

Joint Agreement Reached for GHG Zero-Emission Ship

Imabari Shipbuilding Co., Ltd. ("Imabari"), MAN Energy Solutions (hereinafter "MAN"), Mitsui E&S Machinery Co., Ltd. ("Mitsui E&S Machinery"), ClassNK ("ClassNK"), ITOCHU ENEX Co. Ltd. ("ITOCHU ENEX") and ITOCHU Corporation ("ITOCHU") have agreed to jointly develop ships equipped with a main engine using ammonia as its main fuel ("Ammonia-fueled Engine").

With international momentum towards the transition to a decarbonized society on the increase since the Paris Agreement came into effect in 2016, the International Maritime Organization (IMO) adopted a strategy for the reduction of greenhouse gas (GHG) emissions within the shipping industry in 2018. This strategy set targets to reduce CO₂ emissions per transport work – as an average across international shipping – by at least 40% by 2030 (compared to 2008 levels), by 50% by 2050, and to phase them out entirely (zero-emissions) during this century. In order to achieve these goals, the early development of zero-emission ships is anticipated with ammonia a prime candidate for a suitable zero-emission, alternative fuel.

The purpose of the joint agreement is not limited to the development of ships equipped with an Ammonia-fueled Engine, but also extends to the question of owning and operating the ships, supplying ammonia fuel and developing ammonia supply facilities. The consortium intends to promote initiatives to reduce GHGs with the cooperation of domestic and overseas companies, as well as the relevant government agencies.

Individual roles

As such, each member of the consortium will concentrate on its own, respective area of expertise during the zero-emissions vessel project as follows:-

Company	Individual role
Imabari	【Develop ships with Ammonia-fueled Engine】 As part of the development of ships aiming for zero emission ships, Imabari will promote the development of ships equipped with Ammonia-fueled Engine. Imabari will develop and design the ship that mounts a series of systems practically and safely on board, such as an ammonia storage tank as a marine fuel, a fuel supply system, and a main engine.
MAN	【Develop Ammonia-fueled Engine】 MAN Energy Solutions will develop an Ammonia-fueled Engine and provide the key data necessary for design a ship equipped with an Ammonia-fueled Engine.
Mitsui E&S Machinery	【Develop and supply Ammonia-fueled Engine】 Mitsui E&S Machinery will work with MAN to develop an Ammonia-fueled Engine and provide the key data necessary for design a ship equipped with an Ammonia-fueled Engine. Mitsui E&S Machinery contributes to this project from a supplier's point of view, verifying the safety and reliability of the entire life cycle of the propulsion system, including manufacturing and commissioning at the factory.
ClassNK	【Safety evaluation of ammonia fueled ship】 ClassNK will conduct a third-party safety assessment and contribute to this project based on the knowledge of expert safety evaluation and standard setting cultivated as a ship safety inspection organization. ClassNK will contribute to the industry widely by developing guidelines based on the results obtained.
ITOCHU ENEX	【Supply fuel to ammonia fueled ship】 ITOCHU ENEX will contribute to the spread of ammonia fuel for ships by setting up an ammonia fuel distribution network by making use of their experience and know-how in the operation of distribution ships for fuel supply as well as the track record of ship fuel supply.
ITOCHU	【Materialization of integrated project】 ITOCHU will promote to materialize the integrated project, leading the formation of partnerships in Japan and overseas by making use of networks with various industries / companies such as shipper, shipping company, ammonia producer and/or any other parties related to ammonia fuel supply chain, owning and operate ammonia fueled ships, and jointly developing a facility for supplying ammonia fuel for ships with ITOCHU ENEX.