

June 24, 2022

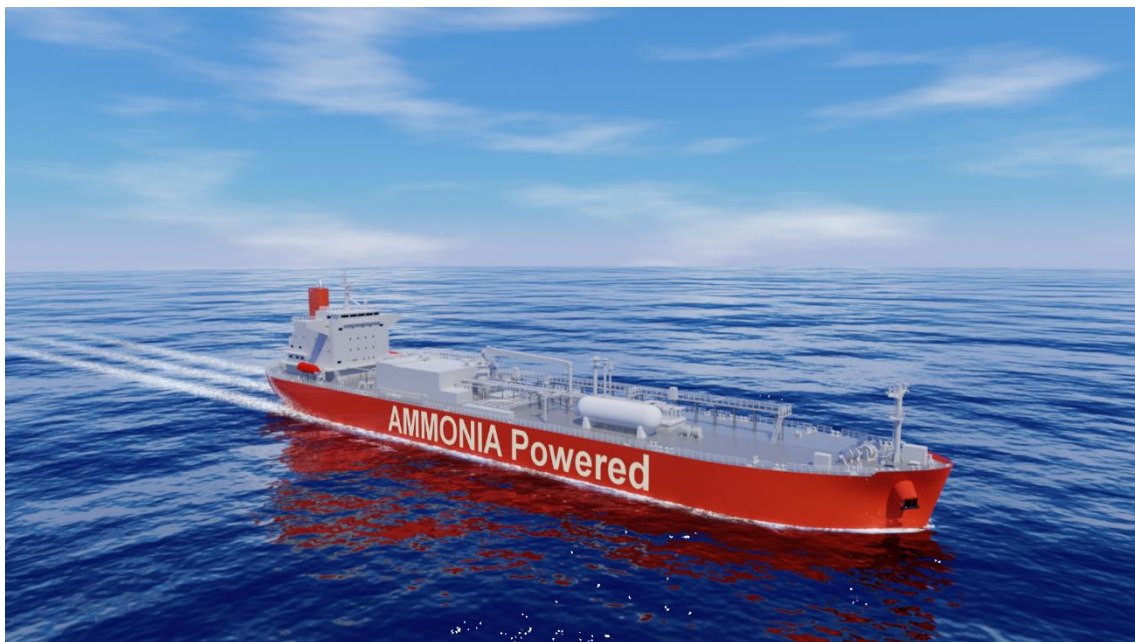
**Mitsui E&S Shipbuilding, Mitsui O.S.K Lines, and Tsuneishi Shipbuilding  
Start Joint Development on Net Zero Emission Ammonia-fueled Ocean-going  
Liquefied Gas Carrier**

Mitsui E&S Shipbuilding Co., Ltd.

Mitsui O.S.K. Lines, Ltd.

Tsuneishi Shipbuilding Co., Ltd.

Mitsui E&S Shipbuilding Co., Ltd. (President: Isamu Funatsu; Headquarters: Chuo-ku, Tokyo), Mitsui O.S.K. Lines, Ltd. (MOL; President & CEO: Takeshi Hashimoto; Headquarters: Minato-ku, Tokyo), and Tsuneishi Shipbuilding Co., Ltd. (President: Sachio Okumura; Headquarters: Fukuyama-shi, Hiroshima) today announced the launch of a joint project aimed at developing and building an ocean-going liquefied gas carrier that will use ammonia as its main fuel.



Ammonia-fueled Ocean-going Liquefied Gas Carrier (Image)

The vessel is envisioned as a mid-size ammonia/LPG carrier equipped with a main engine that can run mainly on ammonia, and targeting to achieve net zero carbon dioxide (CO<sub>2</sub>) emissions while underway by using some of its ammonia cargo as fuel. This ship type is in the mainstream of ammonia carriers used for international maritime ammonia transportation,

therefore, the vessel is able to call at major ammonia and LPG shipping and receiving ports around the world, meaning it can be used on a broad range of routes.

The three companies continue to move toward the joint development and design of the ship, and plan delivery and introduction of the vessel around 2026 as the first “net zero emission ocean-going vessel,” as stated in “MOL Group Environmental Vision 2.1.”

In line with trends toward decarbonization, worldwide interest in ammonia fuel—which emits no CO<sub>2</sub> during combustion—is growing as a next-generation clean energy source. So the move to strategically use ammonia as fuel has been accelerating in the maritime industry as well.

The three companies will offer clean ocean transport solutions with net zero emission vessels and play a part in comprehensive efforts to realize a decarbonized society, while anticipating and responding to rising demand for ocean transport of ammonia.

[Outline of the vessel]

LOA: About 180m

Breadth: About 30m

Depth: About 19m

Cargo tank capacity: About 40,000m<sup>3</sup>

Main engine: MITSUI-MAN B&W type S60 two-stroke dual-fuel ammonia engine (under development)



Ammonia-fueled Ocean-going Liquefied Gas Carrier (Image)

[Outline of three companies]

Mitsui E&S Shipbuilding Co., Ltd.

Established: May 2017 (Founded in November 1917)

Address of headquarters: 5-6-4 Tsukiji, Chuo-ku, Tokyo

Representative: President: Isamu Funatsu

Business: Ship Design & Engineering, Technical Consulting / Drawing Supply, Dispatch of Engineer, Ship Digitalization, Sales of Dual Fuel Supply System, Brokerage Service, etc.

Mitsui O.S.K. Lines, Ltd.

Established: May 1884

Address of headquarters: 2-1-1 Toranomon, Minato-ku, Tokyo

Representative: President & CEO: Takeshi Hashimoto

Business: Ocean shipping, etc.

Tsuneishi Shipbuilding Co., Ltd.

Established: January 2011 (Founded in July 1917)

Address of headquarters: 1083 Tsuneishi, Numakuma-cho, Fukuyama-shi, Hiroshima

Representative: President: Sachio Okumura

Business: Construction and repair of vessels

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