact. With our global perspective, we connect diverse expertise, networks, and ideas to exploit synergies, accelerate growth and shape industries."

Mark O'Neil, President and CEO at Columbia Group, said: "Galactic Beacon Ventures, powered by the Columbia Group, provides a guiding light and support for entrepreneurs worldwide."



Mark O'Neil
President and CEO of the Columbia Group



KVH Expands Multi-orbit Hybrid Network with Eutelsat OneWeb High-speed, Low-latency Service

BRENT BRUUN
President and CEO of KVH Industries

Agreement with Low Earth Orbit (LEO) Connectivity Provider Eutelsat OneWeb Will Enable KVH to Deliver Next-generation Global Data Services to Maritime Customers

MIDDLETOWN, RI – January 9, 2023 –KVH Industries, Inc. (Nasdaq: KVHI) today announced a distribution partnership agreement with LEO connectivity provider Eutelsat OneWeb. Under the terms of the deal, KVH will offer Eutelsat OneWeb's LEO connectivity services supporting terminals for commercial and leisure vessels via Eutelsat OneWeb's LEO satellite constellation.

“Adding Eutelsat OneWeb to our hybrid portfolio helps deliver on our commitment to providing outstanding connectivity, content, and services via our KVH ONE® integrated multi-orbit, multi-channel solution,” said Brent Bruun, KVH President and Chief Executive Officer. “Eutelsat OneWeb's LEO technology will complement, enhance, and extend our KVH ONE network's existing hybrid services and enable outstanding low-latency connectivity for mariners worldwide.”

OneWeb's network comprises more than 630 satellites in low earth orbit that can

deliver enterprise-grade broadband connectivity services. The company is rapidly expanding its network and ground infrastructure to meet the needs of maritime's global requirements.

Carole Plessy, Eutelsat OneWeb's Vice President, Maritime and Europe said, “We are thrilled to have KVH onboard as an expert partner to support commercial and leisure vessels to get connected and fully access the benefits of Eutelsat OneWeb's high-speed Internet. In partnership with KVH, we will deliver on customers demand for technology and data at a time when there is pressure across the maritime industry to improve sustainability and governance standards and operational performance, all of which is underpinned by good connectivity.”

Chad Impey, KVH Senior Vice President for Global Sales, added, “We look forward to bringing the speed, versatility, and affordability of Eutelsat OneWeb's exciting new maritime service to seafarers as a standalone offering and as a seamlessly integrated companion to our award-winning TracNet™ and TracPhone® terminals, which are installed on vessels worldwide.”



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