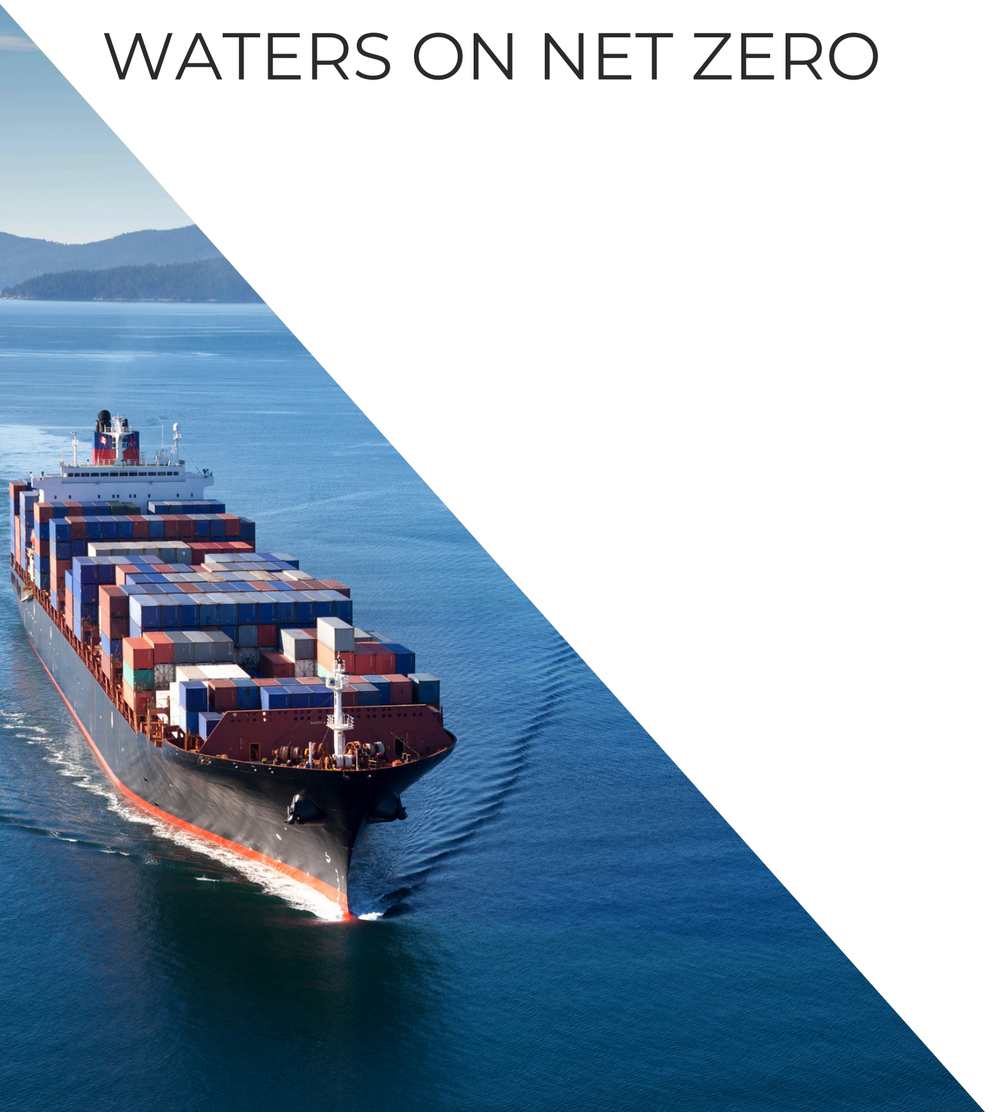
CASE STUDY

SHIPPING IN UNCHARTED WATERS ON NET ZERO



This will be a pivotal year for sustainability in global shipping amid concerns that geopolitical wrangling could scupper attempts to broker an agreement.

The outcome of discussions at the industry regulator, the International Maritime Organisation (IMO), will be crucial as the sector cannot afford to delay decisions on a new generation of high-value vessels which take two years to build and have a 25-year lifespan.

Unless IMO reaches definitive agreement, the sector risks being paralysed by uncertainty, not least a lack of clarity over which ‘green’ fuels will become dominant diesel alternatives.

Shipping occupies a unique position as the linchpin of global commerce, with seaborne freight accounting for 90% of all trade. It is also a major contributor to global warming, accounting for 3% of total global greenhouse gas (GHG) emissions.

Hopes were high that the sector could instigate major changes to achieve net zero carbon emissions by 2050 when the IMO agreed a net-zero framework in April 2025. It was the first in the world to combine mandatory emissions limits and GHG pricing across an entire industry sector.

Measures included a new fuel standard and emissions pricing mechanism but talks to make these enforceable by 2027 concluded unsuccessfully. Consequently, there has been limited progress on decarbonisation of large ocean-going ships.

The industry has been building modular vessels capable of adapting to different ‘green’ fuels from methanol to ammonia and hydrogen.

However, adaptability comes at a price and commercial decisions are being taken amid uncertainty over complex issues spanning regulation, cyber security, alternative fuel sources, infrastructure limitations, emissions pricing, insurance, skills and training.

Nuclear energy, using small modular reactors like those in aircraft carriers and submarines, is long-term solution in theory but requires overcoming public perceptions on safety and regulatory hurdles on port access. Various biofuels are also being considered as potential solutions but these also present challenges.

The total order book for alternative fuel capable ships stands at 1,942. Two-thirds of these vessels are set to use liquefied natural gas (LNG), but only four will be nuclear-powered.

Lloyds Register calculates this would take the alternative-fuel capable fleet to 2.1% of the global fleet – not enough to meet ambitious decarbonisation targets.

Meanwhile, big corporates that ship goods around the world, including Amazon, IKEA and Nike, are supporting the Zero Emission Maritime Buyers Alliance which is trying to aggregate demand for low-carbon shipping.

It involves shipowner Hapag-Lloyd transporting freight aboard methanol dual-fuel container ships.

In terms of world tonnage, it remains a drop in the ocean but could point to a new direction of travel in this vital sector.