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Article

Turbulent Waters: The maritime energy transition challenges

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In July 2023, Member States of the International Maritime Organisation (IMO) adopted a revised greenhouse gas strategy, targeting net-zero emissions by 2050 for the marine sector.1 In line with this, the Maritime and Port Authority of Singapore (MPA) has mandated that from 2030, all new harbour craft operating in its waters will need to be fully electric, capable of using B100 biofuel, or be compatible with net-zero fuels such as hydrogen.2

Despite the IMO's push, our Risk & Resilience survey reveals that 72% of the transportation business executives surveyed believe that the current economic climate is making being a sustainable business less of a priority for their business, and 66% agreed that their business is finding it hard to transition to non-carbon energy sources and meet its net zero targets.

A multi-fuel future

The transition towards net-zero emissions for the marine industry is complex. Requiring significant investment and long timelines limiting flexibility. Various alternative fuels like LNG, bioethanol, and blue ammonia are being tested, but no clear winner has emerged.

Rather than immediately overhauling their fleets to use new fuels at great expense, some shipowners have modified their existing vessels to reduce their environmental impact. This includes cosmetic changes such as switching to energy efficient LED lightbulbs and coating the base of ships to improve efficiency through water. Additionally, there is ongoing experimentation with new lower carbon fuels, with significant acceleration expected over the next five years.

Waves of change

The sector faces high costs for decommissioning old vessels and commissioning new, greener models, which can take up to five years to build. Each fuel type requires specific training, safety protocols, and

bunkering requirements, impacting seafarers' safety procedures. With the level of cost and complexity involved, it is crucial for shipowners to make informed decisions about fuel types going forward, but in the interim LNG is currently the most popular transitional fuel due to its stability and dual-fuel capability with traditional fuel oil.

While running ships on LNG, bio-methanol, or ammonia is still novel and can be challenging for shipowners, and with alternative fuels still being in their infancy, not many ports openly accept them all or are cautious about certain fuels. For example, ammonia's toxicity poses challenges for port acceptance. This could prove problematic for ammonia-powered vessels, which may not be granted access to a safe harbour. However, there is significant commercial potential for ports if these alternatives become feasible long-term.

However, the Port of Singapore is pioneering the shift towards alternative fuels, building infrastructure to support multiple fuel types, presenting significant commercial opportunities if these alternatives prove viable long-term and enhancing its status as a global hub.

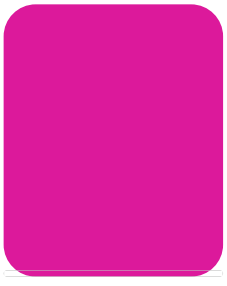
Helping to navigate through choppy waters

Alongside every new type of fuel is a host of new safety, bunking and firefighting requirements for shipowners, port authorities and salvors. For example, should an incident occur at sea, safely offloading the fuel from a vessel powered by diesel is an entirely different process compared to a vessel powered by LNG. Resulting in seafarers being impacted by the requirement for additional training and safety procedures.

As we start to reach the end of the beginning of maritime energy transition to cleaner and low carbon fuels, larger maritime organisations are better able to invest and test different fuels and make informed decisions on their future direction. Whereas smaller maritime companies, are more cautious due to the potential risks and costs.

As alternative fuels gain traction, insurers and brokers face a learning curve, but with experience comes insight and the risks for organisations of any size are becoming clearer.

The insurance industry has a crucial role to play in the marine sector’s transition journey. And to best support shipowners navigate these emerging risks, insurance expertise must continue to evolve to understand these risks and port regulations and help shipowners to understand the risks new fuel types bring.



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