

## Gearing for the Future The Reinvention of the Shipping Industry

August 2023



The Marine Environment Protection Committee (MEPC 80) that concluded on the 7th July, adopted the proposed IMO Strategy on Reduction of Greenhouse Gas Emissions (GHG) from Ships. The strategy includes the ambition to reach a net zero CO2 equivalent emission factor on or around 2050, which they believe will give the market time to reinvent itself and find the suitable alternative fuels. The decision to move forward with this was unanimous, showing that shipping is prepared to take the lead in global decarbonization. This, they hope, will be achieved is a series of steps, including the need for vessels to be equipped with more efficient technology to lessen drag on the ships through the water; to produce and use energy more efficiently; to optimize performance while reducing waste. Three of the goals of the committee were to get an understanding and agreement on the reduction of greenhouse gases produced by the shipping industry, the further prevention of air pollution, and a drive to increase the efficiency of ships. The specific targets (or ambitions) as listed by MEPC 80 are as follows (with thanks to Lloyds):

- **To hit the peak of GHG emissions as soon as possible, and to reach net-zero by or around 2050, bearing in mind the different national circumstances.**
- **To reduce GHG emissions on a well-to-wake basis, as addressed in the LCA Guidelines.**
  - > “Well-to-wake emissions” is the same as “life-cycle emissions”, meaning that you add together the emissions from the upstream (“well-to-tank”) and the downstream (tank-to-wake”).
  - > The LCA Guidelines refers to the : Guidelines on Life Cycle GHG Intensity of Marine Fuels.
- **To reduce GHG emissions within the limits of international shipping through moving to a fuel supply (bunkers) that eliminates such emissions, and to prevent a shift of emissions to other sectors by ensuring that it is renewable.**

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- **A reduction in CO2 emissions per transport work (carbon intensity) by 2030 to be at least 40% as an average across international shipping compared to 2008 levels.**
- **Indicative checkpoints to reach net-zero GHG emissions from international shipping of 20% striving for 30% by 2030, and 70% striving for 80% by 2040, compared to 2008.**
- **Low-carbon and zero-carbon fuels/energy source uptake for international shipping to be at least 5%, striving for 10%, by 2030.**
- **Recognition of the need for a broad approach to regulating the safety of using zero or near-zero GHG emission technologies, fuels and/or energy sources, including addressing the human element, to ensure a safe implementation of the Strategy.**
- **Review, with the aim of strengthening, the energy efficiency design requirements for ships.**

The only way that the above would be possible is to retrofit as many of the current fleet as possible, and to scrap and replace those that cannot be retrofitted. As we have experienced before when there has been great demands on new-buildings, the major issue with this, apart from the cost, is the lack of suitable yard-space, added to the lack of acceptable new-fuel engines, coupled with the delay in producing the new technological advances that will enhance the energy saving factor and emission reduction systems. The new breed of ships will be digitally monitored, providing data in real-time, both to the Master and to the technical managers, allowing decisions to be made concerning the best routing or the optimum replacement program to be taken.

In 2050, when we are in or around the target date, the global trade volumes are expected to be nearly triple of the current volume, of which approximately 90% will still be shipped by sea. The global population is expected to have increased from the current 8 billion to 9.7 billion. Therefore, in addition to replacing the existing fleet, there will necessarily be a need for additional tonnage, with an expectation that the current merchant fleet of just under 120,000 vessels above 1000 GT will need to add at least an additional 1000 to 1500 ships to the fleet per year, bearing in mind that the carriage capacity of the ships is increasing as it has done throughout history.



The first Q-Flex LNG carrier was delivered in 2007 and Q-Max in July 2008, being 210,000 CBM & 266,000 CBM respectively, replacing the standard 165,000 CBM's. Likewise the first Valemax was only delivered in 2011 @ 400,000 mt DWT. These new ships will require crewing, and as we learnt during COVID, the enthusiasm to become a seafarer is not as strong as it was in the past. As per above, it is predicted that the ships will be increasingly more autonomous, and although this is in its infancy, there have already been trials of "drone-ships", but the problems that still need resolving include liability issues, the use of technical-nautical services, rescue, and how to maintain the sanity of the dwindling number of crew-members on board.

It must be remembered that shipping is not stand-alone. All industries have to face the same problem with respect to the reduction of GHG emissions, therefore we will be competing for the greener fuels, and as in the past, shipping will get the bottom of the barrel and not the cream

from the top. It would appear that the IMO has reacted faster than many other global organizations, and shipping is in the forefront of the drive, with the ability therefore to choose a path and not be forced down a path.

Of course, the efficiency of the ships depends not only on what happens at sea, but also on the ability of the ports and terminals to process them once they have arrived, whether by reducing the time lost waiting to get to berth, or by the efficiency of the loading and discharging facilities. Efficient and rapid data exchange is necessary, and the drive towards e-B/L's is but a tiny part of it.

Therefore, whilst the engineers are busy designing the optimum hulls, propellers, and drag-free profiles, there will be a similar process going-on on-shore with the upgrading of the road and rail networks to ensure a smoother supply chain from well-to-wake-to-customer.



What has this got to do with MEPC 80? Well basically, it is all related and all part of the same goal to reduce the destruction of the Earth's atmosphere, and reduce the rate at which the Oceans are warming. MEPC 80 showed a firm commitment from the shipping nations of the world to be in the vanguard and not bringing up the rear. Shipping has made major changes in the past, and is ready for the next step – striving for zero carbon in 2050, using the EEXI & CII as a means to an end. In the words of the IMO Secretary-General Kitack Lim : "The adoption of the 2023 IMO Greenhouse Gas Strategy is a monumental development for IMO and opens a new chapter towards maritime decarbonization. At the same time, it is not the end goal, it is in many ways a starting point for the work that needs to intensify even more over the years and decades ahead of us. However, with the Revised Strategy that you have now agreed on, we have a clear direction, a common vision, and ambitious targets to guide us to deliver what the world expects from us. Above all, it is particularly meaningful, to have unanimous support from all Member States. In this regard, I believe that we have to pay more attention to support developing countries, in particular SIDS and LDCs, so that no one is left behind."



by **Mark Mirosevic-Sorgo**  
Managing Director - Singapore  
Quincannon Asia Pte Limited

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