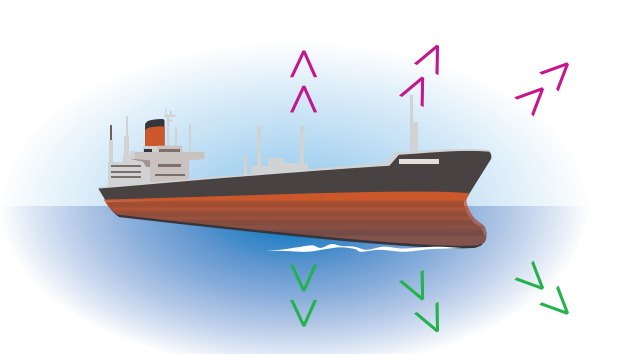


MOL and the Environment

Transporting cargo by sea, the core business of the MOL Group, is one of the most environmentally benign means for moving large volumes of cargo from one place to another. Despite this advantage, ships do have an adverse impact on the environment. The MOL Group is constantly working on ways to achieve further cuts in this impact to play a part in making possible a truly sustainable society. There are several environmental issues that are closely linked to shipping: pollution of the ocean resulting from accidents; air pollution resulting from CO₂ and NO_x (nitrogen oxides) emissions; and ocean pollution resulting from the operation of vessels. In response, MOL established the MOL Safety Management System in 1994, which conforms to all international treaties and ISO regulations. This was followed in 2000 with the formulation of MOL's Environmental Policy Statement along with the release of the shipping industry's first Environmental Report. In April 2001, MOL instituted MOL EMS 21, its own environmental management system, in another step to conduct comprehensive and aggressive steps to protect the environment.

Global Warming and Acid Rain

Ships contribute to global warming by emitting CO₂, a greenhouse gas, as they burn fossil fuels. MOL is responding by operating ships more efficiently. For example, hulls are cleaned frequently to reduce friction so that vessels consume less fuel, a measure that is yielding meaningful reductions in CO₂ emissions. To deal with the acid rain issue, MOL conducts frequent inspections and maintenance to be certain the ship engines are operating at peak efficiency. And through the use of fuel with little sulphur content, MOL has achieved a sharp reduction in SO_x (sulphur oxides) emissions.



Protection of the Marine Environment

MOL takes extensive measures to ensure safe navigation and prevent the occurrence of oil discharges and accidents, both of which represent serious threats to the marine environment. In addition, care is exercised to reduce the impact on the oceans of the normal operation of vessels. MOL strictly adheres to all marine pollution treaties as well as applicable laws and regulations worldwide. The company has stringent internal rules to prevent oil discharges and ensure the proper disposal of lubricating oil and bilge water (which includes oil and other pollutants). Other measures are in place to use environmentally responsible anti-fouling paint and manage ballast water properly.

Anti-Fouling Paints

MOL is shifting to tin-free (TF) paints to eliminate environmental problems that occur when tributyl tin is leached into seawater. By March 2003, 70% of MOL's fleet was coated with TF paints. The conversion to TF coatings is to be completed by the end of 2005.

Prevention of Air Pollution

To prevent air pollution, MOL's primary actions are reducing exhaust gasses, a factor in global warming and acid rain, and replacing fluorocarbons, ozone-depleting substances, with substitute refrigerants.

Ozone Depleting Substances

Fluorocarbons used in refrigerated containers and in the air conditioning systems of vessels are the primary source of potential damage to the ozone layer. Beginning with vessels launched in the late 1970s, MOL has been using R-22 (HCFC), a substance with only a minimal effect on ozone, instead of conventional R-12 (CFC) refrigerants. Since 2002, all new MOL vessels are designed to use R-404A, a refrigerant with an even smaller environmental impact. Plans call for switching vessels over to R-404A wherever possible. Additionally, MOL has been converting refrigerated containers to halogen-free refrigerants since 1992. For fire extinguishers, MOL in July 1992 switched from halogen to CO₂ systems in all new vessels. Recently constructed vessels employ a fire extinguishing system that uses foaming agents made from surface-active agents.

Ballast Water

Ballast water performs such vital roles as controlling a vessel's stability, increasing hull strength and adjusting a vessel's draft. However, the intake and discharge of this water can result in the movement of harmful marine organisms from one area of the world to another, disrupting a regional ecosystem. To address this issue of global concern, MOL follows all international guidelines and harbor regulations, exchanging ballast water only far from shore. MOL continues to study ways to make ballast water harmless.

Double-Hull Tankers

As the operator of the world's largest fleet of tankers, MOL is constantly working on employee training, emergency drills and other measures to upgrade the safety of navigation. To prevent an oil spill in the event of an accident, MOL is rapidly converting its tanker fleet to double-hull vessels. Currently, 67% of the company's tankers have a double-hull structure and MOL expects the double-hull ratio will be 90% by the end of 2006 fiscal year. MOL's initial plan was to have 100% of tankers with a double-hull structure by 2010 fiscal year, but now expects to reach that goal two years ahead of schedule, by the end of 2008 fiscal year.

More information is available in Environmental Protection at: <http://www.mol.co.jp/>

FY2002 Environmental Accounting (from April 2002 to March 2003)

ENVIRONMENTAL COSTS

(¥ million)

Classifications	Contents	Investment amount	Expense amount
Environmental protection costs (costs for global environmental protection)	Switch to TF anti-fouling ship bottom paints	0	219
	Investments in ship equipment (PBCF) (exhaust gas economizer and turbo generator (T/G) system*)	474	84
	Environmental measures in offices (installation of hot-air hand dryers)	0	0
(resource recycling costs)			
Management costs	Preparation of environmental reports, personnel expenses, etc.	0	56
Research and development costs		0	5
Total		474	364

ECONOMIC BENEFITS ACCOMPANYING ENVIRONMENTAL PROTECTION MEASURES

(¥ million)

Effect	Monetary value
Reduction of fuel expenses (Benefits of sandblasting hulls prior to repainting, adoption of PBCF, and installation of exhaust gas economizer and T/G system)	949
Reduction in waste disposal expenses at offices (benefit of installation of hot-air hand dryers)	0
Total	949

Notes:

1. The above table does not reflect MOL's investment of about ¥2.5 billion in FY2002 in refrigerated containers using refrigerants that do not adversely affect the ozone layer.
2. Fiscal 2002 depreciation expenses for PBCF and exhaust gas economizer and T/G systems installed during FY2000 or afterward are used as the basis for environmental expenses associated with investments in vessel equipment.
3. (*) The exhaust gas economizer and T/G (turbo generator) system converts thermal energy from the main engine's exhaust gas into steam, which drives a generator that supplies electricity. This system reduces consumption of fuel oil for generation of electricity, helping to reduce emissions of CO₂, NO_x and SO_x.

Environmental Topics

ISO 14001 Certification

Based on the premise of safe navigation, MOL works in many ways to reduce the environmental impact of its activities. To guide these actions, the company introduced its MOL EMS 21 environmental management system in April 2001. In the past fiscal year, this system received ISO 14001 certification from Det Norske Veritas, one of the world's most respected certification organizations. Through MOL EMS 21, MOL has achieved significant advances in environmental protection programs. Having now earned this certification, the company's internal programs for safe navigation and environmental protection can be more transparent and easily understood from the viewpoint of external entities. MOL believes this will lead to still more effective environmental activities.

New Shipbuildings

When ordering new ships, MOL is always seeking designs that contribute to preserving the environment. Illustrating this stance is the car carrier *M/V Courageous Ace*, which entered service in March 2003. One advance is the slanted tip of the bow and rounded surfaces to cut wind resistance and thus fuel consumption. This design will be incorporated in all six car carriers now being constructed for MOL for delivery by April 2004. The containership *M/V MOL Encore* places ballast water tanks at the very bottom of the hull with fuel tanks immediately above, a new design that dramatically cuts the risk of fuel leaking into the ocean. MOL

plans to use this configuration in all new containerships and car carriers from now on.

MOL Receives Logistics Environmental Protection Activity Award

MOL has been honored with the Logistics Environmental Protection Activity Award, the award given by the Japan Federation of Freight Industries to recognize outstanding achievements in programs based on environmental management systems.

MOL Recognized as "Green Top Runner"

The corporate rating unit of the Sustainable Management Forum of Japan, a non-profit organization, selected MOL as one of 72 Japanese companies for recognition as a "Green Top Runner." This honor recognizes a company's ability to operate in a responsible manner in every aspect of its activities. Earning this title requires an effective environmental protection program as well as excellence in many other areas. Evaluations extend to the soundness of management, including the corporate philosophy, corporate governance and risk management systems, and the disclosure of information. Also included are corporate citizenship, adherence to ethical standards, workplace safety and equal opportunity practices. MOL was one of only two transportation companies to meet these demanding standards for sustainable management.