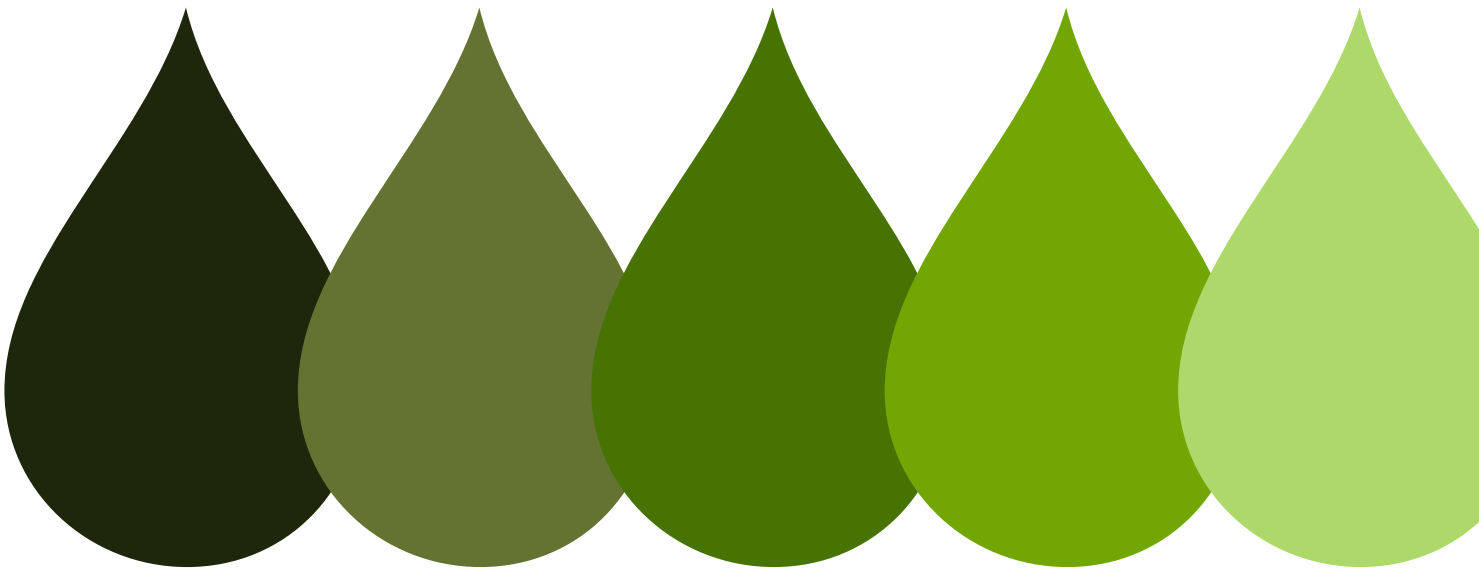


POSITION PAPER | AUGUST 2022

Green Curriculum

Ensuring Safe Working for Mariners



POSITION PAPER

Green Seafarer Safety Needs

Executive Summary

The world's targets for decarbonisation cannot be reached without a huge effort from the shipping community and the delivery of the 4th propulsion revolution. New technologies and fuels will power this transformation, but it is the people working at sea and ashore who will make it a reality. To ensure the safety of our seafarers, standards will need to be set and curricula developed that will provide them with the knowledge and skills they need to operate safely.

With an ultimate target for decarbonisation in 2050 as well as nearer term 2030 targets that must be met, action is needed now to ensure that training can be developed and deployed in good time. A working group has been established with representation from International Chamber of Shipping (ICS), International Transport Workers Federation (ITF), Institute of Marine Engineering Science and Technology (IMarEST), The Nautical Institute (NI), and Ocean Technologies Group (OTG). The objective is to consider the knowledge and skills that need to be acquired and how they might be assessed and accredited to a globally accepted and consistent standard.

This paper sets out the initial findings of the group and charts the way forward.



International Chamber of Shipping



OCEAN
Technologies Group

The issue

Without question, the decarbonisation of the global shipping industry will dominate the maritime agenda for the ensuing decades. It is the single most prominent subject on the agenda of the International Maritime Organization and is referred to as the IMO's "Initial Strategy".

Over the next three decades, the shipping industry will face unprecedented challenges as it strives to achieve the 50% reduction in GHG emissions by 2050. These challenges involve the introduction of alternative new fuels, fuels that will replace the current heavy oil and marine diesel oil in what has been called the 4th revolution in marine propulsion. Proposals for these fuels include ammonia, methanol, hydrogen, LNG and fuel cells.

All of these fuels are inherently dangerous to the seafarer and offer previously unfamiliar hazards. The industry will require to develop higher crew competence levels and rethink the approach to safety. There will be a need to identify the training, skillsets and future requirements of mariners who will be required to handle these hazardous alternative fuels.

The facts

The international shipping industry is entering the biggest period of change since the transition from sail to steam: a green industrial revolution.

The maritime industry is responsible for 3% of global emissions, but critics say that it has been slow to tackle the problem and needs to make significant changes to reduce its environmental impact. Since the Paris Agreement was ratified in 2015, the IMO has stepped up its efforts to tackle climate change by reducing CO₂ emissions from ships. In 2018, (April 2018 MEPC.304(72)) the IMO adopted an "Initial Strategy" on the reduction of GHG, setting out a vision which confirms the IMO's commitment to reducing emissions and phasing them out as soon as possible. The strategy sets specific targets to reduce CO₂ emissions "per transport work" by at least 40% by 2030 and 70% by 2050 compared with a 2008 baseline, and to reduce total GHG emissions from shipping by 50% by 2050. This should be followed by a total phasing out of greenhouse gases (including CO₂) as soon as possible in the second half of this century. In order to achieve these targets, a number of short, medium and long term measures will be required. Discussions on short term measures are due to conclude in 2023, mid-term measures in 2030 and long term measures after 2030.

The need to act

In the latest report on climate change from the IPCC (April 2022), the IMO receives its own share of criticism. According to the review, "all of the scenarios envisioned in the IMO's fourth greenhouse gas study will result in emissions equal or greater than 2020 levels by mid-century", the report suggests the shipping sector's sights will have to be raised.

Professional organisations (unions, NGO's) representing seafarers, have not as yet positioned themselves within this global initiative and therefore seafarer representation is in danger of being left behind and placed on the wrong side of history. To do nothing is to stand still; to stand still is to go backward. It is therefore imperative that there is collaboration between leading and respected organisations to become part of the global debate and in so doing raise global visibility as a consultative voice raising awareness of the impending seismic change to the industry and to demonstrate a niche "go to" expertise.

Such expertise should demonstrate leadership in international standards that are designed to be used globally in order to avoid a fragmented approach, in particular with regards to safe handling by vessel crews of the proposed hazardous fuels.

This initiative brings together influential and respected organisations that collectively represents the seafarer in the global arena: The ICS; The ITF; The Nautical Institute, the IMarEST and the OTG all bring a unique expertise to the table that collectively can affect global change that will enhance seafarer standards.

The need for standards

STCW has been the backbone of seafarer competency since inception, ensuring a common framework and minimum standard that all operators must follow. Whilst there are discussions in progress on future skills and the revision of STCW, this is unlikely to be achieved before 2030, and the ordinary mechanisms of legislation filtering down to training provision and certification will take many years to accomplish. This potentially leaves us without a common standard in the interim, making it difficult to establish a consistent baseline of knowledge and skills required for safe operations. Moreover, without a clear universally agreed standard there is danger of fragmentation as different operators and training providers adopt their own criteria, making it difficult for seafarers to transition between companies and be quickly mobilised.

The position

The work of this Group will be placed in developing a curriculum rather than a delivery solution. This Group will pursue the following actions to assist in the development and training of seafarers who may be involved in the handling of the proposed hazardous alternative fuels.

- The key focus of the Group will be on safety and people issues rather than construction and design i.e. what our seafarers need to learn and what skills will they need to develop to operate safely with new fuels. This may involve new aspects of specific fire-fighting techniques; the application of sophisticated PPE; monitoring and maintenance as well as bunkering requirements.
- To develop a global standard that international education should follow, enabling a harmonised independent certification solution delivered through The Nautical Institute. A global standard that must be distinctly separate from the current perceived minimum standards.
- This solution will provide consistency, ensure quality and provide confidence to ship operators and related stakeholders.
- The work will be mindful of unnecessarily increasing the load on the seafarer. Where possible it will seek to consolidate competency requirements across fuel types and leverage existing training standards and or curricula/guidance. It will wherever possible be a curation rather than a creation exercise.

The approach

This will be achieved by establishing a core working group of representatives from leading and respected organisations supplemented by advisors from other supporting bodies.

- This working group will evaluate the competencies required for safe operation of green fuels and deliver a verifiable professional standard for training schemes, certification and accreditation.
- The group will seek to align and cooperate with relevant initiatives across the Industry e.g. as part of the UN Global Compact and Shipping industry Just Transition Task force, DNV has been commissioned to develop a work stream which will identify new fuels issues, predicts when new vessels will likely come on stream, when in what numbers and the volume of seafarers that will be impacted i.e. the number that will require new skills training. ICS, ITF and OTG will participate in this work and keep the group apprised of developments throughout this year. – Initial scope in April – delivered circa November 2022.

Conclusion

We cannot underestimate the people-challenge that awaits us in the transition to green fuels. Knowledge and skills development will be required at scale and we have a historically short window in which to put in place training and assessment provision. Moreover, the need for this to be done to a common standard that ship operators, charterers, ports and terminals can have confidence in will require consultation and collaboration with multiple stakeholders as well as a good deal of combined effort to achieve. In forming the Green Curriculum Working Group we have begun to get this work underway.

References

The arguments – An Industry Perspective[ref:Decarbonising shipping – Shell]

Why should the sector change? i.e. what might trigger industry stakeholders to act:

Market and Customer Demand: Pressure and incentives from society, customers, financiers and investors which create motivation for ship owners and operators to change.

Regulatory Incentives: Instruments applied by global regulators and regional and local authorities. These can include incentives such as tax cuts and disincentives like fines and carbon levies.

Can the sector change? i.e. is decarbonisation feasible in a foreseeable future:

Technology Alignment: Technical and commercial feasibility of alternative fuels and other lower emission technology alongside clarity on how to further develop these.

Clarity on Roles and Decision-Making: The ease in making decisions, clarity on the roles and responsibilities of key groups in the industry, and whether their priorities are aligned.

How fast can the sector change?

i.e. what effort is required to implement change at scale:

Ease of Asset Replacement: What it takes to replace or upgrade the ships. This depends on ship cost, complexity and lifespan, and the rate at which alternative technologies are developed.

Ease of Infrastructure Replacement: What it takes to set up green production of new fuels at scale, deliver them to ports and prepare for bunkering. The more production capacity needed and the more dispersed the infrastructure, the greater the challenge.

Conclusions [ref: Zero-Emissions Shipping – Oxford University 2021]

Considering these environmental and safety concerns, supporting regulation (in IGF/IGC Codes and elsewhere) will be necessary to properly manage the risks and liabilities associated with the use of hazardous alternative fuels. Regulation and legislation for the use of these fuels elsewhere in the supply chain largely already exists, but guidelines specific to their use as marine fuel will provide essential clarity to operators. The safety of crews is also a top priority for operators. The shipping industry has substantial experience in moving dangerous and toxic products, and with the correct training, regulation, and buy in, concern for crew safety can likely be sufficiently alleviated.