

PRESS RELEASE

Not for immediate release

Release date: 12noon SGT, Wednesday, 26 January 2022

GCMD awards ammonia bunkering safety study to DNV-led consortium

Singapore, 26 January 2022 - The Global Centre for Maritime Decarbonisation (GCMD) is pleased to award its ammonia bunkering safety study to a DNV-led consortium. DNV, a globally established class society, is partnering with Surbana Jurong and the Singapore Maritime Academy (SMA). Surbana Jurong's understanding of the local landscape will be critical to site identification for ammonia bunkering. SMA, part of Singapore Polytechnic, will co-develop workforce curriculum and provide manpower development in handling ammonia as a bunker fuel.

GCMD announced its first Invitation for Proposals "Defining the safety and operational envelopes to enable ammonia bunkering pilot and demonstration" on the 8th of October 2021 to a short list of classification societies and engineering consultants and received a strong response upon its close. Evaluation of the proposals was carried out by a team comprising industry experts with extensive experience and knowledge in this area, and the GCMD projects team.

A precursor to the demonstration of ammonia bunkering in Singapore, the intent of this study is to define a robust set of safety guidelines and operational envelopes that will establish the basis of a regulatory sandbox for trials at two local bunkering sites. Handling ammonia as a bunker fuel will require more stringent safety and operational guidelines compared to transporting ammonia as a commodity given the substantively higher transfer frequency and the need for more flexible transfer configurations. This study will build on guidelines that have been developed for safe handling of ammonia as a commodity by defining and then integrating or overlaying the guidelines required for safe handling ammonia as a bunker fuel.

While conducted in Singapore, this study can be calibrated to site-specific operational conditions to help advance the deployment of green ammonia as a bunker fuel elsewhere.

Professor Lynn Loo, the CEO of GCMD, said "As with any new bunker fuel, there are safety and operational challenges associated with their use. GCMD has chosen to look at ammonia bunkering as its first project because ammonia is among the most energy-efficient green fuel to be produced. This study to define the safety and operations envelopes for ammonia bunkering is critical to its eventual adoption anywhere. We have chosen to commission this study in Singapore; with Singapore being a population dense island nation and a major bunkering hub, the stringent guidelines developed in this study will likely be extensible to ports elsewhere."

On news of the award, Knut Ørbeck-Nilssen, CEO of DNV Maritime, added “Our research shows that a number of safety gaps hold the potential to disrupt the speed and success of shipping’s energy transition. The safe handling of ammonia – among the most promising future fuels – is one such gap which urgently needs to be closed, given the threat it poses to seafarers and ships unless properly managed. We are therefore thrilled to partner with Surbana Jurong and Singapore Maritime Academy on this pioneering initiative, which we hope will lay the foundations for robust ammonia bunkering safety guidelines with industry wide applicability.”

Ahead of the award of this study, GCMD signed letters of collaboration with 21 industry partners who have agreed to share confidential technical information with the consortium so a robust set of recommendations can be made to regulators. A list of these partners can be found in Annex A. In addition, more than 30 organisations across the supply chain have registered to be part of the Industry Consultation and Alignment Panel (iCAP), set up by the centre to solicit input on the study recommendations. Interested companies may continue to register their interest to be part of the iCAP at this link: [iCAP registration form](#).

The Maritime and Port Authority of Singapore (MPA), a founding partner of the Centre, will take the findings from the GCMD study into consideration to facilitate the development of a regulatory sandbox for future trials.

In parallel, GCMD has initiated discussions with the Singapore Maritime Institute (SMI) and the Centre for Excellence for Maritime Safety (CEMS) at the Singapore Polytechnic to operationalise the manpower development framework for training operators for the ammonia bunkering pilot.

“In any sustainable transition, a robust management of change process must always be in place where safety is mandatory to protect lives, the environment and investments,” said Dr Sanjay C Kuttan, GCMD Chief Technology Officer. “The overwhelming support from both industry partners and iCAP members is testament to the importance of this study, and GCMD is committed to co-creating a positive impact with our partners as we navigate the challenges of maritime decarbonisation.”

The study will commence in February 2022 and is expected to take 10 to 12 months to complete.

About the Global Centre for Maritime Decarbonisation

The Global Centre for Maritime Decarbonisation (GCMD) was formed on 1 August 2021 with funding from the Maritime & Port Authority of Singapore (MPA) and six founding partners, namely BHP, BW, DNV Foundation, Eastern Pacific Shipping, Ocean Network Express and Sembcorp Marine. Located in Singapore, the Centre's mission is to help the maritime industry eliminate GHG emissions by shaping standards, deploying solutions, financing projects, and fostering collaboration across sectors.

Media contact: Tina Ang, Communications Manager | +65 6979 7660 | tang@gcformd.org

For more information, please visit www.gcformd.org

About DNV Maritime

DNV is the world's leading classification society and a recognised advisor for the maritime industry. We enhance safety, quality, energy efficiency and environmental performance of the global shipping industry – across all vessel types and offshore structures.

We invest heavily in research and development to find solutions, together with the industry, that address strategic, operational or regulatory challenges.

For more information visit: www.dnv.com/maritime

About DNV

DNV is the independent expert in risk management and assurance, operating in more than 100 countries. Through its broad experience and deep expertise DNV advances safety and sustainable performance, sets industry benchmarks, and inspires and invents solutions.

Whether assessing a new ship design, optimizing the performance of a wind farm, analysing sensor data from a gas pipeline or certifying a food company's supply chain, DNV enables its customers and their stakeholders to make critical decisions with confidence.

Driven by its purpose, to safeguard life, property, and the environment, DNV helps tackle the challenges and global transformations facing its customers and the world today and is a trusted voice for many of the world's most successful and forward-thinking companies.

For more information visit: www.dnv.com

Media contact DNV Maritime:

Tomas Barrett, Global Head of Corporate Communications

DNV Maritime Communications

Tel.: +49 (0)40/36149-4856

E-Mail: tomas.barrett@dnv.com

Global Centre for Maritime Decarbonisation
Ammonia bunkering safety study
Study partners

Role in supply chain	Partner
Fuel producers	+ Yara International ASA
Fuel storage terminal operators	+ Oiltanking Asia Pacific Pte Ltd + Vopak Terminals Singapore Pte Ltd
Bunker suppliers & barge operators	+ Fratelli Cosulich Bunkers (S) Pte Ltd + Hong Lam Marine Pte Ltd + Kenoil Marine Services Pte Ltd + Pavilion Energy Singapore Pte Ltd
Port terminal operators	+ Jurong Port Pte Ltd + PSA Corporation Limited
Vessel owners & operators	+ Asiatic Lloyd Maritime LLP + Eastern Pacific Shipping Pte Ltd + Mitsui O.S.K. Lines, Ltd + Navigator Gas L.L.C. + Nippon Yusen Kabushiki Kaisha + Ocean Network Express Pte Ltd + Pacific International Lines (Private) Limited
Shipyards	+ Keppel FELS Limited + Sembcorp Marine Ltd.
Fuel testing service providers	+ Viswa Lab Singapore Pte Ltd (The Viswa Group) + Veritas Petroleum Services (Pte) Ltd
Metrology	+ National Metrology Centre, A*STAR Research Entities