

MOL INTERIM REPORT 2023 REPORT 3

“Creating, carrying, and using” clean energy

In accordance with the MOL Group corporate management plan “BLUE ACTION 2035,” we conduct our business activities while valuing the preciousness of the ocean and the global environment. The MOL Group is continuing with initiatives to contribute to the sustainable development of people, societies, and the global environment, with the objective of achieving net zero emissions by 2050.

The Environmental Vision 2.2 that was updated in April 2023 sets out quantitative medium- to long-term targets to tackle climate change, and we have engaged in a variety of related actions. One of these is helping make the use of clean energy widespread, thus opening the way to a decarbonized society.

Creating clean energy

The Group took the decision to invest in US-based Ascension Clean Energy and participate in a project to manufacture clean ammonia using a production method that minimizes carbon dioxide (CO₂) emissions. We will involve ourselves from the production stage and contribute to the supply of clean ammonia for use as marine fuel and in other applications. We are also entering the CO₂ transportation business in preparation for building a value chain for capturing, utilizing, and storing CO₂, which is an important element in the creation of clean energy.

Carrying clean energy

We are also giving high priority to transportation of clean energy. While ammonia is currently widely used in fertilizer, feedstocks for chemicals, and other applications, Japanese electric utilities are forging ahead with efforts to reduce CO₂ emissions by using clean ammonia as a fuel for thermal power plants. This was the background to MOL’s decision to introduce a large ammonia carrier, and in September 2023 the ammonia/LPG (Liquefied Petroleum Gas) carrier “PHOENIX HARMONIA” came into service.

In the same way as for ammonia, we are also watching hydrogen carefully. There are various methods for the transportation of hydrogen, such as converting it to ammonia and other substances, or liquefying it at extremely low temperatures. Of these approaches, as an initiative to liquefy and transport hydrogen, MOL has elected to invest in and work with JSE Ocean, which is investigating large liquefied hydrogen carriers for use in the marine transportation business.

Using clean energy

The MOL Group has set a 2035 target of having 130 ocean-going vessels using zero-emission fuel such as ammonia and hydrogen, which do not emit CO₂ during combustion, and is considering the

introduction of the first such ship in the form of an ammonia-fueled vessel sometime around 2026.

Certain technical issues must be overcome for the use of such zero-emission fuel ships to become widespread, and this will take some time. For that reason, and because the emissions we can cut today are also important, we are promoting the use of LNG and biofuel that enable reductions in emissions through the use of technology that already exists.

By 2030 we are targeting 90 ocean-going vessels using LNG and methanol as fuel, and are taking specific steps for various types of ship.

In terms of ships using LNG for fuel, we have already taken the decision to introduce at least 10 such car carriers. The LNG-fueled car carriers will be named Blue series and brought into service in stages in 2024 and beyond. We have also placed orders with shipyards for a total of four LNG-fueled large crude oil tankers. We have also decided to introduce a total of eight LNG-fueled bulk carriers to be used for domestic electric utilities and other customers.

As for methanol-fueled ships, MOL has been operating methanol-fueled tankers since 2016. Group company MOL Drybulk has also taken the decision to introduce methanol-fueled small bulk carriers.

Creating, carrying, and using environmentally friendly energy. By engaging with new energy from various angles, we contribute to a decarbonized world.