November 4, 2021
Kawasaki Kisen Kaisha, Ltd.

The Challenge of Achieving Net-Zero GHG Emissions
～Revision of 2050 Targets for "K" LINE Environmental Vision 2050～

Kawasaki Kisen Kaisha, Ltd. ("K" LINE) has revised our environmental target in our long-term environmental guideline "K" LINE Environmental Vision 2050 -Blue Seas for the Future-, which we had released the revised version in last June, in order to strengthen the initiatives toward global climate change countermeasures, and has set our new target for 2050 as "The Challenge of Achieving Net -Zero GHG Emissions".

Strengthening global climate change countermeasures has become an urgent issue, and the movement to achieve virtually zero GHG emissions in 2050 is accelerating in various governments and in each industry. Under such circumstances, "K" LINE Group will also take on the challenge of the higher goal of "2050 GHG emission net zero".

We will continue steadily moving forward, as we have been doing, with the action plan for 2030 that is set out in the revised version of the "K" LINE Environmental Vision 2050.

As an integrated logistics company, the "K" LINE Group is working to realize sustainable society and increase corporate value, and reduce its environmental impact based on its corporate philosophy of contributing to society so that people live well and prosperously.

Please refer to this link for Revision of 2050 Targets for "K" LINE Environmental Vision 2050.
https://www.kline.co.jp/en/csr/environment/management.html

"K" LINE
KAWASAKI KISEN KAISHA, LTD.

Blue Seas for the Future
Navigating for Sustainability, Leading to a Bright Future

The Challenge of Achieving Net-Zero GHG Emissions

"K" LINE Environmental Vision 2050 : Revision of 2050 Targets

November 4, 2021

Revision of 2050 Targets for Environmental Vision

Under our corporate principle of helping enrich the lives of people as an integrated logistics company, we are taking on the mission of “beautiful blue seas for the future” and engaging in environmental efforts. In June 2020, we announced a revised version of the “K” LINE Environmental Vision 2050, which set decarbonization and aiming for zero environmental impact as the two main factors for our targets, and are advancing initiatives.

As 2030 interim milestones, we have adopted the target of improving CO_2 emission efficiency by 50% compared to 2008, exceeding the 40% target set by the International Maritime Organization, a specialized agency of the United Nations, have already introduced LNG-fueled carriers, and are also working to introduce various energy-efficiency technologies, such as wind power propulsion (*Seawing*).

We will continue steadily moving forward, as we have been doing, with the action plan for 2030 that is set out in the revised version of the “K” LINE Environmental Vision 2050. We initially set our 2050 target as reducing GHG emissions by 50%, the same as the IMO. However, as we see that global climate change countermeasures need to be addressed by the international society as a whole, we are taking on the challenge of raising our target even further to net-zero GHG emissions by 2050.

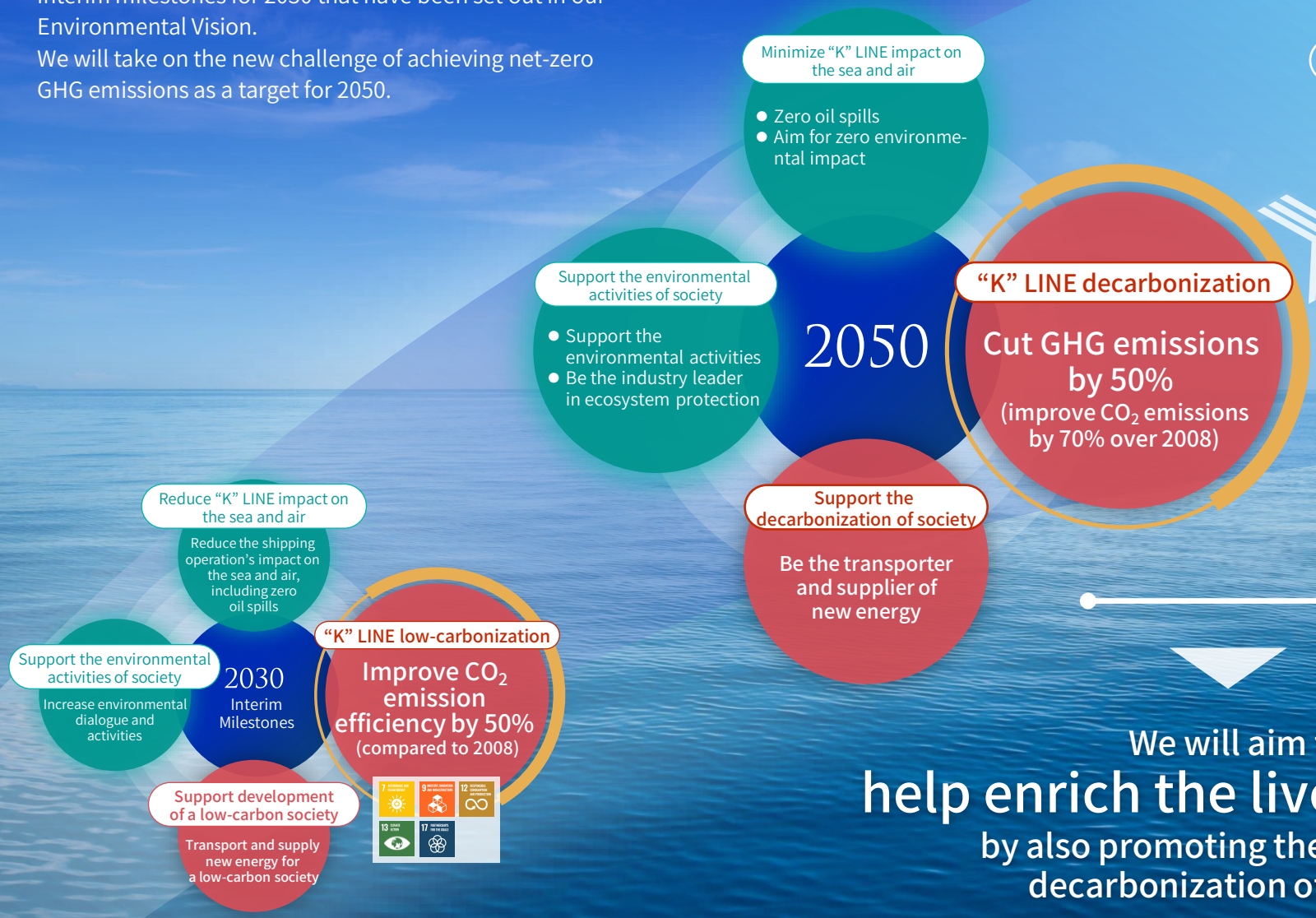
In the second half of the 2020s, we aim to introduce zero-emission vessels powered by new fuels, and will not only reinforce initiatives for reducing our in-house GHG emissions but also actively support projects aimed at a decarbonized society. These initiatives include support vessels for projects related to the renewable energy field, such as offshore wind power, transportation of new energy sources, such as hydrogen and ammonia, and carbon capture and storage (CCS) transportation. I believe that supporting and promoting decarbonization of society, such as the concepts mentioned above, is a major opportunity to open up new domains for the shipping business.

The "K” LINE Group will put its full effort into the decarbonization of the Company and society with the aim of achieving a sustainable society and enhance corporate value.

President & CEO

New Challenges for 2050

We will steadily promote an action plan for achieving the interim milestones for 2030 that have been set out in our Environmental Vision.
We will take on the new challenge of achieving net-zero GHG emissions as a target for 2050.



“K” LINE decarbonization

Take on the challenge of net-zero GHG emissions

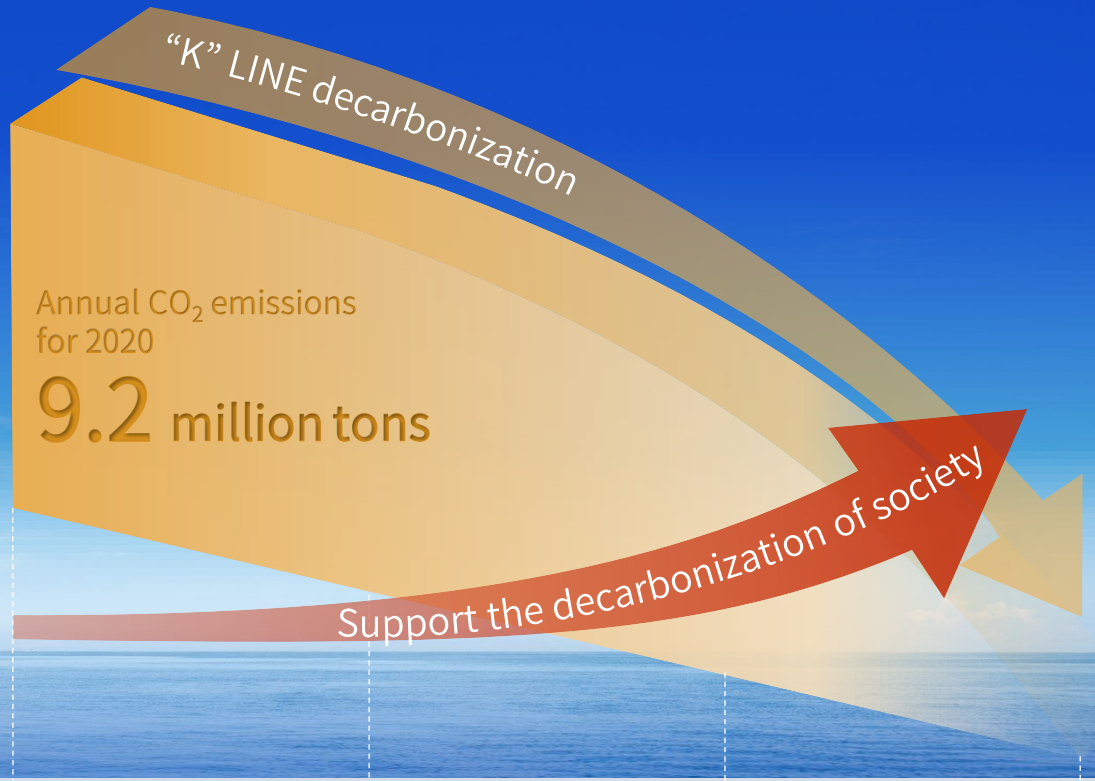
We will aim to

help enrich the lives of people

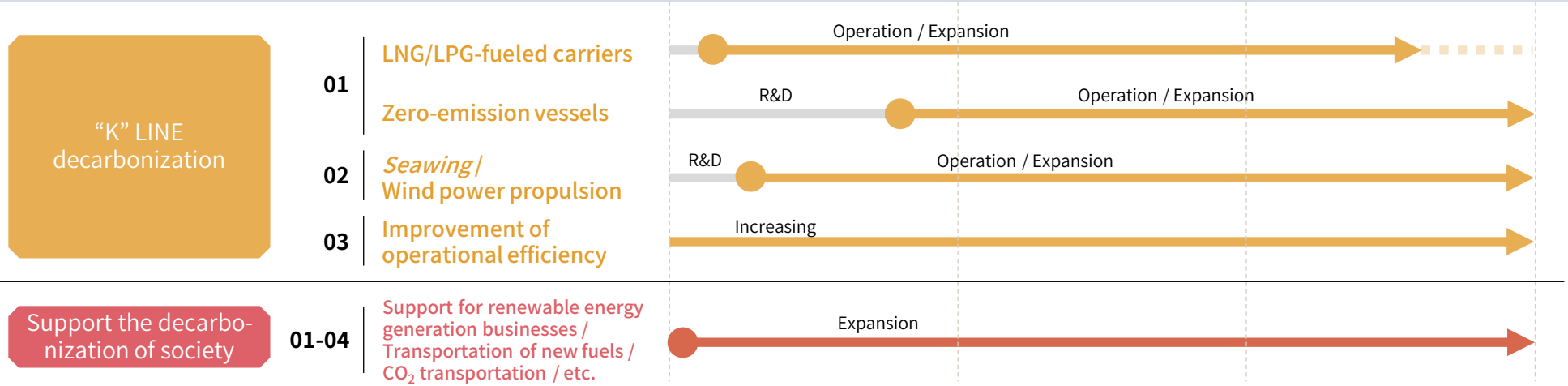
by also promoting the support of decarbonization of society.

Aim for Net-Zero GHG Emissions by 2050

In the second half of the 2020s, we aim to introduce zero-emission vessels powered by new fuels, and will not only reinforce initiatives for reducing our in-house GHG emissions but also actively work towards a decarbonized society. These initiatives include support for projects related to the renewable energy field, such as offshore wind power, transportation of new energy sources, and CO_2 transportation.
Supporting and promoting decarbonization of society, such as the concepts mentioned above, is a major opportunity to open up new domains for the shipping business.



Action Plan Road Map



“K” Line decarbonization—Reduce CO_2 emissions

01 New fuels (fuel conversion)

Expand introduction of LNG fueled ships

- Expanding introduction of LNG in the 2020s and invest in approximately 40 vessels by 2030
  - Delivered “K” LINE’s first LNG-fueled car carrier, CENTURY HIGHWAY GREEN, in March 2021
  - Plan to deliver “K” LINE’s first LNG-fueled capesize bulk carrier in 2024
  - Decided to invest in a further eight LNG-fueled car carriers by 2025

Approximately 25% to 30% reduction in CO_2 emissions, compared with heavy-oil fueled vessels


CENTURY HIGHWAY GREEN

Introduce LPG fueled ships

- Planning to deliver in 2023 a very large gas carrier (VLGC), mainly fueled by LPG and capable of carrying LPG or ammonia, with a view to transporting ammonia in the future

Approximately 20% reduction in CO_2 emissions, compared with heavy-oil fueled vessels

Photograph provided by Kawasaki Heavy Industries, Ltd.

Introduce zero-emission vessels that use new fuels such as ammonia and hydrogen

- Currently considering the introduction of zero-emission fuels, such as ammonia and hydrogen, and carbon-neutral fuels, such as bio-LNG and synthetic fuel
- Participating in a joint study framework for researching the use of ammonia as a maritime fuel that crosses industrial boundaries, such as those between the shipping companies, trading companies, shippers, and manufacturers, with the aim of using ammonia-fueled vessels
- Currently considering the target of commercialization and introduction of zero-emission vessels in the second half of the 2020s

Zero CO_2 emissions

Photograph provided by the Japan Ship Technology Research Association

“K” Line decarbonization—Reduce CO_2 emissions

02 *Seawing* automated kite system that utilizes wind power propulsion

- Developed in collaboration with French company AIRSEAS, a spin-off from AIRBUS
- Currently considering expanding use of this new technology that can be installed on any type of vessel, including existing ones, to all vessels

  ▶ Installing on a capesize bulk carrier scheduled to begin in fiscal 2022

Expecting a reduction in CO_2 emissions of more than 20%

Pursuing a reduction in CO_2 emissions by 45% to 50% through the synergistic effect of installation on LNG-fueled vessels

LNG-fueled capesize bulker

03 Improvement of operational efficiency

Kawasaki Integrated Maritime Solutions (integrated ship performance analysis system)

- Collects the vessel operation data, including fuel consumption, output power, ship speed, in real-time and pursues the advancement of operational management of the vessel by utilizing an optimum navigation system that calculates safe and fuel-efficient recommended routes
- Recently achieved visualization of performance degradation and impact of external disruption of each individual vessel through AI data analysis technology to further maintain and improve operational efficiency

Resulting in approximately 3% to 5% reduction in CO_2 emissions through installation of Kawasaki Integrated Maritime Solutions

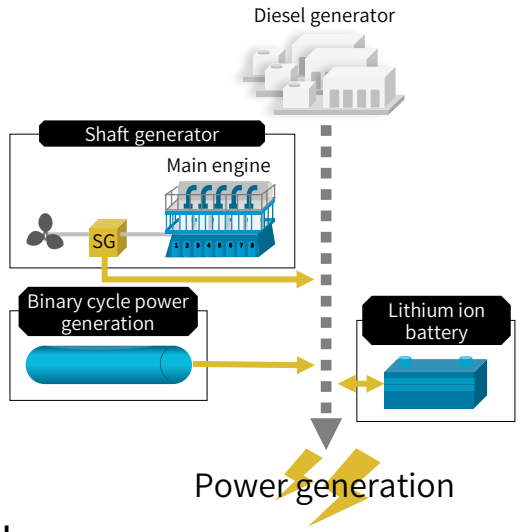
“K” Line decarbonization—Reduce CO_2 emissions

04 Other energy-efficient and decarbonization technology and equipment

Hybrid propulsion system

- Considering a hybrid propulsion system that combines a shaft generator, binary cycle power generation*, and lithium ion batteries

* Binary cycle power generation:
a method of generating electricity by heating and evaporating a working fluid with a low boiling point through low-level heat sources, such as warm water, low-pressure steam, or air, and using the steam to turn a turbine



CO_2 Capture Plant on vessel

- World’s first CO_2 Capture Plant on vessel installed on coal carrier CORONA UTILITY in August 2021
- Currently carrying out project demonstration in collaboration with Mitsubishi Shipbuilding and Nippon Kaiji Kyokai, aiming for commercialization of the plant

05 Raising funds through climate transition finance

- Raising funds through Japan’s first climate transition loan (purpose specified finance) for the LNG-fueled car carrier, *CENTURY HIGHWAY GREEN*, in March 2021
- Raising approximately ¥110 billion through Japan’s first transition linked loan (purpose unspecified finance) in September 2021. Funds to be used to finance a range of environmental counter－measures aimed at decarbonization

06 Launch of internal carbon pricing (ICP)

- Full-scale internal launch of operation in April 2021. Calculated with reference to an economic index that takes into account a future earnings contribution of ¥4000 per ton of CO_2
- Promote low-carbon and decarbonization projects by using them as an indicator for evaluation of investment projects

Support the decarbonization of society

01 Support offshore wind power business

- Established “K” Line Wind Service, LTD. together with Kawasaki Kinkai Kisen Kaisha, Ltd. and provided in offshore support vessels and transport vessels for offshore wind farms
- Support target set by the Japanese government for introducing offshore wind power generation of 30 to 45 gigawatts by 2040 from an operational and transportation perspective

Offshore Support Vessel

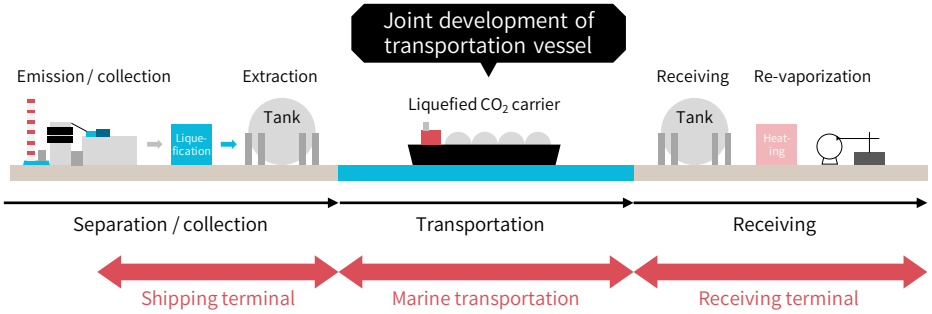
02 Participate in transportation of hydrogen and ammonia, and create fuel supply network

- Participate in “Co_2-free Hydrogen Energy Supply-chain Technology Research Association (HySTRA)” with the aim of creating an international supply chain for transportation of CO_2-free hydrogen created from Australian brown coal to Japan
- Currently considering re-entering the ammonia transportation business
- Currently considering participation in the project to create a supply network for hydrogen and ammonia at all sites

Photograph provided by
Kawasaki Heavy Industries, Ltd.

03 Participate in CO_2 transportation business

- Participate in R&D and demonstration project for CO_2 marine transportation together with the Engineering Advancement Association of Japan, Nippon Gas Line Co., Ltd., and Ochanomizu University



04 Other initiatives

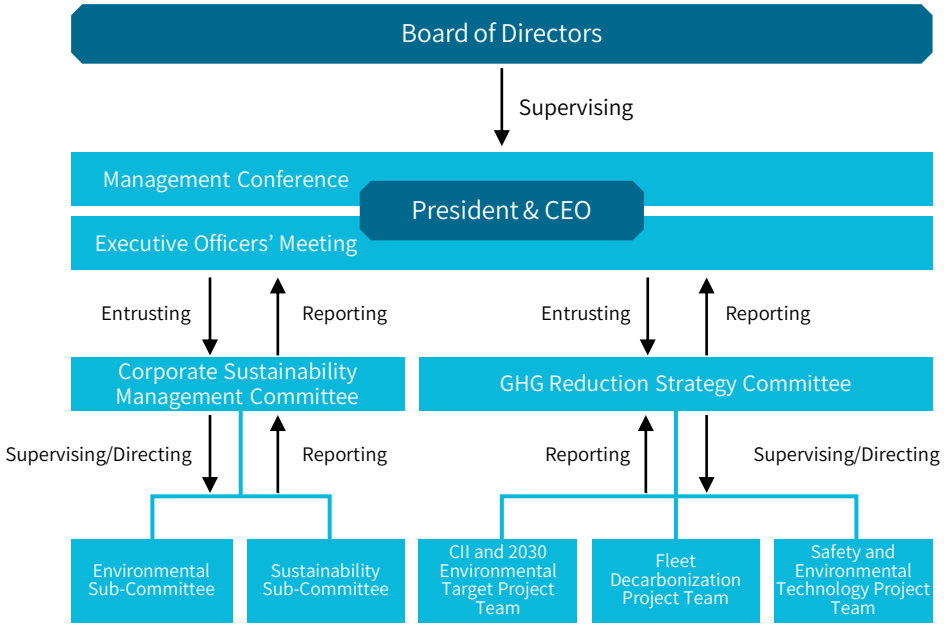
- Collaborate with Chubu Electric Power Co., Inc. on a tidal energy project in Canada (aim to begin operation in 2023)
- Looking into carbon credits, carbon offset, etc.

Note: Offsetting emissions may be carried out through an internationally accepted method in the future.

Environmental Management Promotion Structure

In October 2021, “K” LINE reorganized the previous organization and reformed the environmental governance structure.
The Corporate Sustainability Management Committee is enhancing corporate value by reviewing and formulating a promotion system for "K” LINE’s sustainability management, including environment-related management.

The GHG Reduction Strategy Committee functions as a place to hold various strategic discussions on accelerating initiatives to develop LNG-fueled vessels and the LNG fuel supply business, examining next-generation fuels and new technologies, and formulating measures for compliance with international environmental regulations, including technical aspects.



DRIVE GREEN NETWORK

“K” LINE established the DRIVE GREEN NETWORK as a Groupwide environmental management promotion structure, which aims to continuously improve environmental conservation activities through the PDCA cycle while ensuring environmental compliance throughout the entire “K”Line Group.

Note: These action plans were formulated on the assumption of expected development of international laws and standards, technological innovation, and the establishment of social infrastructure, and we will carry out appropriate revisions based on future changes to these prerequisites.