

## WMU President's Welcome Speech

### *Ammonia and Hydrogen as maritime fuels*

Workshop, Malmö, 20-21 April 2022

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As President of the World Maritime University (WMU), it gives me great pleasure to welcome you today to the World Maritime University, and to the Nordic Maritime Transport and Energy Research Programme "Ammonia and Hydrogen as maritime fuels" workshop.

Let me begin by thanking the Nordic Maritime Transport and Energy Research Programme and its national funders for supporting this workshop and the research projects whose results will be discussed today. I am delighted to see so many of you here today and I hope that this workshop will provide a useful opportunity for exchanging ideas and progressing research and development on this important topic.

The maritime industry is probably standing at the beginning of one of its greatest technological challenges, as it prepares to transition to a zero and low-emission industry through the adoption of technological innovations. Hydrogen and ammonia are two fuels which contain no carbon, and thus offer the possibility of a zero-carbon energy source, in line with the IMO initial strategy and Paris Agreement goals. Yet, there exist significant challenges which must be overcome for this promise to be fulfilled. The use of such fuels must be safe, affordable and sustainable. Ammonia and hydrogen must be used in a way that ensures the highest safety standards for international shipping to ensure the safety of seafarers, passengers and transported goods. Hydrogen and ammonia must become affordable and available across the globe if they are to play a significant role in international shipping. And finally, they must be used in an energy efficient and sustainable manner, in order to ensure minimal environmental impact over their entire life cycle.

We are already witnessing the impact of the IMO's initial GHG strategy helping to accelerate the global momentum on greenhouse gas mitigation within the shipping industry, not least through initiatives like this workshop. The deployment of energy saving measures, zero-carbon renewable fuels, and the use of modern renewable energy technologies is gaining momentum, but more needs to be done to ensure that initiatives reach their full potential.

The World Maritime University is striving to play its part to advance research and education to ensure that capacities are built worldwide for sustainable energy technologies in the maritime sector and to help maritime stakeholders to reduce the emission of GHGs and air pollutants, contributing directly to UN SDG 13 – climate action and to UN SDG7 - affordable and clean energy. WMU has an important teaching and research role and responded to this important challenge by launching the Maritime Energy Management (MEM) specialisation in 2016. Its educational stream relating to Maritime Energy Management (MEM) is a direct and effective mechanism for addressing GHG emissions. WMU is strongly committed to UN SDG 13 and works to support the achievement of sustainable and energy-efficient maritime and ocean industries. Since 2016, it has offered an MEM specialization. In 2018, WMU launched a new postgraduate diploma programme in MEM by distance learning, to reach an even wider audience. We must remember that maritime decarbonisation is a global challenge. To date, 62 maritime professionals from 31 different developing countries have graduated from the MSc programme in MEM, thereby ensuring the building of expertise particularly for developing countries. Our graduates can support their ministries and institutions to understand and to take action to implement the relevant instruments of the IMO in their home countries. In this way, they can participate in the global effort towards zero and low-emissions technologies being deployed in international shipping.

Maritime Energy Management is also one of WMU Research Priority Areas (RPAs) of WMU, developing innovative approaches to policy making for energy management, contributing to innovative designs and operation of vessels. The approach uses a holistic approach and ship life-cycle perspective (design, production, operation and recycling) and includes considerations of the impacts of shipping on oceans, ports and shipyards. Through cutting-edge research in the MEM field, as embodied by international research projects such as the Nordic Maritime Transport and Energy Research Programme funded CAHEMA, the Horizon 2020 funded project CHEK, and IMO's project on "Enhancing Safety and Energy Efficiency of Domestic Passenger Ships in the Philippines", amongst many, WMU contributes significantly to achieving the objectives of SDG7 and SDG13.

To make sure ammonia and hydrogen will become safe, affordable and sustainable maritime fuels, we need to combine research and education to be able to overcome the maritime decarbonisation challenge ahead. As we prepare to transition to a zero and low-emission industry we need to remind ourselves of the need common strategies in the face of adversities. Global research, education, and development will be key to the successful peaceful global development, and in securing it for the future.

I hope that the scientific and technical discussions on hydrogen and ammonia of this two-day workshop will provide a significant step in this direction, and I wish all the participants a very fruitful event.

Dr. Cleopatra Doumbia-Henry