



# SEMAPHORE

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## Climate Change Poses Challenges for Shipping

Shipping is facing major challenges, including the possible loss of its social licence to operate, as the effects of climate change multiply, LeeSalmonLong partner David Bullock informed delegates at the New Zealand MLAANZ Branch Conference.

Mr Bullock said the reports of the Intergovernmental Panel on Climate Change (IPCC) state it is beyond debate that human activity, through the release of greenhouse gases, is changing the climate of the planet, resulting in massive environmental change. Arctic sea ice and glacial cover are retreating at unprecedented rates. Sea levels have risen faster in the last 100 years than any century in the last 3000 years and it has warmed faster than any century in the last 11,000 years.

Extreme heatwaves and wildfires have become more frequent and more intense. In recent months there have been devastating floods in Pakistan and droughts in China so extreme that major rivers ran dry. Tropical cyclones have increased in frequently and the areas in which these cyclones reach their peak intensity have moved northwards.

The IPCC is clear that the world needs massive and rapid reductions in Greenhouse Gas emissions.

To avoid catastrophic climate change, global emissions must:

- peak by 2025
- fall 48% by 2030 compared to 2019 levels
- fall 80% by 2040 compared 2019 levels
- achieve net-zero by 2050

However, emissions have continued to increase. At two degrees of average surface warming the temperate change in northern latitudes might be in the order of five or six degrees. Snow and ice cover, and permafrost, would melt – creating further warming.

There would be substantial increases in rainfall where it is not needed but less rainfall in areas where it is. Rising sea levels would coincide with coastal inundation and erosion, and increased ocean acidity, with major impacts on agriculture and fisheries.

Within this broad picture, shipping contributes about 3% of greenhouse gas emissions – similar to entire countries such as Japan and Germany. Some scientists have projected that it could account for as much as 17% by 2050.

Efforts to reduce this impact have become a hodgepodge of industry regulations and voluntary measures. Since 2011 the International Maritime Organization (IMO) has provided mandatory measures through the International Convention for the Prevention of Pollution from Ships (MARPOL) to improve the energy efficiency of newbuild ships.

One of these measures – the Energy Efficiency Design Index (EEDI) – came into effect in 2015 and required a 10% reduction in carbon intensity of new ships. In 2020 the second phase of EEDI came into effect requiring a 20% reduction in carbon intensity, and from this year large newbuild containerships will require a reduction of up to 50%.

The IMO is targeting a 50% reduction by 2050 based on 2008 levels compared to the International Chamber of Shipping's net-zero target. Yet, between 2012 and 2018 shipping emissions increased by 10% and as things stand the industry is on course for a 30% increase in emissions by 2050 based on 2008 levels.

"The shipping industry faces a real risk of a loss of social licence and increased political calls for emissions regulation unless meaningful action is taken in the near future," said Mr Bullock.

Risks for shipping include delays and disruption from storms, increased cargo and container losses, more collisions and commercial and insurance pressures, with reduced cover and increased premiums. International conflict may impair trade or shipping routes. Port and other coastal infrastructure will be threatened by erosion, increased storm surges and inundation.

Ultimately there is a risk that if shipping begins to lag behind in emissions reductions, there will be an increased push for regulatory intervention.

There are, however, some opportunities opening up. As countries look to reduce transport emissions from road and air transport, increased opportunities may arise to move more goods by sea, such as with New Zealand's coastal shipping initiatives. Globally, there is the potential to open up new, faster shipping routes through the Northwest Passage.

Green fuels are seen as the primary way forward for emissions reductions, but there is no easy answer. Liquefied natural gas is a major contender and could achieve a 20% reduction on CO2 emissions – however, it consists primarily of methane, itself a major climate pollutant. Methanol's environmental credentials depend on the source of its feedstock. Hydrogen is expensive and energy intensive to produce. It is not clear that lithium-ion batteries provide a realistic or cost effective alternative across the wider industry.

Slow steaming also has the potential to cut greenhouse gas emissions, added Mr Bullock.

"While there will be commercial pressures for timely delivery, the industry already holds at least one strategy to rapidly reduce its emissions."

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