

**WMU PRESIDENT'S REMARKS FOR THE "ZERO-AND LOW-EMISSION
INNOVATION FORUM" (27-29 September 2021)**

Draft

WORLDWIDE MARITIME INNOVATIONS FOR A SUSTAINABLE
MARITIME FUTURE

Distinguished Participants, Ladies and Gentlemen

As President of the World Maritime University (WMU), it gives me great pleasure to address you today. We are here to discuss new ways of developing and sharing technological innovations for zero and low-emission maritime transportation.

The maritime industry is probably standing at the start of one of its greatest technological challenges of our times, as it prepares to transition to a zero and low-emission industry through the adoption of technological innovations. It is a necessary step, as it is well-known that the anthropogenic (human-made) greenhouse gas emissions have already started affecting our lives in a practical manner. They are partly responsible for unusual weather patterns, sea-level rise and more

frequent floods, fires and possible loss of islands within the century. The world is entering a new era where reduction and removal of GHGs from international shipping is becoming a priority, in accordance with the commitments of the Paris Agreement on Climate Change. The IMO's initial GHG strategy has helped to accelerate the momentum for the decarbonisation efforts within the shipping industry. Global cooperation towards mitigation of GHGs as well as air pollutants, like sulphur oxide, are crucial elements for this momentum. This FORUM is therefore a very good example in support of the action that is urgently needed.

Given the scale and the urgency of this global challenge, we realise the inevitable need for global collaboration. Zero-emissions maritime transport can only be achieved in the long-term if stakeholders around the world benefit from its development and deployment in a sustained way. Benefits are an incentive for progress, and their global distribution will gauge their global success. The inclusiveness of technological development will thus be key to its own success in the deployment of the technologies, which are emerging today and are indeed exciting. We see the emergence of modern wind propulsion technologies, zero-carbon renewable fuels and innovative energy saving measures reminiscent of science fiction. Technologies are evolving even as we speak, and there is

a great and urgent need for global research, education, and the sharing of experiences.

The World Maritime University is striving to play its part to advance research, contribute to education and ensure that capacities are built worldwide for sustainable energy technologies in the maritime sector. Through the maritime energy management (MEM) stream at WMU, maritime stakeholders can reduce air emissions and support the United Nations Sustainable Development Goals (UN SDGs) which calls for immediate action on the part of all countries, organizations and individuals to “achieve a better and more sustainable future for all”. Of particular relevance to the maritime and ocean fields are those goals relating to climate change and the emission of GHGs and air pollutants - UN SDG7 - focused on affordable, reliable and sustainable modern energy for all. This is complemented by UN SDG 13 which is focused on urgent action to combat climate change and its impacts.

In the light of the above, WMU has an important teaching and research role to play. 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 SDGs 7 & 13 and

works to support the achievement of sustainable and energy-efficient maritime and ocean industries.

WMU is at the forefront of MEM education and research. Since 2016, it included an MEM specialization within its Master of Science in Maritime Affairs programme. In 2018, WMU launched a new postgraduate diploma programme in MEM via distance learning. 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. To date, 34 out of 62 WMU graduates who have specialized in the MEM are from Africa. Our graduates on their return to their home countries are able to support their ministries and institutions to understand and to take action to implement the relevant instruments of the IMO. In this way, they are able to participate in the global effort towards zero and low-carbon emissions technologies being deployed in international shipping.

The introduction of our well-received MSc in MEM, as well as the launch of the new PG Diploma in Maritime Energy delivered through distance learning, speak to our commitment. In addition, the close collaboration of WMU with all MTCCs, since they were established, is another of our commitment to maximize the global efforts towards the decarbonisation of international shipping.

I wish to take this opportunity to draw your attention to MEM being one of the WMU Research Priority Areas (RPAs). In this respect, this RPA examines issues raised with respect to energy management with a view to reducing air pollution and generating and consuming energy in a sustainable manner. The topic requires significant research in understanding current problems, generating innovative approaches to policy making for energy management, the design and operation of vessels with particular reference to the use of renewable sources of energy and to provide valuable insights into how the maritime industry can contribute substantially, and in an accelerated manner, to achieving a zero/low carbon and an energy efficient global future.

This RPA seeks to advance the knowledge in the MEM field by conducting world-class fundamental and applied research in the thematic areas of energy efficiency, regulatory frameworks, renewable energy, social factors related to energy as well as the economics of energy and energy-related technology and innovation. The thematic areas are addressed using a ship life-cycle perspective (design, production, operation and recycling) and in consideration of the impacts of shipping on oceans, ports and shipyards. Cutting-edge research in the MEM field, as embodied by international research projects include:

- The Horizon 2020 funded project CHEK (*deCarbonizing sHipping by Enabling Key technology symbiosis on real vessel concept designs*),
- The Nordic Energy Research funded project CAHEMA (*Concepts of ammonia/hydrogen engines for marine application*),
- Nordic Innovation funded research project on [Cold Ironing] and
- Trafikverket (Swedish Transport Administration) funded project on Emission Trading System (ETS) and its impact on international shipping.

WMU contributes significantly to achieving the objectives of SDG7 and SDG13. Now, that the whole WMU's portfolio in the MEM field has been made very clear to you, it is time to ask you to focus next on your deliberations. However, before leaving you, I would like to bring to your attention one last aspect: the WMU book - Trends and Challenges in Maritime Energy Management - which was published in 2018 with Springer Nature and today is among their top used publications related to the UN SDGs 7 and 13.

As we face one of the maritime community's greatest challenges, we need to take into consideration the big picture and remind ourselves of the need for common strategies. Global research, education and development including common funding mechanism will be key to the successful

development and deployment of zero and low-emission maritime technologies. These innovations will benefit developed and developing countries not only in terms of their infrastructure and facilities but also in contributing to the global common goals of successfully deploying zero and low-emission technologies in the maritime sector.

Let me now take the opportunity to wish all the participants a very fruitful Forum.

Thank You.
