



المؤتمر السعودي البحري SAUDI MARITIME CONGRESS

13-14 September 2020

Dhahran Expo, Dammam, Kingdom of Saudi Arabia

Under the Patronage of

His Royal Highness Prince Saud bin Nayef Al Saud,
Governor of Eastern Province



Alternative Fuels in Shipping

'Alternative Fuels', as per Directive 2014/94, means fuels or power sources which serve, at least partly, as a substitute for fossil oil sources in the energy supply to transport and which have the potential to contribute to its decarbonisation and enhance the environmental performance of the transport sector.

Source: EMSA - European Maritime Safety Agency

This is the vision in the initial IMO GHG strategy on reduction of greenhouse gas (GHG) emissions from ships adopted by IMO's Marine Environment Protection Committee (MEPC) in April 2018, during its 72nd session at IMO Headquarters in London, United Kingdom. The initial strategy also envisages for the first time a reduction in total GHG emissions from international shipping by at least 50% by 2050 compared to 2008, while, at the same time, pursuing efforts towards phasing them out entirely.

Source: International Maritime Organization (IMO)



The use of alternative fuels is a relevant area of technological development for green shipping as the industry is under increasing pressure to act on the Paris Agreement and reduce CO2 emissions by at least 40% by 2030, pursuing efforts towards 70% by 2050.

IMO2050: How to achieve these goals?

Achieving the goals of the initial IMO GHG strategy will require a mix of technology developments and the introduction of low-carbon fuels.

DNV GL, the world's leading classification society, has identified LNG, LPG, methanol, biofuel and hydrogen as the most promising alternative fuels for shipping.

Among the new technologies, the classification society believes battery systems, fuel cells and wind-assisted propulsion have reasonable potential for ship applications.

[Source: DNV GL](#)

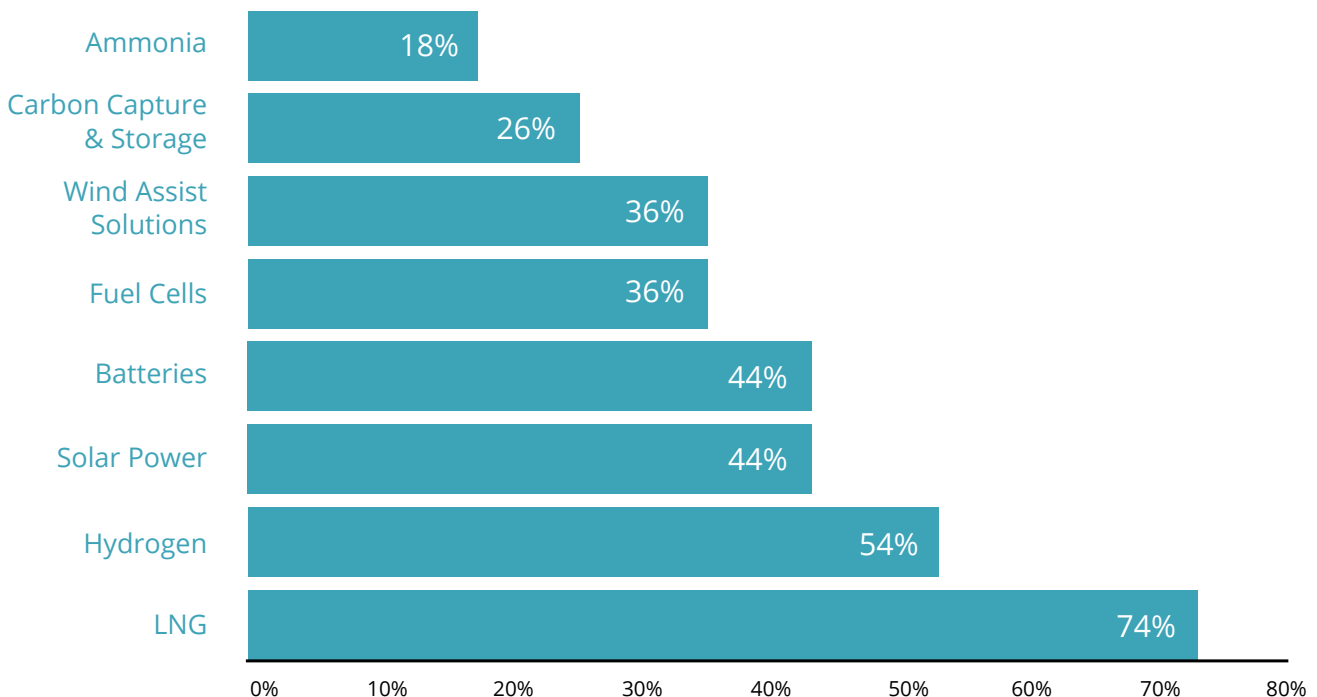
According to a Seatrade Maritime News poll taken in February 2020, LNG and hydrogen were top choices for future fuels.

LNG led the way with 23.3% despite the fact that it will not reach the 50% cut in GHGs required by 2050. Second, with 20.8% of the votes, was hydrogen which offers the possibility of truly zero carbon fuel for shipping. Hydrogen however, is only in its trial stages as a marine fuel and issues remain in terms of storage and energy density.

[Source: Seatrade Maritime](#)

A similar response was given during Seatrade ShipTech Middle East 2019 conference, where delegates were asked to vote for their preferred decarbonisation tool for deep sea shipping. See poll results below:

Which decarbonisation tools will emerge for deep sea shipping?



The topic of the initial IMO GHG strategy will also be discussed during the upcoming Saudi Maritime Congress 2020.

The conference session “*The fuel revolution to 2050*” will see speakers from ABS, Bahri Ship Management and Wartsila discussing environmental concerns for shipping and the impact on the alternative fuel landscape.

Session panellists were asked their thoughts on the upcoming alternative fuel sources and which option they think will make an impact on the industry over the coming years.

Peter Fitzpatrick, Vice President, Strategic Development, ABS, said that the company has seen ‘a lot of interest in gas as marine fuel, notably LNG, with a number of owners also looking at LPG’. He added that though ‘the LNG marine fuel complex is expanding, with fuel infrastructure growing, it has a long way to go to provide strong regional or world-wide coverage’.

“In the short to medium term, dual fuel vessels are likely to be the predominant technology that owners will adopt, though this does not suit all ships or trading routes.

In the medium to long-term, the industry appears to have a choice between hydrogen, ammonia and biofuels produced from renewable sources.

However, it’s unlikely that any one of these will become the dominant marine fuel any time soon. Future fuel solutions will be dictated by which fuel best suits which application; whether fuel cells, sustainable biofuels or more exotic alternatives.”, said Mr. Fitzpatrick

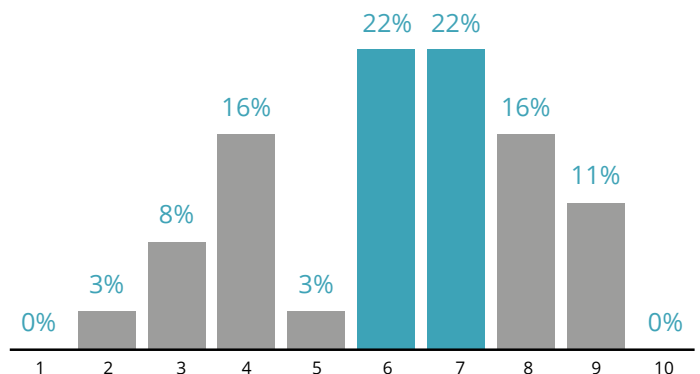
In the opinion of **Kaj Portin, General Manager, Research & Technology Programmes, Wärtsilä Finland Oy**, biofuels and synthetic fuel, both in liquid and gaseous form, should be considered as viable alternative fuel sources.

Abdulaziz Sabri, President, Bahri Ship Management, highlighted that zero-carbon fuels are essential in achieving at least 50% reduction in annual GHG emissions by 2050 as CO2 emissions need to be reduced by almost 85%.

“While there has been a growing focus on fuels such as LNG and Methanol, I understand that sources such as Ammonia and Hydrogen are showing a lot of potential which is being explored.”, he added.

IMO2050: Is it achievable?

When we asked Seatrade ShipTech Middle East 2019 delegates how confident they were that the IMO could reach agreement on a full strategy and roadmap to attain its own 2050 goals, almost half (44%) said they felt quite confident – see the graph opposite.



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Peter Fitzpatrick, Vice President,
Strategic Development, ABS

We then put the same question to our Saudi Maritime Congress 2020 “The fuel revolution to 2050” session panellists:

Kaj Portin, General Manager, Research & Technology Programmes at Wärtsilä Finland Oy has described IMO2050 targets as “well defined and achievable”. However, he highlighted the need for the whole industry and other influencers to come together in order to achieve them.

Abdulaziz Sabri, President, Bahri Ship Management, seconded his industry colleague’s comments, saying that because of the involvement of so many parties and a potential economic impact for ship owners and operators, “it will require a lot of discussions before an agreement can be reached”.

“The IMO is extremely committed to achieving these targets. Over the years the IMO has approved amendments to strengthen existing mandatory requirements; initiated studies and encouraged cooperation between port states and other stake holders. I am quite confident that in the coming years we shall see more developments in this area and a clearer strategy will be established.”, said Mr. Sabri.

Peter Fitzpatrick, Vice President, Strategic Development, ABS, also commented that “a lot must be done before we get there [...] We will not know the final shape of the required reductions in carbon intensity until the IMO issues its final guidance in 2023. However, the industry has a starting point for immediate actions to improve energy efficiency based on the IMO’s initial strategy, while work continues through the MEPC and intersessional working groups towards further measures.

The IMO’s strategy is detailed – including the collection of emissions data on a global fleet basis and conducting the 4th GHG study to better determine shipping’s contribution to climate change – including actions such as capacity building in developing nations.

Though 2030 is relatively close in the life of the average trading vessel, once the industry knows what carbon reductions it must comply with, the design of ships and development of the necessary fuel supply chains to power them can begin in earnest.”.

The full interviews with the panellists can be found on the Saudi Maritime Congress website [here](#).




Peter Fitzpatrick
Vice President, Strategic
Development,
ABS



Kaj Portin
General Manager,
Research &
Technology
Programmes,
Wärtsilä Finland Oy



Abdulaziz Sabri
President,
Bahri Ship
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Abdulaziz Sabri, President,
Bahri Ship Management

Join our speakers as they continue the discussions on environmental concerns for shipping and the impact on the alternative fuel landscape at Saudi Maritime Congress in Dammam on 13-14 September 2020.