

# *Bluer Oceans & Cleaner Environment*



Environmental and  
Social Report

2004

The fifth  
edition

April 2003  
March 2004



**Mitsui O.S.K. Lines**

# MOL Group Corporate Principles

1. As a multi-modal transport group, we will actively seize opportunities that contribute to global economic growth and development by meeting and responding to our customers' needs and to this new era.
2. We will strive to maximize corporate value by always being creative, continually pursuing higher operating efficiency and promoting an open and visible management style that is guided by the highest ethical and social standards.
3. We will promote and protect our environment by maintaining strict, safe operation and navigation standards.

## Mitsui O.S.K. Lines Group Environmental Policy Statement

As one of the world's leading multi-modal transport groups, Mitsui O.S.K. Lines group is committed to protecting the health of our marine/global environment and therefore promotes and supports the following policies that:

1. Protect all aspects of the marine/global environment and foster safe navigation;
2. Comply with all environmental legislation and regulations that we are required to by law, and all relevant standards and other requirements that we subscribe to. And, whenever possible, further reduce the burden on the environment by setting and achieving even tougher voluntary standards;
3. Periodically review and revise our environmental protection measures on the basis of our framework for setting and reviewing environmental objectives and targets;
4. Conserve energy and materials through recycling and waste reduction programs;
5. Purchase and use environmentally safe goods and materials;
6. Promote the development and use of environmentally safe technology;
7. Educate and encourage group employees to increase their focus on protection of the environment through enhanced publicity efforts, and communicate our Environmental Policy to group employees;
8. Publish our Environmental Policy Statement and disclose our environmental information on a regular basis;
9. Always strive to ensure that our business activities contribute to and adequately support worthy environmental protection activities.



## Corporate Profile (As of March 31, 2004)

<b>Company name</b>	Mitsui O.S.K. Lines, Ltd.
<b>Establishment</b>	December 28, 1942 (Initiation: May 1, 1884)
<b>President</b>	Akimitsu Ashida (assumed post June 24, 2004)
<b>Capital</b>	¥64,915 million
<b>Stock Exchange Listings</b>	Tokyo, Osaka, Nagoya, Fukuoka, Sapporo, Frankfurt
<b>Business Overview</b>	Multi-modal transport services with a core business of ocean-going services
<b>Major Clients</b>	Manufacturing corporations and trading companies around the world
<b>Revenue</b>	¥997,260 million (March 2004 Consolidated)
<b>Number of Employees</b>	946 (land-based 633, seamen 313)
<b>Operating fleet</b>	510 vessels, 34.01 million M/T
<b>Number of Group companies</b>	325
<b>Number of Group company employees</b>	7,033
<b>Group operating fleet</b>	593 vessels 40.41 million M/T
<b>Offices</b>	Head office: 1-1 Toranomon 2-chome, Minato-ku Tokyo 105-8688 Japan Domestic branches and offices (8bases) Sapporo, Tomakomai, Yokohama, Nagoya, Osaka, Kobe, Hiroshima, Kyushu Overseas subsidiaries and offices (25bases) U.S.A., Mexico, Brazil, Chile, U.K., The Netherlands, Germany, Austria, France, Belgium, South Africa, Malaysia, Singapore, Thailand, Vietnam, The Philippines, China, Taiwan, South Korea, Indonesia, India, Sri Lanka, Qatar, Oman, Australia
<b>Website</b>	<a href="http://www.mol.co.jp">http://www.mol.co.jp</a>



The MOL head office

## Editorial Policy

- MOL Group is promoting a number of environmental and socially-related activities based on Group Corporate Principles and the Group Environmental Policy Statement.
- The fundamental editorial policy guiding this report is to inform a large number of people about MOL and its group companies' approach to environmental and social issues and the content of environmental protection activities.
- The report complies with the Environmental Report Guidelines 2003 and the Environmental Accounting Guidebook issued by Japan's Ministry of the Environment.
- **Report term**: This report covers FY2003 (from April 1, 2003 to March 31, 2004), with the exception of data regarding the Organization Structure, which is the one as of July 1, 2004.
- **Organization covered**: This report covers the activities of Mitsui O.S.K. Lines, Ltd. including all operated vessels. However, data of environmental impact of this report focuses on the activities of the head office of MOL and all operated vessels, as other activities than those compose a fragment of the environmental impact of all of our activities. We have added notes describing the activities of group companies.
- **Sectors covered**: Environmental, social and economic.
- **P u b l i c a t i o n**: October 2004
- **N e x t p u b l i c a t i o n**: July 2005

## CONTENTS

MOL Group Corporate Principles / MOL Group Environmental Policy Statement .....	1
Corporate Profile / Editorial Policy .....	2
Message from the President .....	3

### Management

120 Years of Mitsui O.S.K. Lines .....	4
MOL Initiatives toward CSR .....	5
Corporate Governance and Compliance .....	6

### Special Feature

MOL: Supporting the Lives of People Around the World .....	7
MOL's Environmental Impact .....	9

### Environment

Environmental Management System .....	11
Environmental Accounting .....	12
FY2003 Achievements/Assessment New Mid-Term Environmental Management Plan and FY2004 Targets .....	13
Safe Navigation .....	15
Environmental Technology .....	17
Marine Environment Protection .....	19
Air Pollution Prevention .....	21
Initiatives at the Head Office .....	24
Approach to Soil Pollution	
Global Initiatives .....	25
MOL Group Environmental Activities .....	27

### Social

Care for People .....	29
Interaction with Society and People .....	32

### Economy

Management Plan and Financial Data .....	35
Third Party Opinions .....	37
Chronology of Environmental Protection Activities .....	38

# MOL Group's Role toward Sustainable World Development



President

*A. Ashida*

Akimitsu Ashida

## A Trunk Line Supporting Our Lives

The amount of goods traded globally continues to grow as the world's population increases and globalization expands. Ships are a superior means of transporting large amounts of materials, reliably, efficiently and with a low environmental impact. At MOL we have, with our state-of-the-art fleet of vessels and network of sea routes, expanded to become one of the world's largest scale overseas shipping companies. At home in Japan, much is expected of our domestic Group corporations, such as ferries and domestic shipping services, as they support and enhance the Modal Shift Policy to prevent global warming. We are proud of our indirect role in the lives of people all over the world.

## Ensuring Safe Navigation and Environmental Measures

MOL Group Corporate Principles expound the need for safe navigation and the need to protect our marine and the global environment.

The foundation of environmental protection activities is ensuring safe navigation and minimizing the environmental impact of our activities. The vessels that navigate around on unforeseeable and sometimes stormy oceans must remain bastions of safety and reliability; this necessitates a high awareness of safety, environmental consciousness and technical ability among the crew. Ships are subject to different restrictions and various regulations that differ from land-based transporting organs and facilities. They also have an environmental impact of their own. At MOL, we are ever aware of the environmental impact of our business activities and have taken many voluntary measures exceeding the requirements of industry standards. In addition, we have an aggressive program for development and introduction of new technologies to mitigate our environmental impact.

## Enhancing our Corporate Social Responsibility Initiatives

Corporate activities must be conducted under a highly transparent style of management in line with social norms and corporate ethics. From an early stage at MOL, we embarked upon management reform, inviting in outside directors and shoring up our corporate governance. Formerly, we addressed CSR activities through the Compliance Committee and the CSR Sub-committee, but we streamlined our CSR enforcement mechanisms when we changed the Environment Committee as the CSR and Environment Committee and established the CSR and Environment Office in June 2004.

At MOL, this year we marked the 120th anniversary of our establishment. This is the result of long years of support from stakeholders, including clients around the world, stockholders and investors, business partners, employees and other people around the world. In April 2004, with the aim of further, sustainable growth, we launched our new Group Mid-Term Management Plan, Mitsui O.S.K.Lines' Strategy towards Excellent and Powerful Group, or "MOL STEP." Under the main theme of growing in our own way to become the world's biggest multi-modal ocean transportation group, we intend to further consider and address environmental and social issues as we strive to contribute to enriching the lives of people and sustainable development for the world economy.

Our Environmental and Social Report 2004 describes both our environmental protection activities and our activities on the social front during FY2003. I sincerely hope that in reading this report, you will be able to better understand the approaches and initiatives toward environmental protection and social issues that we are taking at Mitsui O.S.K. Lines. We will be grateful for any feedback that readers would care to share with us.



# 120 Years of Mitsui O.S.K. Lines



In 2004, MOL marked the 120th anniversary of our founding. We credit our success to our sincere contribution to development of the world economy and the support of various stakeholders with whom we have forged strong relations over the years. In the future, we intend to do our utmost to further enhance CSR initiatives throughout our Group while reflecting on the major activities of the past 120 years of our corporate history and the social responsibilities we must fulfill.

(1878)

The iron-hulled steamer Hideyoshi Maru begins service transporting Miike coal from Kuchinotsu (Nagasaki Pref.) to Shanghai.



The Hideyoshi Maru

1884 (Initration)

Osaka Shosen is founded.



An Osaka Shosen poster

1930

The express cargo ship "Kinai Maru" is built and begins service between Yokohama and New York.



The Kinai Maru

1939

The Argentina Maru and Brazil Maru—ships representative of Japanese cargo and passenger ships at this time—are put into service traveling to South America.



The Brazil Maru

1942

Mitsui & Co. Ltd. spins off its Shipping Department to create Mitsui Steamship Co., Ltd.



1989

- The luxury cruise era begins when Japan's first full-service cruise liner, the Fuji Maru, enters into service.
- Japan Line and Yamashita-Shinnihon Steamship merge to establish Navix Line.



The Fuji Maru

1988

Japan Liner System is established, taking over the liner operations of Japan Line and Yamashita-Shinnihon Steamship Co.



1968

Full containership service is launched on Japan/California route. (Mitsui O.S.K.Lines, Japan Line, Yamashita-Shinnihon Steamship)



Full container ship America Maru

1965

Japan's first specialized Pure Car Carrier, the Oppama Maru, is launched, supporting the export of Japanese automobiles.



The Oppama Maru

1964

Osaka Shosen and Mitsui Steamship merge to form Mitsui O.S.K. Lines, Ltd. Nitto Shosen and Daido Kaiun form Japan Line, Ltd., and Yamashita Kisen and Shin Nihon Kisen merge to become Yamashita-Shinnihon Steamship Co., Ltd.



1993

Institute of Shipping crew training school is established in Manila.



1994

The MOL Safety Management System is certified under the ISM Code and ISO9002.

1995

- The Global Alliance (TGA) launches a strategic international partnership that initiates service connecting Asia, Europe and North America
- MOL's first double-hulled VLCC, the Atlantic Liberty is launched.



The Atlantic Liberty

1997

- Outside Auditors are increased from 1 to 2 of 4 total Auditors.



1999

- Mitsui O.S.K. Lines and Navix Line merge to form Mitsui O.S.K. Lines.
- MOL Japan is formed as the general agent for liner services in Japan.

2004

- 120th anniversary of company establishment.
- CSR and Environment Committee, and CSR and Environment Office are established.
- Fifth year of publishing environmental and social reports.

2003

- CSR Sub-committee is established.
- Consultation center for compliance issues is established, and Code of Conduct is revised.
- Environmental Report is expanded to an Environmental and Social Report.

2001

- MOL Group Corporate Principles are drawn up.
- Compliance regulations and a Compliance Committee are established.

2000

- MOL Environmental Policy Statement is established.
- We introduce a system of executive officers, invite outside directors, abolish the managing directors' committee, establish an executive committee, reduce the membership of the board of directors, and strengthen our corporate governance system.
- Industry's first environmental report published.

# MOL Initiatives toward CSR

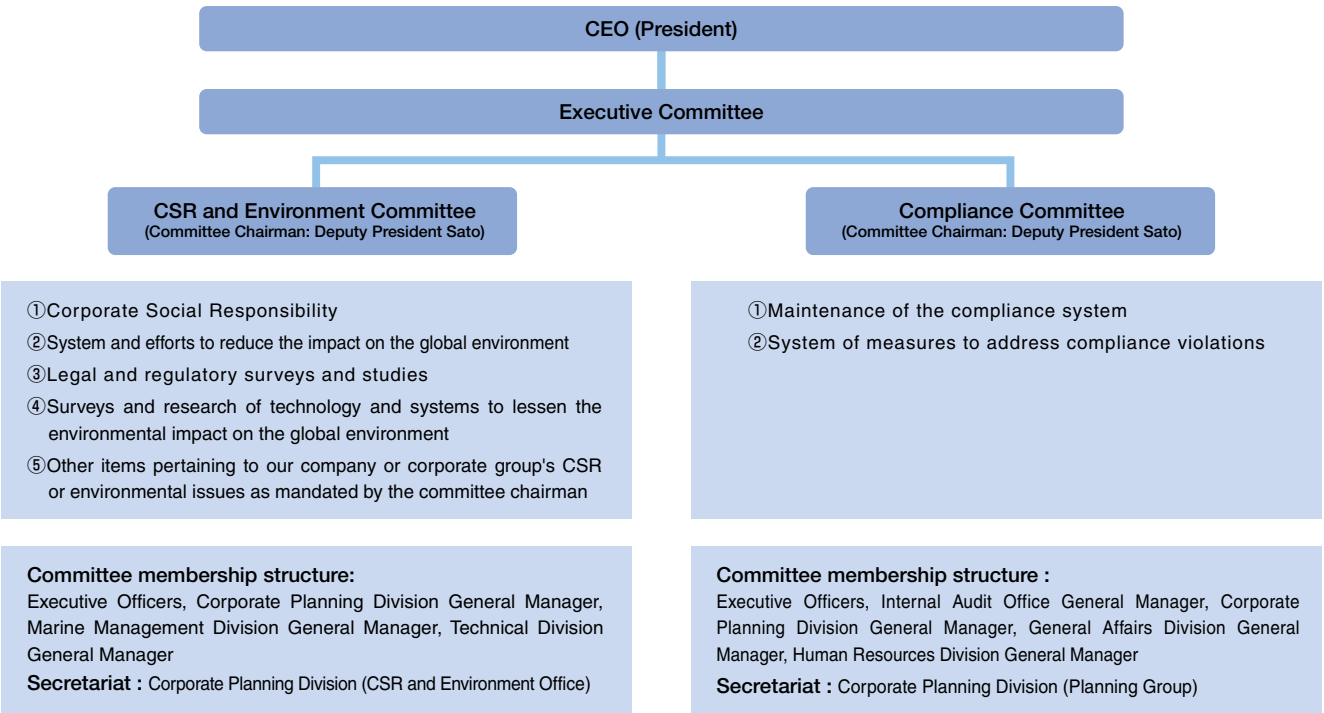
Our Group's Corporate Principles address customer satisfaction, contributing to global economic growth and development, continually pursuing higher operating efficiency and promoting an open and visible management style, and protecting our marine/global environment. We are making efforts to realize all of these ideals.

## CSR(Corporate Social Responsibility) Efforts

To MOL, CSR means that a corporation strives to achieve sustainable and mutually reinforcing development for itself, society and the world not only by incorporating economic interest, but by conducting business while considering the needs of all relevant stakeholders. Moreover, we believe it is fundamental to focus on social fairness, morality and consideration of the environment in the process of conducting corporate activities. There are many stakeholders for MOL who are doing the integrated shipping business globally. The foundation of our business is supporting the lives of people the world over by providing quality transport services to our customers, taking the global environment into account. However, our corporate responsibility entails more than that: the return of profits to our stockholders through stable long-term growth, maintaining good relationships and sharing business opportunities with business partners, and ensuring that our company is a rewarding place to work for our employees.

We regard CSR as essential to sustainable corporate development. We have upgraded our corporate governance structure by enforcing our corporate philosophy, enhancing our management and compliance systems, and broadening information disclosure. In April 2003, we initiated a CSR Sub-committee composed of group leaders from our Planning Division, Human Resources Division, General Affairs Division, Public Relations Office, Investor Relations Office, Marine Division and Technical Division. This group debates our corporate group's CSR and contributions to society. Then, in June 2004, we decided to further boost our CSR efforts; we re-vamped the Environment Committee under the Executive Committee to the CSR and Environment Committee (Committee Chairman: Deputy President Hiroyuki Sato) and tasked it with debating and reviewing group CSR issues in addition to its previous involvement with group environmental measures.

We have adopted a system that encourages CSR throughout our business operations by establishing a "CSR and Environment Office" in the Corporate Planning Division. Not only does it take over the responsibilities of environmental-related business affairs formerly handled by the Environment and Technology Group, it is also in charge of the functioning of the "CSR and Environment Committee." This office is composed of eleven members, four full-time staff members and seven concurrently serving in other, leadership posts in divisions throughout the company, including Human Resources, General Affairs, Public Relations, Investor Relations and Marine Management. This creates a system in which employees coordinate with each other across departmental lines as necessary to realize initiatives. Under this new system we fully intend to forge ahead while intensifying our CSR efforts.





# Corporate Governance and Compliance

One of our pledges in our Corporate Principles states, "We will strive to maximize corporate value by always being creative, continually pursuing higher operating efficiency and promoting an open and visible management style that is guided by the highest ethical and social standards."

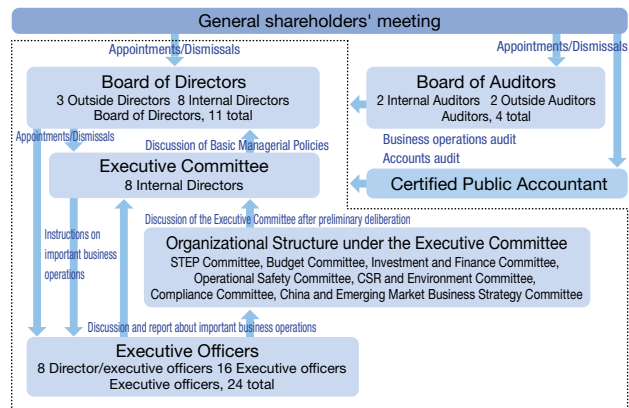
## Corporate Governance Efforts

At MOL, the corporate governance system has long been a key priority.

We believe that the Board of Directors, including members from outside the company and under the President as the chief executive officer, is the most suitable format for supervising and encouraging business operations. We have held to that concept in our managerial reforms. We think that this system heightens transparency from the perspective of the stockholders while optimally allocating managerial resources and maximizing benefits for stakeholders.

※For more details about our efforts at corporate governance, please refer to <http://www.mol.co.jp/governance.shtml>

### Our corporate governance structure (As of July 2004)



## Compliance Efforts (with respect to legal and ethical compliance)

At MOL, we view "compliance" as more than compliance with the letter of the law, but also with internal rules, with our corporate protocol and Code of Conduct, and encouraging the realization of an open and visible management style that is guided by the highest ethical and social standards, as articulated in our Corporate Principles. We are constantly striving to enhance our compliance system.

### MOL's compliance promotion system

We have strengthened our compliance system through initiating a compliance policy and concurrently establishing a Compliance Committee. A Deputy President in charge of administration divisions is appointed as committee chairman; and also the Executive Officers in charge of divisions concerned in addition to the Officers in charge of Internal Auditor Office and Human Resources Division are designated as members.

In addition to appointing general managers as Compliance Officers for their respective divisions, we have set up a counseling service in the event that it is difficult for a report to be filed to a Compliance Officer. This compliance counseling service is headed by the Internal Audit Office General Manager independent from other divisions. The Internal Audit Office General Manager undertakes investigations and audits as necessary and reports steps taken to the reporter. Directors and employees that report to or consult with the Committee about criminal acts or that cooperate in investigations are guaranteed protection from unfair treatment. Training courses are held to boost the awareness of directors and employees about compliance.

Each company of the MOL Group as an independent entity has established a compliance system suited to their respective scale and type of business

operations; however, at the same time, directors and employees of any group company that discover illegal behavior can use the MOL's consulting services.

### Code of Conduct

At MOL, we try to put ourselves in the shoes of an assortment of stakeholders in mandating the Code of Conduct for all directors and employees. This is publicized on our homepage. By conducting themselves in line with this code, our directors and employees enhance the work environment, improve business operations and earn the empathy of stakeholders who have a variety of viewpoints of all actions of MOL. They also heighten our corporate value.

#### Code of Conduct Policy Items

1. Compliance with laws and conscientious administration and attentiveness in work
2. Respect for human rights and prohibition of discrimination and harassment
3. Respect for confidentiality and intellectual property rights
4. Strict classification between public and private, and prohibition of acts that contravene the interests of the company
5. Resisting forces that act against the interests of society
6. Social responsibility
7. Safety/Environmental protection
8. Relationships with customers and clients
9. Leadership and supervision
10. Processing of reports and consultations

※ For more detailed information regarding the code of conduct please refer to <http://www.mol.co.jp/compliance.shtml>

# MOL: Supporting the Lives of People Around the World

Japan is surrounded on all sides by the ocean. Annually, it exports and imports a total of some 886 million tons (2002)\*\* of products; in actuality, some 99.7 percent of this (69 percent in monetary terms) is transported via ships. MOL Group's business hinge on ocean marine transport services and is engaged in a variety of cargo transport that helps support the lives of people and industries not only in Japan, but around the world. Ours is an industry that is essential to the sustainable development of the global economy, and we will continue to develop our business with due consideration to the environment and society's needs.

## Product Transport Business Field

The logistics infrastructure that sustains the world economy

### ● Containerships

–We carry food, clothes and electrical products.–

We have the world's largest class network of shipping lanes. We will further try to enhance our services by improving our transportation efficiency and also replace some ships with state-of-the-art high speed larger ones to respond to the increase of cargo volume.



The containership "MOL Efficiency"



### ● Car Carriers

–We transport cars and trucks.–

MOL is the first to develop and put a Pure Car Carrier into service. Today, we continue to offer car transport services, backed by a wealth of experience and past achievements. We plan to forge ahead designing and developing new ships that save energy and are environment-friendly.



The Car Carrier "Courageous Ace"



## Natural Resources and Energy Transport Field

We are the world's largest transporter of resources and energy.

### ● Dry Bulk Carriers

–We carry iron ore and woodchips.–

Bulk carriers are used to transport large amounts of dry cargo that are placed in a ship's hold without any packing. MOL is the world's largest dry bulk operator.



The Bulk Carrier "Kohyohsan."



### ● Tankers

–We carry petroleum.–

We have a big fleet of VLCC (Very Large Crude Carriers), which have a deadweight tonnage of more than 200,000 tons. The world's largest tanker operator, we also run product tankers that transport refined petroleum, chemical tankers for liquid chemical products, and LPG (liquefied petroleum gas) carriers.



The Tanker "Iwatesan."







※ Source: The Japanese Shipowners' Association "Shipping Now 2003"

### ● Logistics



–We supply multi-modal logistics services.–

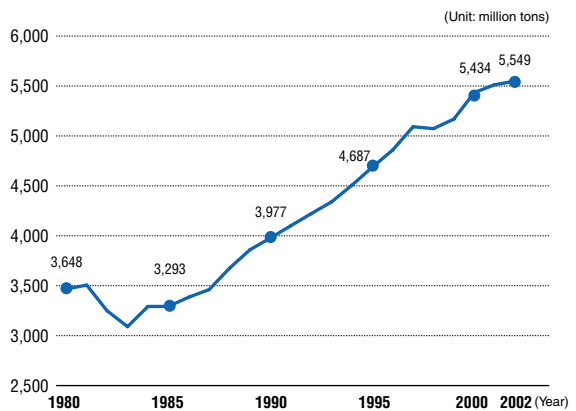
The MOL Group possesses warehouses and logistics centers both in Japan and abroad. By combining various transportation modes linking the air, the sea and the land, we offer logistics and other services in response to the customer's any and every need.



Container Trailer

### Shipping is a growing industry which underpins the world economy.

World Sea-borne Cargo Movement Volume

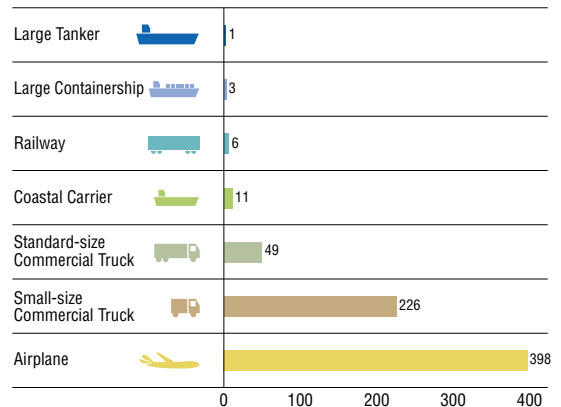


(Unit : Fearnleys Review)

### Ships are the mode of transport that emits the least amount of CO<sub>2</sub>.

CO<sub>2</sub> Emissions per Unit Load by Transport Mode

(unit: g-C / ton km)



Note: CO<sub>2</sub> Emissions per Unit Load: Amount of CO<sub>2</sub> emitted while transporting 1t cargo by 1km/(g-C/ton km, carboxylic carbon conversion)

Source: "The Survey On Transport Energy 2001/2002" compiled by the Ministry of Land, Infrastructure and Transport/MOL Data

### ● LNG Carriers



–We carry clean natural gas–

We are involved in the transport of one-quarter of the global transport of LNG (Liquefied Natural Gas), boasting the top share in the world. LNG is a source of clean energy that does not release SO<sub>x</sub>, soot or dust particulates, and releases just one-sixth the amount of CO<sub>2</sub> emitted from coal.

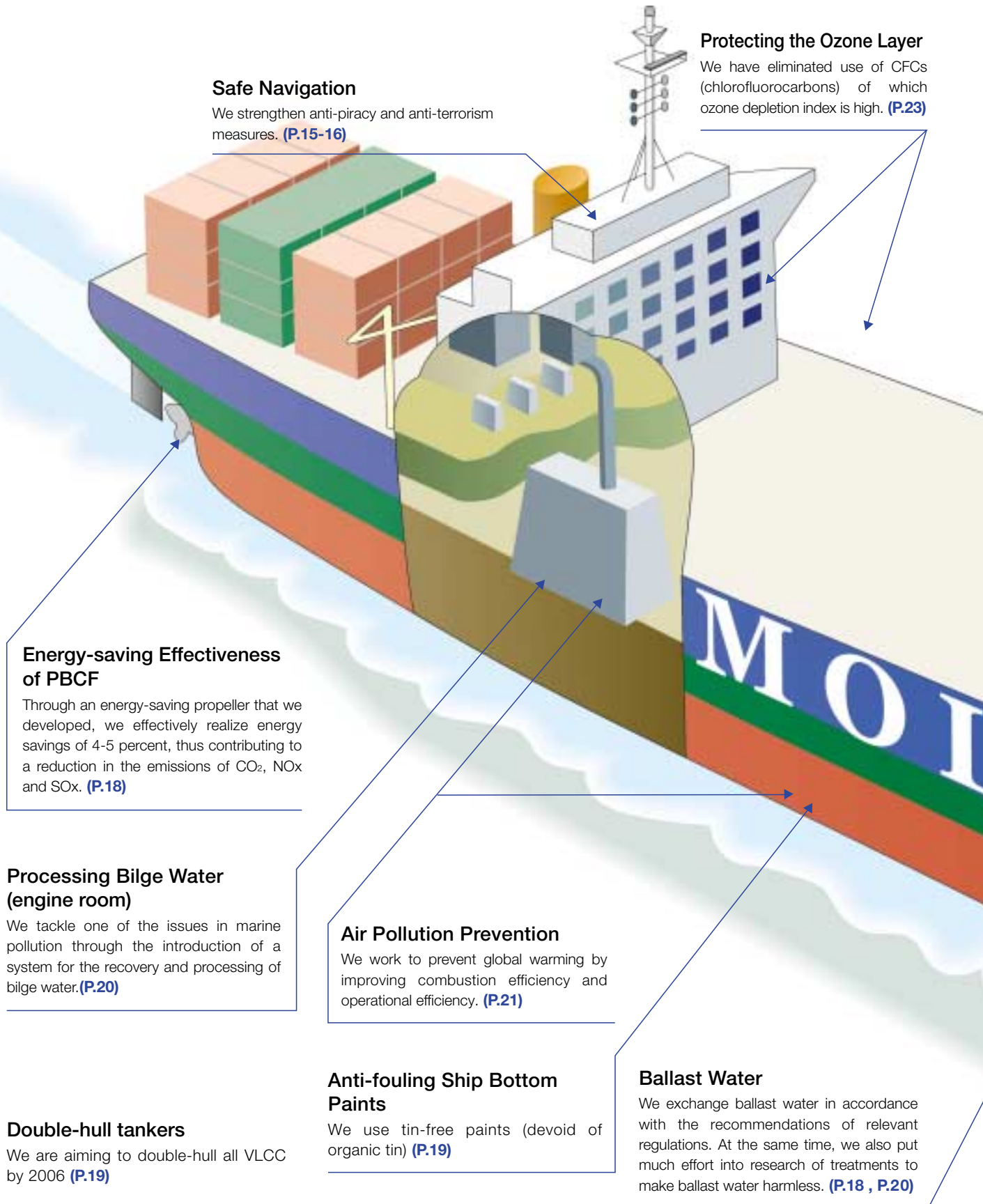


The LNG Carrier "Senshu Maru"

※ Please refer to "Group Business" on P. 27~28.

# MOL's Environmental Impact

We take various measures to reduce the environmental impact of our ship operations and business activities.



## Double-hull Fuel Tanks (ships designed to prevent fuel oil spills)

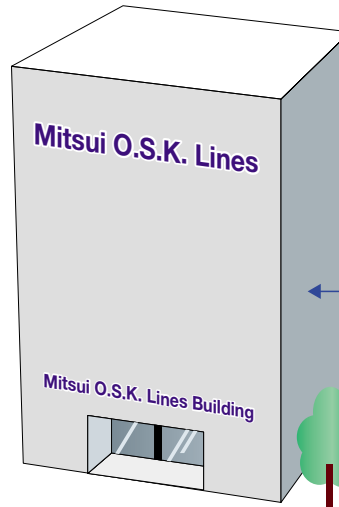
We greatly reduce the risk of fuel oil spills due to a hole or tear in a ship in the event of an accident (P.17-18)



# INPUT

Vessels	Head Office
● Fuel Consumption (FO + DO) <b>4,311</b> thousand t	● Electricity <b>2,284</b> thousand kWh
	● Kerosene <b>140</b> thousand liter
	● City gas <b>2,075</b> m <sup>3</sup>
	● Water <b>10,101</b> m <sup>3</sup>
	● Office paper <b>9,220</b> thousands of sheets

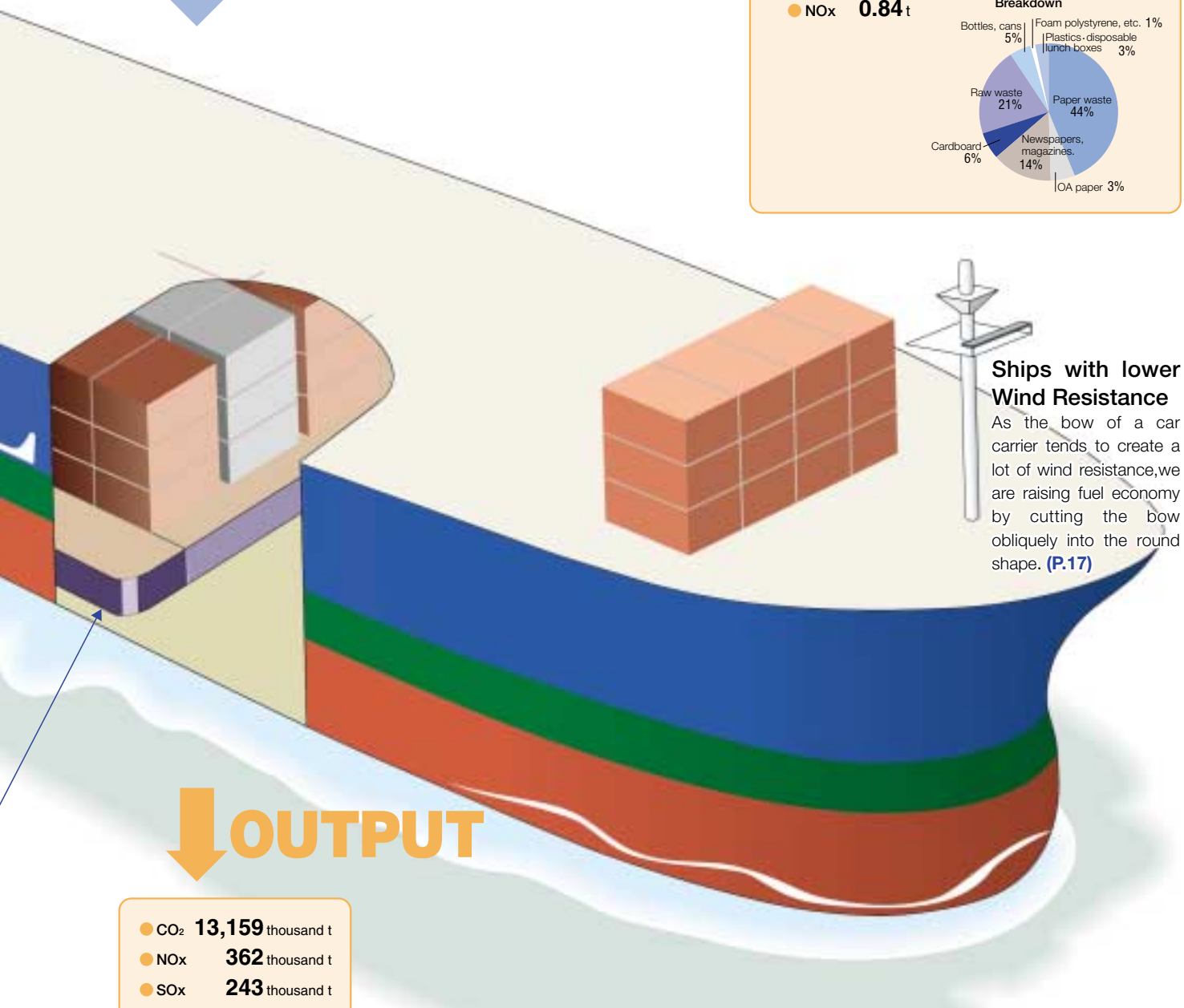
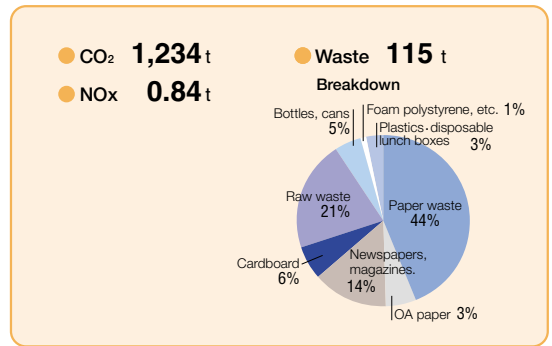
These figures only pertain to Mitsui O.S.K. Lines, Ltd.



## Initiatives at Head Office

In daily business we take efforts to reduce the use of paper, electricity and generation of garbage to save resources. (P.24)

# OUTPUT



## Ships with lower Wind Resistance

As the bow of a car carrier tends to create a lot of wind resistance, we are raising fuel economy by cutting the bow obliquely into the round shape. (P.17)

# OUTPUT

● CO <sub>2</sub> <b>13,159</b> thousand t
● NO <sub>x</sub> <b>362</b> thousand t
● SO <sub>x</sub> <b>243</b> thousand t

# Environmental Management System

To assure safe operation and protection of the marine and global environment, as outlined in our Corporate Principles, we introduced an environmental management system, the MOL EMS 21, in April 2001. We are making company-wide efforts to reduce the environmental impacts of our business activities.

## Environmental Management System Concept

The Environmental Management System is a framework for assessing environmental effects and then continuously striving to reduce the environmental impacts through the PDCA cycle. This cycle means that we set specific targets (Plan), implement a plan to meet these targets (Do), evaluate our performance results (Check), and review our policy and objectives to realize better efforts (Action.)

## MOL EMS 21 Certified Under ISO14001

MOL expanded the Environmental Management System MOL EMS 21 from our land-based operations to all operated vessels in January 2003, when we received certification under the ISO14001 international standard for environmental management. Our certification was expanded in September 2003 to include Mitsui O.S.K. Passenger Line and the Nippon Maru, and further extended in January 2004 to Shosen Mitsui Ferry Co., Ltd. and the ferries that it operates.

Scope : All divisions at the MOL head office and MOL-operated vessels (chartered vessels with contracts of more than one year).

All Mitsui O.S.K. Passenger Line Divisions and the Nippon Maru

All Shosen Mitsui Ferry Co., Divisions and operated ferries.

Service Range : Site activities and head office activities associated with multi-modal logistics cargo transport services, cruise services of the Nippon Maru, and passenger and vehicle cargo ocean transport services of the ferries.

## Environmental Audit

The Environmental Management Officer receives reports of internal audits at least once a year at the CSR and Environmental Committee. Based on these, the officer confirms and assesses how well the system is functioning while looking for ways to improve system performance.

In addition, a maintenance audit for the approved area including ships is carried out by an external certification body every year. A renewal audit is conducted once every three years.

## Organization for Promoting Environmental Management

Besides 3 companies of MOL, Mitsui O.S.K. Passenger Line and Shosen Mitsui Ferry managed by MOL EMS21, other group companies of 42 domestic subsidiaries and 4 overseas subsidiaries are promoting the activities to protect the environment by the Group Environmental Targets Management System.

Under the final decision of our President, the Operational Safety Committee (Chairman: President) and the CSR and Environment Committee, where deliberation on MOL environmental policy issues is held, will jointly oversee the operation of MOL EMS 21.

## Chart of the MOL EMS and the Group Environmental Targets Management System

### MOL Group

Group Corporate Principles  
Group Environmental Policy Statement



For detailed information about the Group Environmental Target Management System, please refer to P.27-28.



Certificate of ISO 14001, an international standard for environmental management (Certified by DNV = DET NORSKE VERITAS)



# Environmental Accounting

In order to reconcile corporate business activities and environmental protection, it is necessary to adequately grasp the costs of environmental protection activities and their economic and environmental benefits.

## Environmental Accounting Approach

### Environmental Accounting Methodology

- Our methodology follows the Ministry of the Environment's 2002 edition of the Environmental Accounting Guidelines.
- The environmental accounting covers the MOL head office and the fleet that it operates.
- We have calculated only the costs that directly reflect reductions in environmental impacts and not those necessary for compliance with treaties and laws.
- Economic effects of environmental protection measures are only compiled when it is possible to numerically evaluate and gauge the cost savings of such efforts.
- Economic benefits mainly reflect the reduction in the fuel consumption, which was achieved as a result of our measures to reduce emissions of CO<sub>2</sub>, NO<sub>x</sub> and SO<sub>x</sub>.

**Table 1 Investment and expenses for environmental protection measures**

(Unit: million yen)

Measures	Classified according to Ministry of Environment guidelines	FY2001 Actual		FY2002 Actual		FY2003 Actual	
		Investment	Expense	Investment	Expense	Investment	Expense
Repainting ship bottoms with anti-fouling paints (Including sandblasting <sup>*1</sup> )	Global environmental protection costs	0	549	0	431	0	348 (30 vessels)
PBCF installation	Global environmental protection costs	68	7	46	11	55	12 (7 vessels)
Other vessel investments (exhaust gas economizer and TG System <sup>*2</sup> )	Global environmental protection costs	587	35	428	73	966	115 (12 vessels)
Office-related environmental initiatives	Recycling costs	0	2	0	0	0	6
Costs for management / Social contribution activities	Management activity costs · Social activities costs	0	52	0	56	0	140
R&D costs	Research and development costs	1	13	0	5	0	19
Total		656	658	474	576	1,021	640

(Notes) <sup>\*1</sup> Process of removing rust or paints by spraying abrasive particles against vessel's hull.

<sup>\*2</sup> This converts thermal energy from the main engine's exhaust gas into steam, which drives a generator that creates electricity. This system reduces consumption of fuel oil for electricity generation, thus helping to reduce emissions of CO<sub>2</sub>, NO<sub>x</sub> and SO<sub>x</sub>.

1. The conversion rate used for FY2003 is ¥113.84/\$, based on the average rate set by the company over this period.
2. Investment in the replacement of refrigerant containers (using refrigerant R134a, with an ozone-depleting coefficient of zero) is not included in the above figures because they cost less than the replaced containers. In FY2003 nearly 2.8 billion yen was spent to buy containers using R134a.
3. Costs for vessel-related investments reflect depreciation costs in the calculations.
4. Investment expenditures on PBCF for chartered ships are, for reasons of convenience, reflected in the above figures.
5. Social activity costs include donations (such as that made to Japan Association for the World Exposition).
6. Office-related expenses include both multi-functional printers and the introduction fee of the Document Management System.
7. While not included above, in FY2003 MOL invested approximately 70 million yen in double-hull fuel tanks of 7 newly built container ships. We anticipate spending nearly 320 million yen to have the same done to a total of 16 car carriers and VLCCs that are to be completed by FY2006.
8. Not included in the list above (because the investment is mandated by law) is approximately 3.5 billion yen increase in the value of 5 double-hull VLCCs launched in FY2003, compared with 5 single-hull tankers.

**Table 2 Economic benefits resulting from environmental protection measures**

Measures	Classified according to Ministry of Environment guidelines	Economic effect (Unit : million yen)		
		FY2001	FY2002	FY2003
Sandblasting ship bottoms prior to repainting	Global environmental protection costs (CO <sub>2</sub> reduction · NO <sub>x</sub> reduction · SO <sub>x</sub> reduction)	148	255	349
PBCF installation	Global environmental protection costs (CO <sub>2</sub> reduction · NO <sub>x</sub> reduction · SO <sub>x</sub> reduction)	261	436	584
Other vessel investments (exhaust gas economizer and T/G System)	Global environmental protection costs (CO <sub>2</sub> reduction · NO <sub>x</sub> reduction · SO <sub>x</sub> reduction)	181	258	510
Office-related environmental initiatives (Recycle boxes)	Recycling costs	2	0	0
(Shift to energy-saving fluorescent lights)	Recycling costs	0	0	0
Total		592	949	1,443

(Note) 1. This shows the effects of measures implemented in Table 1. The major economic benefit is in fuel costs

2. Measures implemented in FY2001 and FY2002 contributed to the fuel cost savings (economic effect) realized in FY2003. Data for FY1999 and before is unavailable and thus not included.

3. The benefit from office-related environmental initiatives in FY2003 is a reduction in electric consumption due to our shift to energy-saving fluorescent lights. As the actual savings was less than 1 million yen, it is represented with a zero on the graph.

# FY2003 Achievements / Assessment

## New Mid-Term Environmental Management Plan and FY 2004 Targets

We assessed the results of our performance in FY2003 and have drawn up a new mid-term environmental management plan. In addition to the environment, we have addressed CSR and are expanding the scope of our activities.

### FY2003 Targets and Achievements

Item	Object	FY2003 Targets	Achievements	Self-evaluation.
<b>Assuring safe navigation</b>		Re-vamp ship inspections under the MOL Safety Management System to eliminate major marine accidents, including oil spills (annual target: 258 vessels).	No serious marine accidents. Implemented inspections of 36 tankers, 17 LNG carriers and 208 other vessels – total 261.	Target achieved.
<b>Protecting the marine environment</b>	Ship bottom paints: Endocrine-disrupting chemicals	Replace TBT anti-fouling paints with TF paints in advance of regulations for 25 vessels due to dry-dock in FY2003.	Carried out on 30 vessels.	Target achieved.
	Ballast water: Damage to ecosystems due to the transboundary movement of seawater	1) Continue development of new technologies to remove pollutants from ballast water.	We publicized results of ballast filtration technology and research continues. We also installed a device developed by The Japan Association of Marine Safety on the containership "MOL Express" and are implementing on-vessel experiments.	Target achieved.
		2) Promptly inform concerned parties of relevant information, such as international regulations.	We are following the treaty on ballast water management adopted in February in London.	Target achieved.
	Introduction of double-hull tankers	Complete construction of five double-hull tankers in FY2003 to replace single-hull tankers	Five tankers launched in FY2003 have double-hulls. Progress status: 46(70%) among 66 tankers.	Target achieved.
Processing bilge water	Continue to adopt bilge water processing systems on all MOL vessels and some newly built charter vessels.	All 21 vessels completed during this period were outfitted.	Target achieved.	
<b>Preventing air pollution</b>	CO <sub>2</sub> emission from vessels: Addressing the global warming issue	Reduce CO <sub>2</sub> emissions per unit load by 2 percent from FY2002 levels within two years.	CO <sub>2</sub> emissions per unit load dropped 2.9 percent from FY2001.	Target achieved.
	NO <sub>x</sub> emissions from vessels: Addressing the acid rain issue	Reduce NO <sub>x</sub> emissions per unit load by 2 percent from FY2002 levels within two years.	NO <sub>x</sub> emissions per unit load dropped 2.9 percent from FY2001.	Target achieved.
	SO <sub>x</sub> emissions from vessels: Addressing the acid rain issue	Strive to reduce SO <sub>x</sub> emissions per unit load.	Through the purchase of low-sulfur content fuels and increased ton-mile efficiency, we logged a drop of 4.3 percent in SO <sub>x</sub> from FY2001.	Target achieved.
	Fluorocarbons: Addressing ozone layer depletion	1) Replace R12 in all refrigerated containers with R134a refrigerant.	Replacement completed during the term.	Target achieved.
		2) Use R-404A for refrigeration units and air conditioners in all new vessels. Continue to study the use of refrigerants that are better for the atmosphere.	All 21 vessels completed during this period were outfitted.	Target achieved.
Addressing dioxin pollution	Reduce dioxin emissions from vessels (adopting new incinerators)	All 15 vessels completed during this period were outfitted.	Target achieved.	
<b>Introducing environmentally friendly technology</b>	Adopting wind resistance reducing technology	Launch 5 wind-resistance reduction type car carriers during FY2003.	All 5 vessels completed during this period were outfitted.	Target achieved.
	Arrangement of fuel tanks to prevent oil spills	Launch 7 new type containerships that use dividing walls in the cargo holds for fuel tank during FY2003.	All 7 vessels completed during this period were outfitted.	Target achieved.
	Adopting technology to reduce cylinder oil consumption	Actively consider adopting technology to reduce cylinder oil consumption for containerships, VLOCs and car carriers.	3 containerships were outfitted.	Target achieved.
<b>Environmental initiatives at the head office</b>	Reducing paper use	Reduce paper use at the head office by 5 percent from FY2002 within three years. (5 percent reduction from FY2001 level within FY2004).	Nearly the same as FY2001 levels. We need to try much harder.	The target was not reached in FY2003, but we will strengthen efforts in FY2004.
	Conserving electrical energy	Reduce the amount of electricity used at the head office by 3 percent from the FY2002 usage within three years. (3 percent reduction from FY2001 level within FY2004)	Consumption increased by 3.2% from FY2001 in the entire company. Electricity use for office lighting and office equipment reduced by approx. 5% and 7% respectively, from FY2001. Electricity used for air conditioning, which accounts for 40% of total consumption, increased by 18%, which resulted in the overall increase.	The target was not reached in FY2003, but we will strengthen efforts in FY2004.
	Reducing solid wastes	Reduce the amount of waste at the head office and increase the recycling rate of paper.	Waste dropped 6 percent from FY2001, while the office paper recycling rate stayed at 10 percent; there is still much room for improvement.	We will strengthen efforts to boost the recycling rate of office paper.
	Purchase of environmentally friendly products (Green purchasing)	Continue to promote green purchasing of office supplies.	Our green purchasing ratio remained high at approximately 86 percent (in monetary terms).	Target achieved.
<b>Environmental education (employee education)</b>		Raise employee awareness of environmental issues through in-house training sessions and periodically published information.	Executed environmental training sessions before assigning seafarers to ships, and produced and distributed environmental guidebooks for seafarer, ship management companies and ship owners. Also distributed environmental posters to all vessels, all divisions and all group companies. Increased awareness through distribution of e-mail magazine "Gekkan Kankyo (Environment Monthly)". Implemented environmental training to all employees.	Target achieved.
<b>Activities in Society</b>		1) Establish a CSR Sub-committee to study future measures.	<ul style="list-style-type: none"> <li>Proposals compiled by the CSR Sub-committee.</li> <li>Publicizing of Group compliance regulations.</li> <li>Earned high marks for environmental management on the SRI Index, environmental management ratings and so on.</li> <li>Incorporated social elements into our "Environmental Report" and expanding it into an "Environmental and Social Report".</li> </ul>	Target achieved.
		2) Continue marine surveys (XBT observation, atmospheric aerosol density observation, CO <sub>2</sub> observation in the air and seawater).	MOL Glory, Yahagi Maru and Shinzan Maru continued cooperating with scientists in environmental observations	Target achieved.
		3) Promote employee participation in environmental volunteer activities.	In May, we participated in a beach clean-up event sponsored by Kanagawa Coastal Environmental Foundation (approximately 50 participants)	
<b>Environmental initiatives as a group</b>		Promote environmental protection initiatives by the major 36 MOL Group companies.	We expanded the companies managed by the Environmental Targets Management System to 40 group companies covered by the "MOL next" during the first half of the year and then to 4 overseas subsidiaries (North America, Brazil, Europe and Hong Kong) in September. We also expanded the certification scope of our ISO environment management systems to include Mitsui O.S.K. Passenger Line and Shosen Mitsui Ferry Co.	Target achieved.



## Overview of FY2003 and Future Objectives

The emissions of CO<sub>2</sub>, NO<sub>x</sub> and SO<sub>x</sub> from our company's vessels are the largest environmental impact stemming from our operations.

We were able to achieve better results of emissions per unit load than planned after series of our measures. We have incorporated the fruit of joint development efforts in constructing the wind resistance reducing vessel and fuel oil spill avoiding vessel. We believe these new designs represent large strides in devising more environmentally sound vessels. We have also completely replaced conventional refrigerant in our refrigerant containers with substances featuring zero or close to zero ozone depletion factors. Meanwhile, at the office, reductions of paper, electricity and garbage were inadequate. We will redouble our efforts to meet these targets in the final year FY2004.

For MOL, FY2004 is the first year for a new mid-term management plan, MOL STEP. In late June 2004, we established a committee and division tasked with raising awareness of our connections with society and intensifying our CSR initiatives. FY2004 is an important year for environmental issues. Because related regulations are being tightened both domestically and internationally, and the further discussions based on the Kyoto Protocol are expected. Activities to protect the Earth's environment are crucial pillars of our CSR policy, and we will continue to enhance our efforts.



CSR and Environment  
Committee Chairman  
(Deputy President)  
**Hiroyuki Sato**

## Mid-Term Environmental Management Plan (FY2004 - FY2006) and FY2004 Targets

Items	Mid-term plan (FY2004 - FY2006)	FY2004 Targets	Page	
<b>Ensuring safe navigation.</b>	Assure safe navigation.	Prevent serious marine accidents, including oil spills.	15-16	
<b>Protecting the marine and global environment.</b>	Preventing air pollution	(Continued measures to prevent global warming and acid rain).	21-22	
		Lessen environmental impacts by raising ship transport efficiency.		
	Protecting the marine environment.	Continued measures to prevent depletion of the ozone layer.	Use the environmentally friendly refrigerant R-404A for refrigeration and air conditioning on all newly built vessels. Continue study about more environmentally friendly refrigerant.	23
		Address the issue of ship bottom paint. Recoat all vessels except chartered ones with TF paints by FY2005.	Recoat all of 20 managed vessels due to dry dock in FY2004 with TF paints in advance of the required application.	19
(Address the issue of ballast water)	Evaluate and promote development of technologies to meet the requirements of the ballast water management treaty adopted in February 2004.	18, 20		
	(Oil pollution measures) Replace all remaining single-hull tankers with double-hull ones by FY2006.	Replace single-hull tankers with two double-hull tankers in FY2004.	19	
<b>Developing and adopting environmentally friendly technology.</b>	Adopt and research technologies for energy conservation, safe navigation and preventing oil spills.	Launch 4 wind-resistance reducing car carriers in FY2004.※	17	
		Launch 4 car carriers and 2 tankers designed to avoid fuel oil leakage in the event that a ship's hull is damaged.	17-18	
		Aggressively adopt technology to reduce cylinder oil consumption for containerhips, VLCCs and car carriers. ※	—	
		Continue experiments to realize wind power generation systems on vessels.	18	
<b>Promoting environmental measures at the head office.</b>	Continue measures to conserve energy, save resources and reduce waste.	Reduce paper use at the head office by 5 percent from the FY2002 amount within three years(final target year). ※	24	
		Reduce electricity use at the head office by 3 percent from the FY2002 amount within three years(final target year). ※		
		Reduce waste and raise recycling rate of office paper at the head office. ※ Continue our efforts to promote green purchasing.		
		Examine environmentally friendly architecture in head office renewal plan.	—	
<b>Promoting Group environmental management.</b>	Promote environmental protection activities among domestic group companies and overseas subsidiaries.	Deepen environmental management operation system and environmental protection activities. (At 44 domestic companies and 4 overseas subsidiaries)	11, 27-28	
		Construct a group environmental compliance system.	—	
	Further develop environmental education.	Carry out environmental education and nurture eco-minded leaders at group companies.	21, 27-28	
<b>Pursuing compatibility in economic and environmental goals</b>	Conserve energy and save resources.	(Refer to ※ above)	—	
	Offer environmental solutions through group environmental business initiatives.	<ul style="list-style-type: none"> <li>Promote response to modal shift.</li> <li>Promote energy conservation and purification business initiatives.</li> <li>Promote waste disposal business initiatives.</li> </ul>	27-28	
<b>Intensify CSR efforts</b>	Conduct other system improvements.	<ul style="list-style-type: none"> <li>Strengthen the CSR initiatives system.</li> <li>Establish a policy and vision for CSR activities.</li> <li>Study management methodology.</li> </ul>	5	
	Expand activities contributing to society.	<ul style="list-style-type: none"> <li>Continue cooperating with marine research/surveys and coastal beautification activities.</li> <li>Study other corporate/citizen activities and social contribution programs.</li> <li>Consider forming partnerships with NGOs.</li> </ul>	33	
	Enhance communication with various stakeholders.	Enhance disclosure and distribution of information through our homepage, Environmental and Social Report and Annual Report.	34	

# Safe Navigation

We believe that safety in navigation is fundamental and of the utmost importance to protecting the marine environment. We establish the basic policy for the safe navigation and are committed to improving our ship management system in terms both of software and of hardware to protect the safety on the high seas.

## MOL Safety Management System

MOL group operated vessels and ship management companies are operated and managed to ensure safe navigation and prevent marine pollution under the system based upon the International Safety Management Code (ISMCode) outlined in the International Convention for the Safety of Life at Sea (SOLAS Treaty\*\*1).

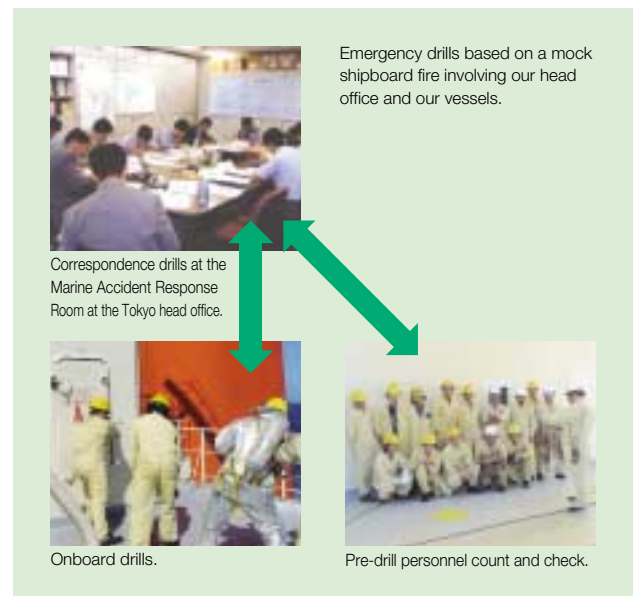
### Basic Principles for Safe Navigation

1. Compliance with laws and regulations
2. Maintain safe navigation
3. Safeguarding human life and protecting the marine environment
4. Enhancing crew competency
5. Maintenance of reliable ship management

We have acquired ISO9001: 2000 quality assurance certification and approval by Det Norske Veritas (DNV) for our ship management services through ship management companies and for indirect management services in supervising and supporting the operation of our chartered vessels. To assure the safe navigation of the approximately 500 vessels we operate, we share the above basic principles with ship management companies both inside and outside of our corporate group, and have established a comprehensive vessel management system to be carried out onboard and supported by land-based operations. We strive to ensure safe navigation through appropriate and stringent maintenance inspections of vessels, formulating navigation technology standards and providing the highest quality education and training for our crew.

## Emergency Response System

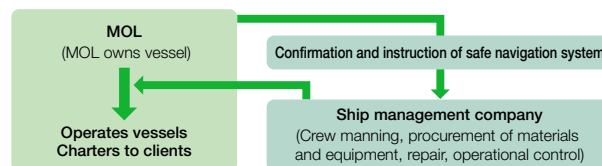
In preparation for a marine accident, we have compiled marine accident response manuals and have established an emergency response system controlled by the marine accident response headquarters. The system is designed to enable a speedy response and to restrain the extent of damage. We also conduct emergency correspondence drills and response drills premised on hypothetical marine accidents.



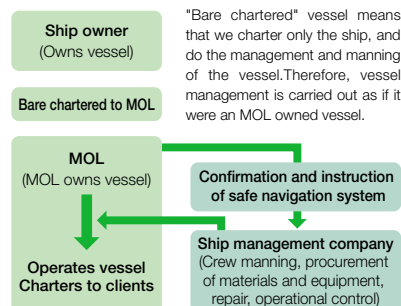
## Ship Management Companies and Chartered Vessels

At MOL, we operate nearly 500 vessels. Roughly half of these are our own vessels or Bare chartered ones\*\*2, while the rest are Time chartered ones\*\*3 owned by third parties. MOL-owned vessels and bare chartered ones are managed via our group ship management companies. They assign a highly qualified supervisor to the vessel. Also they select a properly skilled crew, instruct crew in safe operation and navigation, oversee regular maintenance and systematically procure the necessary equipment for the ship. They must try to elevate the quality of the vessel in terms of both hardware and the software. When the vessel is chartered, management is left to the vessel owners. However, we are sure that all MOL-operated vessels, irrespective of owned or chartered, assure safe navigation because we set and apply our own ship management quality standards, grasp the ship management situation through ship inspection and instruct any measures on the spot, and give instructions based on the ship inspection to the ship management companies and the ship owners.

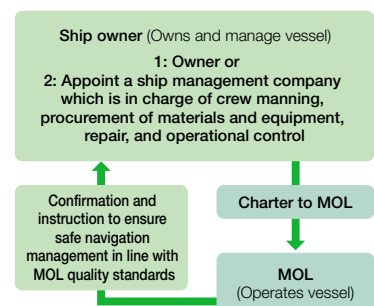
### ● Safety and quality control for MOL-owned vessels



### ● Safety and quality control of Bare chartered vessels



### ● Safety and quality control of Time chartered vessels







Managing Executive Officer  
(Operational Safety  
Committee Vice-chairman)  
**Toshihiro Kagami**

### We are aggressively implementing environmental education as we strive to eradicate marine accidents.

Ships have the potential to seriously damage the ocean. We have a target of zero marine accidents. The Marine Management Division have established a management system based on knowledge over many years of experience, and also a safe and efficient operation system using the world's newest technology and information. By these two systems, we are addressing the protection of marine environment, the prevention of air pollution and the prevention of global warming.

We are also actively pursuing education to raise the level of environmental awareness among crew who are directly involved in transport as well as that of the directly involved land-based personnel.

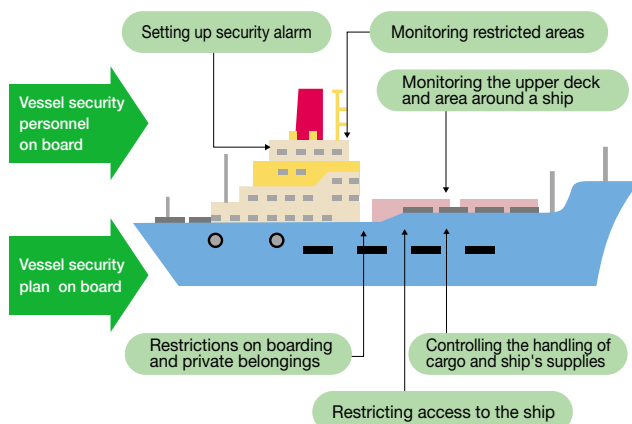
### Anti-terrorism and Anti-piracy Measures

The simultaneous terrorist attacks in the United States on September 11, 2001 have triggered a sense of fear that ships or cargo could be targeted, become a means of a terrorist attack in themselves, or could be used as a method of transporting weapons or terrorists. After an international discussion about potential security measures, on July 1, 2004 the ISPS Code (International Ship and Port Facility Security Code) was put into force under the SOLAS treaty.

Under the provisions of this code, we at MOL draw up vessel security plans for each of our ships and have ship management companies appoint company security personnel at the office and ship security personnel on the vessel as a preventive measure against terrorism.

We also compile Terrorism and Piracy Response Manuals and establish an emergency response system on each vessel. In conjunction with this, we set up a system that allow vessel and office on land to share the newest information pertaining to the dangers of terrorism or piracy threats. Both has the automatic position monitoring system (Position Polling System) using a ship's radio equipment, or Iridium cellular phones which are capable of communication anywhere in the world, to ensure a rapid response in the event of an encounter with terrorists or pirates. At terminals and other waterfront facilities, we institute thorough security measures as preventive steps against terrorism.

#### Vessel security system



### Environmental Vessel Inspection

At MOL, we regularly carry out inspections of vessels as a sure way of improving the safety and environmental initiatives. We check the vessel's facilities, engine and the condition of each piece of equipment, of course, but, in order to ensure safety, we also observe daily operational methods, conduct equipment maintenance and record maintenance. Records of waste and oil disposal, as well as environmental education records on board, also receive close attention.



An inspector checks the bilge separator.



An environment poster posted inside a ship.



An environment leaflet for employees on land and crew members.

### India Manning Company\*\*4 Acquiring ISO9001

We make efforts to ensure that we secure skilled foreign crew and that they are well trained because this is the foundation of safe navigation.

In November 2003, Mitsui O.S.K. Lines Maritime (India) Pvt. Ltd. (MOLMI), the important organization for securing foreign seafarers, acquired ISO9001: 2000 quality control certification. With this acquisition, all three MOL Group foreign manning companies (Europe, India and the Philippines) are now certified under the ISO9000 series.

<sup>(81)</sup> **SOLAS (International Convention for the Safety of Life at Sea)**

A treaty promoting safe navigation and setting provisions for monitoring ships, issuing certificates, as well as outlining technical standards for vessel structure, facilities, lifesaving equipment and safety measures for cargo stowage. SOLAS was adopted in 1974 and Japan ratified it in 1980.

<sup>(82)</sup> **Bare charter**

A vessel owner charters out only a vessel without crew.

<sup>(83)</sup> **Time Charter**

A vessel owner undertakes maintenance and management of a ship and charters out the vessel with crew.

<sup>(84)</sup> **Manning company**

A company that secures skilled crew and man them to MOL operated vessels as required.

# Environmental Technology

We are promoting the development of technologies for ships that contribute to protecting the environment and conserving energy. Through cooperation between industry and academia, we are actively engaged in developing, testing and demonstrating the usefulness of some of those technologies, such as wind powered generators for vessels.



General Manager,  
Technical Division  
**Tsukasa Nishikawa**

## We pursue research and development around the clock.

At MOL, our policy is pursuing research and development in the three areas of 1) technology for environmental protection and energy conservation, 2) methods to heighten safety and reliability, and 3) new technology and systems of transport.

FY 2003 yielded many fruitful results as we started experiments with the world's first wind-powered generator for ships, developed a ballast water processing device and was able to confirm the anti-corrosion effect of shop primer\*<sup>1</sup> on the tank bottom plates of double-hull VLCCs.\*<sup>2</sup> In addition, the Courageous Ace (completed in March 2003), which is designed as wind resistance reducing ship to conserve energy, was awarded as Ship of the Year for 2003.

## Energy saving ship by reducing wind resistance

We have collaborated with Universal Shipbuilding Corp. and Osaka University since 2000, researching and developing an energy-conserving design for car carriers (PCTC= Pure Car and Truck Carrier). Starting in March 2003, we built six such ships in succession. The first was the Courageous Ace, which, due to its round design by beveling the bow, has lower wind resistance and improved fuel efficiency. The sides of the ship include channels permitting passage of the wind, which reduce the vessel's tendency to veer from a straight course under the wind. From July 2004, we have applied these innovations in a series of 12 more vessels. These new PCTC feature 20 percent lower wind resistance and 4 percent lower in fuel consumption than existing vessels (assuming a diagonal headwind of 15 meters per second), which provides a recovery of up to one knot in speed. The Courageous Ace was recognized for its ingenuity with the Ship of the Year Award for 2003 by the Society of Naval Architects of Japan (the design patent has been registered).



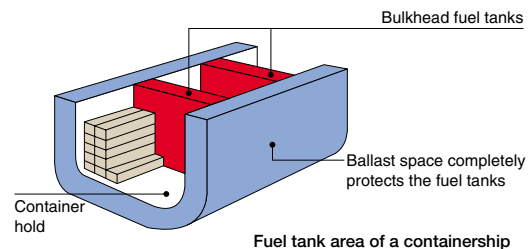
The pure car and truck carrier "Courageous Ace" designed to reduce wind resistance

## Fuel Oil Spill Avoiding Ship

### ● Containerships

The fuel tanks of large containerships are generally located at the bottom of the ship, what is called a double bottom. As the outer hull serves as the exterior of the fuel tank, there is risk of an oil spill occurring from any tears in the ship bottom in the event of grounding or a collision. At MOL, we have immensely reduced the risk of oil spill accidents by shifting nearly 60 percent of the fuel to partitioned walls between the cargo holds.

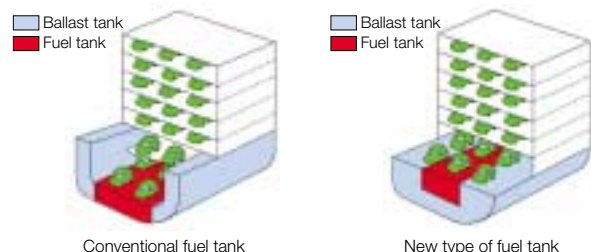
The first vessel featuring this technology was the MOL Encore, completed in March 2003. Through December 2003 all eight containerships we have built have employed this feature.



### ● Pure Car Carriers

Pure car carriers generally have at least 10 decks where vehicles are stowed. By locating the fuel tanks protected by the double hull in what used to be the cargo space as the 12th deck (in the center of the ship), and concentrating the ballast tanks in the lowest part of the ship, we have enhanced vessel safety and stability.

At the same time, the space for ballast tanks at the both sides of the 11th deck has been allotted as cargo space so that the vessel can load the same amount or more cargo than the old one. At MOL, we have decided to adopt 12 of these new types of pure car carriers and have been gradually putting them into service since July 2004.



<sup>(991)</sup> Shop primer

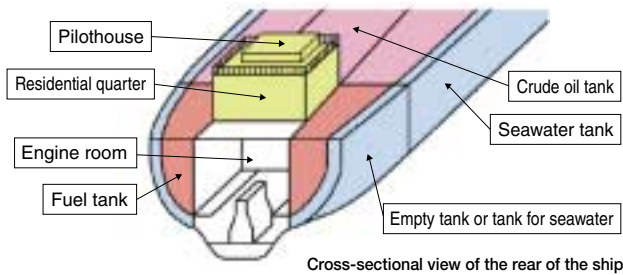
Paint with zinc as its main ingredient. This is generally used on shipbuilding sites to prevent rust on the surface of steel materials during construction.



● Newly built VLCC

At MOL, newly built VLCCs are designed with an empty tank surrounding the fuel tank (sometimes used as a tank for seawater), creating a double-layered structure. This minimizes the danger of a fuel oil spill in the event that the vessel collides with another vessel or the external plate is in any way damaged.

At MOL, we are going to apply this structure to four VLCCs coming into service from May to December 2005.



Experiments with Wind Power

At MOL, we have been collaborating with Tokai University and Nishishiba Electric Co. since 2002 on the development of a system to introduce natural energy to vessels and have completed a wind powered generator for ships. In March 2004, we subsequently outfitted it with the Taiho Maru, a wood chip carrier, to experiment with the device for practical use. This is the world's first trial with wind-generated power on a ship in navigation. This device is compact in size and omnidirectional against a wind. Also it can be enlarged to suit every size of vessel. In our experiments we are compiling and analyzing data about the device's generating capacity with an eye to expanding its usage in the future to other type of vessels and using it as a supplementary power source on ships.



Windmill outfitted on the experimental vessel "Taiho Maru"

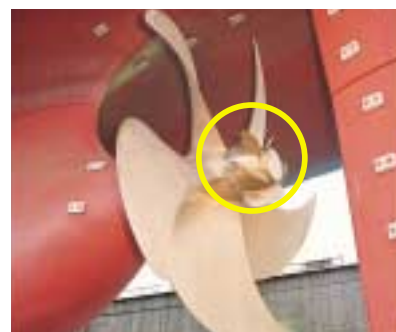
Windmill : Straight-blade vertical axis type  
(height 2mXwidth 2.5m)  
Rated power output : 3kW  
Generator : Permanent magnet synchronous generator  
(designed to meet ship's requirements with preventing measures against saltcorrosion, vibration and rocking)  
The energy from the generator is stored in a storage battery for supply to an air conditioning unit on the bridge. Data from experiments on land predict that this system is capable of generating 7,000 to 9,000 kWh annually, given the wind on a ship at sea.

Ship Recycling

Ship owners have to promptly retire old vessels and sub-standard vessels<sup>(63)</sup> that have problems in navigating the ocean safely or might harm the marine environment. They must remove them from the market and dismantle them. Much of dismantling work is carried out in India, Bangladesh and China. In dismantling ships, we sufficiently take into account safety and environmental issues. MOL participates in a Ship Recycling Sub-committee composed of members from the shipping, shipbuilding, ship dismantling and marine equipment industries, in an effort to discover better means of dismantling. We also take measures to lessen the environmental impact when we hand over a ship for dismantling. In FY2003, we sold two vessels to be dismantled. We sell the vessels to a corporation that is thorough in its consideration of the environment and has acquired ISO14001 certification. At the time of delivery, we remove as much fuel oil and ballast water from the vessel as possible and also inform the buyer of the location of all potentially dangerous items on board in advance. It is critical to MOL to take full responsibility for the natural and labor environment.

Energy-saving Effect of PBCF

PBCF efficiently recovers energy loss in the vortex created behind a ship's propeller. This is MOL proprietary technology that uses the same number of fins attached to the rear end of the propeller shaft. The PBCF system provides a 4 to 5 percent energy savings and reduces emissions of CO<sub>2</sub>, NO<sub>x</sub> and SO<sub>x</sub>. Since its development in 1987, we have installed this PBCF on over 800 vessels, both in Japan and overseas. Another environmentally friendly aspect of PBCF is that they are manufactured from propellers of scrapped vessels.



PBCF bolster the propeller's propulsion efficiency

New Ballast Water Technology

To ensure safe and efficient vessel navigation, ballast water (seawater) is essential for adjusting a vessel's heel, trim and draft. However, ballast water can carry harmful aquatic organisms or pathogens that can ravage marine ecosystems where the water is discharged. In September 2003, we developed an exclusive filter that purifies ballast water when vessels take it on board. Our proprietary filter prevents filter clogging through a combination of back-flushing and high-pressure jets. This technology is scheduled for experimental demonstration in autumn 2004.

(For more information about ballast water please see P.20)

<sup>(62)</sup> VLCC Very Large Crude Carrier

A large crude oil carrier generally with a deadweight tonnage between 200,000 to 300,000 tons. Recently the main VLCC is of 280,000 to 300,000 deadweight tonnage, with a cargo volume over 2 million barrels.

<sup>(63)</sup> Sub-standard vessel

A vessel that, from the perspective of structure, facilities or crew, does not meet the safety standards of current international treaties.

# Marine Environment Protection

We fully recognize the importance of protecting the marine environment and do our best to protect it. We will continue our efforts to prevent marine pollution and to lessen every possible impact on the marine environment.

## Approach to Marine Environment Protection

Oceans are incredibly important, as they underpin the global environment and occupy some 70 percent of the world's surface area. Japan is completely surrounded by the ocean and is well known as a maritime nation. Historically, Japan has utilized the ocean in a variety of ways, as the source of a myriad of resources such as food and a place for transportation by vessel, tourism and recreation. The ocean has always been an important part of life in Japan. At MOL, we are doing our utmost to prevent marine accidents and marine pollution, while striving to lessen the environmental impacts of shipping operations.

## Double-hull Initiative

MOL is one of the world's largest tanker operators. We have used our expertise in energy resource transport to expand our activities to the global stage. Tankers transporting massive loads of crude oil have a responsibility to ensure that they navigate the world's oceans safely. We are constantly striving to improve safe navigation technologies and train our crew and land-based staff for emergency situations. We are aggressively expanding our fleet of double-hull tankers, which locate cargo tanks away from the external plates so that if they are punctured in the event of grounding or a collision, the structure will prevent cargo, such as crude oil, products or chemicals, from leaking into the ocean. Currently, we operate a total of 66 vessels that carry crude oil, products and chemicals. Of these, 46 vessels, or 70 percent, have a double-hull structure. We plan to implement the double-hull structure on all of our VLCCs by FY2006.



Double-hull structure

## Anti-foul Painting of Ship Bottoms

Tributyl tin (TBT: organic tin) paints have been widely used to prevent ship hulls from accumulating seaweed and barnacles which slow down vessels. Since the late 1980s, organic tin has fallen under suspicion of disrupting the endocrine system, causing physiological harm to people. This spurred the IMO<sup>(\*)</sup> to debate the handling of TBT. At a diplomatic conference in 2001, a treaty was adopted banning the application of TBT paint on ships as of January 2003 and, by January 2008, mandating the complete removal of TBT from ship hulls or its coverage by an overlying coating on ship hulls to prevent TBT from leaching into the ocean.

In Japan, the industries concerned have jointly and voluntarily stopped the use of TBT paints for newly built and repaired vessels since 1990. At MOL, we went one step further, adopting a policy of using only tin-free (TF) paints on new vessels built overseas starting in 1999; in FY2000, we instituted a policy of using TF paint on vessels repaired in dry docks overseas. Through these efforts, nearly 85 percent of MOL-managed vessels were coated with TF paint as of March 2004. All vessels under our management will be coated with TF paint by December 2005.



Application of TF paint in a dry dock

### "We always care for the global environment"

—From the Captain of the LNG Carrier "Senshu Maru" crossing the Equator—

The LNG Carrier "Senshu Maru" is tasked with loading LNG (liquefied natural gas) at Kalimantan and safely and reliably transporting it to Japan. We, seafarers, want to keep the sea, which is the working place for us, clean forever. We implement garbage-sorting measures and take thorough precautions every day to avoid oil spills. Navigating the ocean, I sometimes encounter a surprising and saddening amount of floating bulk waste. Still, we push ahead with waste measures because we believe that this is key to achieving a clean planet which equals a safe home for mankind.



Senshu Maru Captain  
**Tetsushi Ohira**

(\*) IMO (International Maritime Organization)

A special organ of the United Nations established to promote intergovernmental cooperation on technical aspects of maritime transport and shipbuilding, maritime safety, prevention of marine pollution by ships, efficient ship operation and other issues.



### Processing Waste Oil

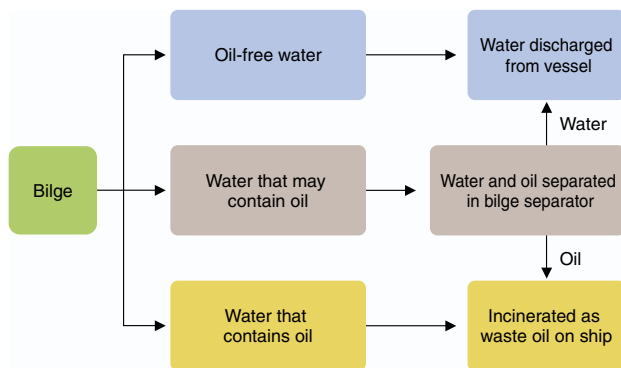
Fuel oil is made clean by removing water and impurities through the pre-treatment system, prior to using the fuel oil in the engine, generator or boiler. The oil that contains water and impurities is known as waste oil. This waste oil is heated in a special tank that boils off the water and is burned in a waste oil incinerator conformed to environmental regulations. We also reuse waste oil that is particularly high in oil content as fuel in vessel boilers. In the future, we will continue to strive to reduce the amount of waste oil incinerated by processing waste oil properly and reusing it when possible.



Waste oil incinerator

### Processing Bilge Water

In a vessel's engine room, bilge water (waste water containing oil) accumulates as a result of leaks in pipes, machinery and open maintenance work. We properly treat bilge water in accordance with the amount of oil content using the "Bilge Source Separating System" which collects and treats the bilge as illustrated below.



Processing bilge water

### Ballast Water

To ensure safe and efficient operation of a vessel, after unloading cargo, it is necessary to submerge the stern to ensure that the screw will be operated at a certain minimum depth. Ballast water (sea water) is taken into tanks inside the vessel to adjust the vessel's trim and draft. The ballast water is released at the loading port. This can cause the transboundary movement of aquatic organisms that can ravage the local marine environment and, as a result, has become one of international concerns since the late 1980s. The IMO<sup>\*1</sup> adopted guidelines to prevent the invasion of foreign aquatic organisms at unloading destinations in 1997. The International Convention for the Control and Management of Ships' Ballast Water and Sediments was adopted at a diplomatic conference held at the IMO's headquarters in London in February 2004. This treaty obligates vessels to treat ballast water to be released with a treatment device meeting a specified standard from 2016 on. At MOL, we have been carrying out ballast water exchanges in the outer sea in accordance with the guidelines mentioned above, as a substitute measure until a suitable ballast water processing device is developed. We follow local or national regulations or recommendations to assure environmentally safe navigation and prevent the negative impact of ballast water on aquatic ecosystems. There is not yet a treatment device that solves the ballast water problem; MOL is conducting an aggressive program of research and development to create a device that will render ballast water harmless.

### Shipboard Waste Management

Vessels are the living area for crew. Consequently, in addition to typical vessel waste such as cargo materials, household waste is also generated. At MOL, we strive to familiarize our crew with how to sort, store and process vessel waste in accordance with the Shipboard Waste Management Plan based on the MARPOL73/78 Treaty. This is overseen by a designated Waste Management Officer. Food scraps and other waste that do not damage the marine environment are finely ground up and disposed of in designated marine areas. Plastics are discharged at ports for proper disposal on land.

#### Our aim is preserving the marine environment.

We carry out educational activities and training on a daily basis to preserve a clean environment and realize safe operations in line with our Corporate Principles.

We strictly control disposal of oil bilge, sludge and garbage in accordance with MARPOL regulations to prevent damage to the surrounding environment. The waste management on vessels is carried out in line with the demands of MARPOL.



Koyo Maru  
Chief Engineer  
**Ardines Eulogio S.**



Shipboard waste station



Shipboard waste incinerator

<sup>(6/2)</sup> MARPOL73 / 78 Convention

International Convention for the Prevention of Pollution from Ships 1973 as modified by the protocol of 1978 relating thereto. An international treaty to prevent marine pollution known as the MARPOL Treaty. MARPOL comes from the first three letters of "marine" and "pollution." The treaty sets technical standards, for example, standards for vessel structure and anti-pollution equipment, with the express objective of preventing marine pollution. Japan ratified the treaty in 1983.

# Air Pollution Prevention

At MOL, we recognize the impact that our business activities place on the atmosphere and are continually striving to reduce it.

## Approach to Global Warming

### Ocean-going Shipping and Global Warming

It is well known that global warming is caused by substances known as greenhouse gases (GHG), such as CO<sub>2</sub> (carbon dioxide). MOL-operated vessels burn fossil fuels called A oil and C oil, and emit CO<sub>2</sub>. While it has not come into effect yet, the Kyoto Protocol, which mandates numerical GHG emissions targets for developed countries to prevent global warming, addresses emissions of GHG due to ocean-going vessels as an issue spanning numerous countries to be tackled separately from those concerning developing countries. The IMO has been made responsible for controlling or trimming emissions.

### MOL's Initiatives

While paying close attention to the ongoing discussions at IMO, we have developed our own targets for the prevention of global warming under MOL EMS 21 (see P.11). We are endeavoring to decrease both fuel consumption and CO<sub>2</sub> emissions. In FY2003, our total CO<sub>2</sub> emissions were 1.316 million tons (t-CO<sub>2</sub>), approximately 7 percent higher than in FY2002 due to an increase in the scale of vessel operations, but emissions per unit load (ton-mile<sup>(\*)</sup>) dropped 3 percent compared with FY2002 and 2.9 percent compared with FY2001. That exceeded the target of a 2 percent decrease from FY2001.

- (Measures)
- Utilize energy-conserving equipment and devices, and improve design of hull structures.
  - Reduce cruising speed when appropriate, and select the most appropriate route.
  - Make regular maintenance of main engine, auxiliary machinery and the hull, and clean and sandblast ship bottoms when in dry dock.
  - Reduce per-unit load fuel consumption through investing in energy-conserving vessels or larger vessels.

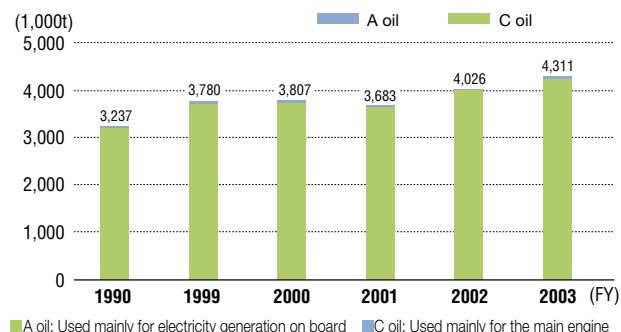
### The Kyoto Protocol and Modal Shift

#### —Relationship with group companies' business—

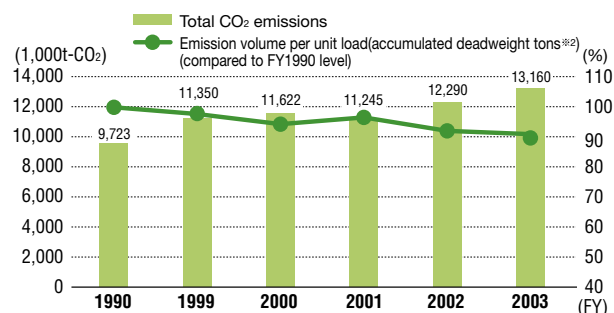
As outlined above, under the Kyoto Protocol, GHG emissions from ocean-going vessels are not calculated in our nation's domestic quota, while GHG emissions from group companies such as domestic shipping, ferries, towing, land transport or ferry operation and MOL's domestic branches are subject to the national quota. In FY2002, Japan's GHG emissions totaled 1.331 billion (t-CO<sub>2</sub>) (Environment Ministry figures), marking a 2.2 percent increase from FY2001, and 7.6 percent higher than the Kyoto Protocol's base year of 1990. GHG Emissions from the transport sector, about 90 percent of which stems from automobiles (about 50 percent of this from private vehicles), led the government to call for a modal shift to use of ferries, domestic shipping and railroads in its Guidelines for Measures to prevent global warming. The official objective is to reduce CO<sub>2</sub> emissions by 4.4 million (t-CO<sub>2</sub>).

The MOL Group, which has the nation's largest network of ferries and domestic shipping, is expected to take a leading role in driving this modal shift.

### Our fuel consumption trends



### Our CO<sub>2</sub> emission trends



Emission coefficient : From Japan Business Federation's Environmental Action Follow-up Plan



(\*) **Ton-mile**

A unit of cargo transportation equivalent to a ton of cargo moved one mile. Calculated using the formula: Ton mile = Amount of cargo x Transport distance.

(\*\*) **Accumulated deadweight tons**

A unit that indicates the scale of vessel operation for cargo transport. Calculated using the formula: Accumulated deadweight tons = Deadweight tons x Navigation days x 1/30.



## Acid Rain and Our Initiatives

### Ocean-going Shipping and Acid Rain

In September 1997, the IMO adopted MARPOL 73/78 Annex VI (Regulations for Prevention of Air Pollution from Ships), which stipulates specific regulatory figures as outlined below.

#### IMO MARPOL 73/78 Annex VI regulations for NOx and SOx emissions

	NOx		SOx
Regulatory item	Diesel engines over 130 kWh output on vessels built after January 1, 2000		All fuel oils used on vessels
Regulatory figure	17g/kWh	When rated speed is below n=130 rpm	Sulfur content less than 4.5% or desulfurization equipment for post-treatment of NOx in areas with emission regulations (the Baltic Sea and the North Sea)
	45n <sup>0.2</sup> g/kWh	When rated speed is between n=130 rpm and 2000 rpm	
	9.8g/kWh	When rated speed is over n=2000 rpm	

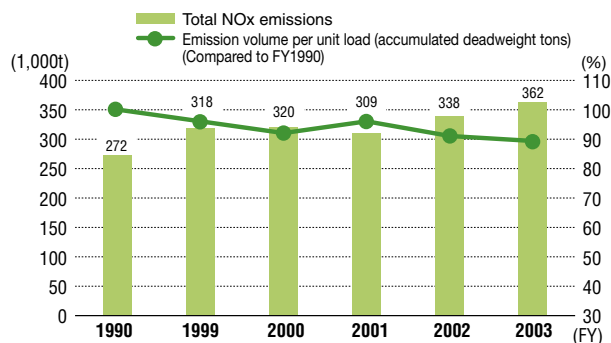
MARPOL 73/38 Annex VI (Regulations for Prevention of Air Pollution) is scheduled to come into effect in May 2005. In April 2004, Japan's national legislature approved an amended bill related to marine pollution and marine accidents.

### MOL's Initiatives

#### ●NOx Measures

At MOL, since January 1, 2000 we have equipped new vessels with engines that meet NOx emissions standards. Currently, we optimize engine operating parameters such as fuel injection timing and streamline the state of engine operation, testing additives to improve the properties of fuel oil, and developing exhaust post-treatment devices. Also, as with CO<sub>2</sub>, a drop in fuel consumption leads to a reduction in NOx emissions.

#### Our NOx emission trends

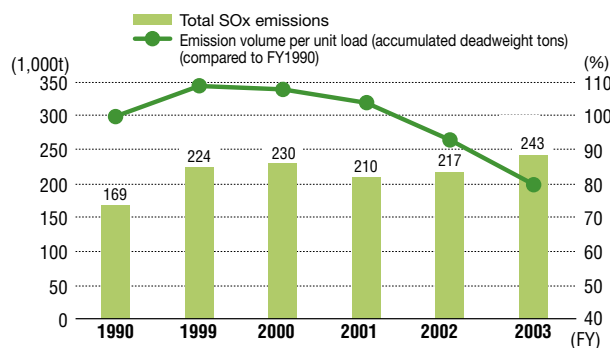


#### ●SOx Measures

We are reducing our SOx emissions by using low-sulfur fuel. In FY2003, our SOx emissions grew 11 percent compared with FY2002, due to the increase of fuel consumption required for the expanded scale of our vessel operation. However, our per-unit load emissions(ton-mile) decreased by 4.3 percent from FY2001.

We will continue strengthening the above measures and take other steps to reduce fuel consumption and emissions of NOx and SOx.

#### Our SOx emission trends



Emission coefficient : From Lloyd's Register Marine Exhaust Research Programme

#### Sulfur content in MOL fuel oil

FY	A oil	C oil
2000	0.96%	2.91%
2001	0.77%	2.75%
2002	0.73%	2.60%
2003	0.68%	2.71%

### Technology Research Institute Efforts

Our Technology Research Institute (Ota Ward in Tokyo) is mainly tasked with analyzing fuel oil. Our special analyzer uses X-rays to identify the ingredients of fuel every time our vessels refuel. We are working in close cooperation with our division in charge of arranging fuel to ensure that our ships are provided with high-quality, low-sulfur fuel.

# Ozone Layer Preservation Initiative

## Ocean-going Shipping and Ozone Layer Preservation

Substances known as chlorofluorocarbons and halons destroy the ozone layer that protects humans from harmful ultraviolet rays. Vessels have used chlorofluorocarbons in refrigerant appliances for crew rations, air-conditioning equipment and as refrigerants in refrigerated containers. Moreover, halons have been used in fire extinguishing appliances. Our mid-term plan calls for the continuation of our measures to protect the ozone layer. We will continue to use environmentally friendly refrigerants, such as using R404A in the refrigeration and air-conditioning systems of all new vessels.

### Comparison of Ozone Depletion Potential (ODP) by types of chlorofluorocarbon refrigerants

Type	Refrigerant	Ozone Depletion Potential	Global Warming Potential (GWP)	Notes
CFC	R-12	0.9	8,500	Production suspended in 1995
HCFC	R-22	0.055	1,700	Production to be suspended in 2020
HFC	R-134a	0	1,300	Simple refrigerant
	R-404A	0	3,260	Mixed refrigerant
	R-407C	0	1,770	
	R-410A	0	1,730	

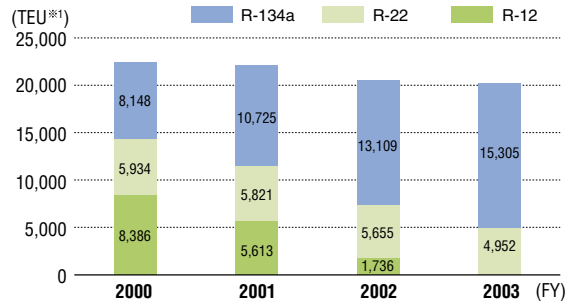
### Refrigerated Containers

We have been using refrigerated containers with R-134a refrigerant, which has an ODP of zero, since 1995. In FY2003, we completed replacement of refrigerated containers using R12 refrigerant with an ODP of 0.9, with refrigerated containers using R-134a.



Refrigerated container using R-134a

### Breakdown of MOL's refrigerated containers by type of chlorofluorocarbon refrigerant



## MOL Initiatives

### Vessel facilities

At MOL, in the late 1970s we began replacing R-12 (CFC) refrigerant with R-22 (HCFC) refrigerant, which has a lower ODP. Beginning with ships put into service in 2002, we changed over to a new refrigerant, R-404A, from a viewpoint of stable supply in addition to its environmental friendliness and excellent feature as a refrigerant. We plan to continue using R-404A much more in the future.

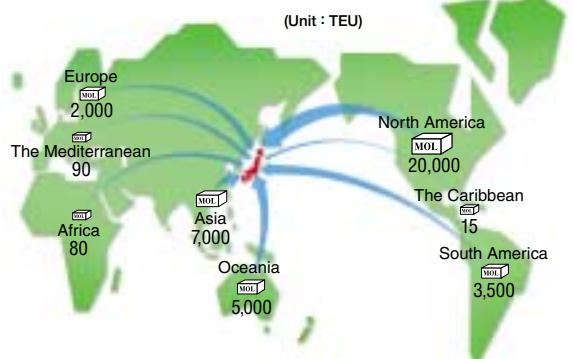
Halons have also been used in fire extinguishing equipment, but new installation of halon-containing fire extinguishers has been prohibited since July 1992. Our vessels have already completed the switch to carbon dioxide fire extinguishers. We have also begun recently to increase provision of high-expansion foam fire extinguishing systems.



High-expansion foam fire extinguishing system on board

## MOL is Transporting Frozen and Refrigerated Cargo Around the World

—Cargo movement by our refrigerated containers—



Refrigerated containers are indispensable to the transport of the fish, meat and vegetables that appear daily on dining tables. We deliver these essentials by using refrigerated containers with zero Ozone Depletion Potential.

(MOL refrigerated container shipping results for January - December 2003)

(\*) TEU (Twenty Feet Equivalent Unit)

A 20 feet long container is calculated as one TEU.

Length 20 feet(approximately 6m) x width 8 feet(approximately 2.4 m) x height 8 feet (approximately 2.4 m)





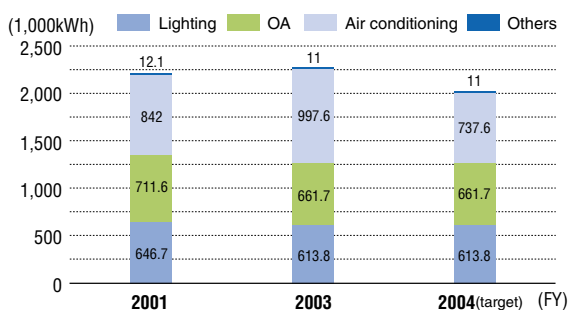
# Initiatives at the Head Office

We are taking a variety of actions, such as reducing the use of electricity and paper, to mitigate the environmental impact of our office activities.

## Reducing Electricity Consumption

The annual consumption of electricity at our head office reached approximately 2.28 million kWh in FY2003. We believe that efforts to conserve energy are crucial to prevent global warming. We have tackled this issue by setting a target of reducing electricity use at the head office by 3 percent from the FY2001 level within 3 years starting from FY2002. Unfortunately, however, in FY2003 we logged an increase of 3 percent over the consumption in FY2002. Because the consumption for air conditioning systems increased by as much as 18% although the consumption for office equipment and lights decreased 7% and 5% respectively thanks to the ardent company-wide campaign. In April 2004 we upgraded our outdated, inefficient water-cooled air conditioning system to a state-of-the-art air-cooled system that should yield a cut of approximately 260,000 kWh annually.

### Electricity consumption trends



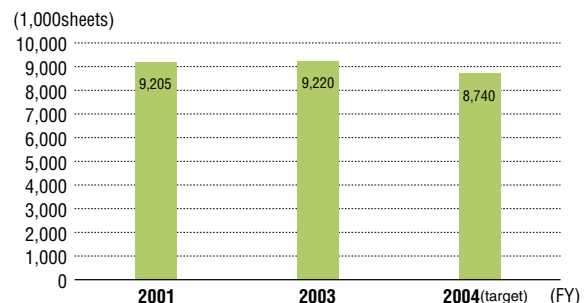
External unit for air-cooled air conditioner installed on the rooftop of our head office.

## Reducing Paper Use

We use approximately 9 million sheets of paper every year. In order to reduce the use of paper, we have established a target of cutting paper use by 5 percent from the FY2001 level within 3 years from FY2002 at the head office. Paper use in FY2001, the base year for calculating the reduction, was 9.2 million sheets. However, in FY2003, we used 9.22 million sheets, a little over our target.

In order to meet our target in FY2004, we need to cut paper use by 480,000 sheets. In addition to setting reduction targets for each division and office, we are going to review the stationing of the printers and multi copying machines, and encourage employees to make 2-up printing (two pages on one sheet) and to print on both sides of the paper. We have also placed boxes in copy centers in each division and office for paper with one blank side to be re-used.

### MOL paper use



## Green Purchasing

We have established an environmental target for the continuation of efforts to promote green purchasing of office supplies. In FY2003, we recorded a green purchasing rate (the ratio of environmentally friendly products to the total purchased) of 85.6 percent, exceeding our goal of 80 percent. Moreover, in August 2002 we started using 100 percent recycled paper so that approximately 93 percent of all paper used was recycled paper.

## Approach to Soil Pollution

In February 2003, the Japanese government enacted the Soil Contamination Countermeasures Law. This was a reaction to the continuing discovery of soil polluted with toxic substances such as heavy metals and volatile organic compounds. They were often found during the redevelopment of old factory sites. They led to concerns about effects on human health and a groundswell of

demand from society for measures against such pollution.

We do not use any of the harmful chemicals subject to the law, and we abide by the abovementioned law and pertinent municipal ordinances. We also ensure that we investigate the history of the land and deal the transaction in accordance with our environmental policy when we buy land.

# Global Initiatives

A variety of initiatives to protect the environment are underway at our subsidiaries around the world. Here, in this page, we introduce some of them.

## We are expanding "Green Office Initiative" activities throughout our American offices.

### -MOL (America) Inc.-

Here in MOL(America), our environmental effort is nationwide. We are actively and aggressively instituting "green office" practices that are environmentally friendly. One major area of concern is our utility usage. We carefully turn off computers and lights at offices when not in use. Temperature of air conditioners is set to comfortable yet energy-saving level. We also monitor the usage of paper and supplies. Supplies are reused, and printing is done only when necessary. Another initiative for paper is the re-use of scrap paper as notepads. This has allowed us significant savings. Lastly, toner cartridges are returned to manufacturers for recycling. All employees are well notified of these initiatives. Across the country, all our offices are complying with these policies and brainstorming to create more ways to make MOL(America) a more environmentally friendly company.



■ Human Resources Division  
Robert Shearer (left) and Robert Colombo(right)



The double stack trains used by MOL (America) to contribute to Modal Shift



New York



Sao Paulo



## We realized a cut of 17 percent in energy consumption through our Energy Conservation Campaign.

### -MOL (Brasil) Ltd.-

MOL Brasil carried out an Energy Conservation Campaign in FY2003.

As a result of stringently enforcing a policy of turning off copy machines, personal computers and lights during non-business hours (hours other than 8:30-12:00 and 13:30-17:30), as well as reducing light bulbs and switching from incandescent light bulbs to energy-saving fluorescent ones, in FY2003 we were able to cut energy consumption by 17 percent from FY2002.

We try to familiarize the importance of the environment protection among employees furthermore and promote the environment protection activities such as energy conservation.



■ General Affairs Division Manager  
Issamu Hobo



**We are promoting a modal shift in Europe.  
-MOL (Europe) Ltd.-**

MOL Europe is promoting the activities to decrease energy and materials consumption at the offices and to arrange inland container transport by Modal Shift. We are aggressively replacing the transport by truck with the transport by railway and barges(\*) to reduce CO<sub>2</sub> emission. Consequently the proportion moved by road has decreased from 60% at March 2003 to 47% at March 2004.

Note\*) Barge, lighter

A small boat to transport mainly bulk cargo on rivers or in inland seas or to load or unload the cargo to/from the ocean-going vessels in port.



■ Managing Director  
Chris Bourne

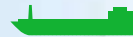


Barges used to Navigate Waterways  
(Lighters)



Rotterdam

Hong Kong



**Actively developing environmental protection activities in a variety of areas—vessels, containers and offices.**

**-MOL (Asia) Ltd.-**

We, MOL Asia, have established MOL Environmental Target Management System, MOL ETMS, based on the Group Environmental Policy Statement to address the environment protection issue, and then set up various targets and taken measures accordingly. Work is done mainly in marine preservation, containers, environmental education, green office creation, and environmental social activities promotion.

And we have given our special effort in eliminating any marine accident and increasing the recycling rate of container parts at Hong Kong where a lot of MOL vessels enter and a lot of containers are handled.

We try to increase the recycling rate of paper use and to foster the awareness on the environment among our employees through the environmental education. And we assure that MOL (Asia) will continually commit to fulfilling the environmental role.



■ General Affairs Division Manager  
Margaret Lam

# MOL Group Environmental Activities

One specific expression of the MOL Group Corporate Principles and MOL Group Environmental Policy Statement is introduction of MOL EMS 21 (acquired ISO14001 certification) or the Group Environmental Target System into our major group companies in Japan. These systems will provide a big boost to our group environmental protection and improvement activities.

## Group Companies by Segment

### 44 Companies have introduced Group Environmental Target System or MOL EMS 21

#### Ocean-going shipping (10 companies)

Mitsui O.S.K. Kinkai, Ltd., Tokyo Marine Co., Ltd., International Energy Transport Co., Ltd., International Marine Transport Co., Ltd., Mitsui Kinkai Kisen Co., Ltd., M.O. Ship Management Co., Ltd., **Mitsui O.S.K. Passenger Line, Ltd.**, Nippon Charter Cruise, Ltd., M.O. CableShip, Ltd., M.O. LNG Transport Agency, Ltd.

#### Ferry and domestic shipping (8 companies)

**Shosen Mitsui Ferry Co., Ltd.**, The Diamond Ferry Co., Ltd., Kyushu Kyuko Ferry K.K., MOL Naikou, Ltd., Meimon Taiyo Ferry Co., Ltd., Nihon Tugboat Co., Ltd., Green Kaiji Kaisha, Ltd., Kansai Kisen Co., Ltd.,

#### Shipping agents, Harbor operation and Customs clearance (10 companies)

Mitsui O.S.K. Lines (Japan), Ltd., Kyushu Shipping Co., Ltd., Green Shipping, Ltd., Chugoku Shipping Agencies, Ltd., International Container Terminal Co., Ltd., The Shosen Koun Co., Ltd., Japan Express Co., Ltd. (Kobe), Japan Express Co., Ltd. (Yokohama), International Container Transport Co., Ltd., Sanwa Marine, Ltd.

#### Cargo forwarding and Warehousing (4 companies)

MOL Logistics (Japan) Co., Ltd., Sea-Road Express Corp. Kitanihon Soko Koun Co., Ltd., MOL Osaka Nanko Physical Distribution Center Co., Ltd.

#### Others (12 companies)

Mitsui O.S.K. Techno-Trade, Ltd., Mitsui O.S.K. Kosan Co., Ltd., Kusakabe Maritime Engineering Co., Ltd., MOL Information Systems, Ltd., Mitsui O.S.K. Career Support, Ltd., M.O. Marine Construction Co., Ltd., MOL Accounting Co., Ltd., M.O. Marine Consulting, Ltd., Orange P.R. Ltd., MOL Adjustment Ltd., M.O. Engineering Co., Ltd., M.O. Ship Tech Inc.

※ **Highlighted** company names indicate that the companies have introduced MOL EMS 21, while the others fall under Group Environmental Target System.

## Toward more environmental friendly multi-modal transport

### –Shosen Mitsui Ferry Co., Ltd.–

We offer combined multimodal cargo transport and passenger transport services, using ferries and coastal carriers. In addition to ISM code certification, in February 2004, we received ISO14001 certification from DNV (See P.11). We are planning to expand our environmentally friendly services in cooperation with a Land, Infrastructure and Transport Ministry-sponsored campaign to promote a modal shift in transport.

Website:  
<http://www.sunflower.co.jp/index.shtml>



ISO14001 audit hearing.

## Group Environmental

This is MOL's unique environmental management major group companies in Japan. The system promoting pride and self-motivation in each workload and type of operations. Currently this companies (as of June 2004).

The system includes group-wide targets and way targets set by individual companies. Every early targets for the coming financial year; semi-annual continuous progress.



The empty can recycling plant "Try R Kobe".

## Promoting empty can recycling business

### –Kusakabe Maritime Engineering Co., Ltd.–

We suited ISO14001, which is the international standard of environmental management and got the examination registration certificate on June 17, 2004. We do the marine construction business as a core business, and at the end of March 2004, we built an empty can recycling plant, the "Try R Kobe," at Kobe City. Empty juice, beer and other beverage cans are heated in a dry distillation furnace after the surface paint and impurities are removed, and then the cans are processed into high-quality steel or aluminum pellets. As the furnace is fueled by clean city gas, the plant has a quite low environmental impact.

The empty can recycling business "Try R Kobe"



## Protecting the environment as one of the MOL group companies

### –Urban Service Co. Ltd.–

Urban Service was established in 1972 as the MOL Group's environmental protection company. It takes care of vessel waste collection, transport and processing. In recent years, our business has been extended to dealing with waste generated from the warehouses and logistics centers, cleaning of ocean-going containers, and collection, transport, processing and recycling of household and industrial waste.

Website : <http://www.urban-svc.co.jp>



The "Eco Business Guide" pamphlet published in 2004.

### Protecting the environment through our own in-house policies

–Mitsui O.S.K. Techno-Trade, Ltd.–

Our company was established in 1948 as a trading company with expertise in ocean and land technology. We contribute to the sustainable development of society through our environmental goods and services in addition to PBCF (See P18). In response to the MOL's slogan "Bluer Oceans and Cleaner Environment", we established our own Environmental Protection Policy in November 2000. We offer technical services and products that contribute to the preservation of the global environment.

Website : <http://www.motech.co.jp>

### Promoting the recycling of used containers

All of our marine containers used in all of our container services are built to meet the standards of the International Organization for Standardization. They can withstand not only the rocking and/or shock, but also heavy weather during navigation, loading/unloading and also land transport. After containers have been used for a predetermined number of years, they are retired from shipping service. Still, because of the rigorous maintenance for containers, they are in suitable condition to be used in limited ways on land. We sell these inexpensive used containers, which are extremely durable, airtight, and easily renovated, through group companies in order to make the most of our resources.

### FY2003 MOL Group Sales Domestic results 4,481 containers

#### Use

Warehouse, storage, garage, office, shop, etc.

#### Group sales companies

Sea-Road Express Corp., International Container Sales Company Ltd., Sanwa Marine Ltd., Chukyo Maintenance Co. Ltd., Kyushu Shipping Co., Ltd., Taney SKE Ltd., Chugoku Shipping Agencies, Ltd.



Building a house from recycled containers



Setting up a garage made from a recycled container



Cruise ship "Nippon Maru".



The bulletin board in the vessel shop outlining its environmentally conscious measures.

### Pleasant cruising on an eco-friendly ship

–Mitsui O.S.K. Passenger Line, Ltd.–

We acquired ISO14001 certification for the luxury ocean cruise ship "Nippon Maru." Specific initiatives to decrease environmental impacts include minimal packaging in vessel shops and proper disposal of waste such as discharge of reusable waste to land.

Website : <http://www.mopas.co.jp>

### Target System

system, which was introduced in 2002 at 36 takes a consistent, group-wide approach company, and taking into account company's system is introduced at 42 domestic group

of calculating figures concerned as well as May, companies lay out their environmental and annual reviews are conducted to encourage

### Sale of containers and our initiatives on marine environmental issues

–Sanwa Marine, Ltd.–

Our company, established in 1933, does the sale of containers and environment related business based on our marine technology and experience.

We take part in research on the issue of the transboundary movement of plankton in ballast water and deal with designing, manufacturing and selling of equipment for the treatment of wastewater. We also sell environmentally friendly solvents.

Website : <http://www.sanwamarine.co.jp>

# Care for People

We are striving to nurture internationally capable maritime shipping professionals through our own system of training and education.

## Care for Land-based Employees

### Human Resources Development Policy

Based on the belief that a company's employees are its main engine, we strive to foster an internationally competitive group of professionals to lead the Mitsui Lines O.S.K. Group.

### Human Resources Training Program

Our company's training system includes study at foreign universities, overseas training at corporations, group training by position, and shipboard training that you could expect only from a marine transport company. We also have language training at our company office with the focus on English as well as computer training.

All employees	Training Courses by a third party							
	Correspondence education courses							
Position	Female clerk	New employees and young employees	Senior assistant	Assistant manager	Manager	Group leader	General Manager	
Training by position	Training for female clerks	At 6th month	At 3rd or 4th year	Senior assistant	Assistant manager	Manager	Group leader	General Manager
			training of human relationship	First level management	Management simulation			
Training by function					Management school			
Manager training								
Training overseas			Short-term study abroad and office internships					
Training by theme			• Computers • Logistics • Financial accounting • Legal insurance • Subordinate evaluation training, etc.					
On-ship training			On-ship experience					
English training	English training		• Presentations • Meeting management • Negotiating					

### ●Nurturing internationally-minded employees (English enhancement program, short-term study abroad, and overseas office internships)

We have an English language program for new employees for one and half a year after 6 months of their entry to the company to nurture the language skills necessary for ocean-going shipping work and to enhance their international competence. We also encourage our employees to apply for internships or short-term study abroad to boost their ability to communicate with native speakers.

### ●Becoming Familiar with Marine Transport On-site (On-ship training)



Land-based employee receiving guidance from a seafarer.

The core place of our business is on a ship. Just sitting behind a desk may not enable an employee to make proper judgment in doing his daily business. We believe that knowing what happens "in the field", aboard ships, is essential to become a marine transport professional. To this end, we conduct shipboard training for land-based employees, which helps to heighten their understanding of safe navigation and the marine environment.

### ●Next Generation Managers (management school)

With the aim of strengthening Group management, we have been holding the "MOL Group Management School" since 2000. In addition, we offer a special seminar, the MOL Group Top Management Seminar, for directors of our group companies.



Debate at the MOL Group Management School

### ●Environmental education

To promote the environmental protection substantially and efficiently, every member of an organization has to properly understand the environmental issue. For this reason, everyone from new employees to general managers has a lecture about the global environmental issues, social trends and our corporate initiatives at the training course by position.

Environmental education	Number of participants in FY2003
Training for new employees before posting	25
Training for female clerks	160
Training for senior assistant	26
Training for assistant managers	45
Training for managers	24
Training for group leaders	25
Training for general managers	15

### Health Management for Employees and Care for the Work Environment

We think that one of the most fundamental aspects for our employees is that they are mentally and physically sound and work in a healthy work environment. We have established the following system.

- Annual health checkups
- Providing daily medical services at the medical office
- Mental health consultation
- Subsidized medical health exams for employees over 35 through the company's health insurance scheme
- Health exams before and after assignments overseas
- Mandatory regular health checkups during assignments overseas

Moreover, we have the Counseling and Aid Center so that employees and their families can easily seek advice about occupational and private matters. The center also functions as an office for sexual harassment and power harassment consultations and also for improving the work environment.



### ●System for Supporting Women and Home Life

In recent years, women have made large leaps in the social sphere; it is essential for corporate systems to support their domestic lives. We have established a leave system to support the domestic lives of our employees in order to create an environment in which they can work without undue concern about their home lives.

System name	Contents
Leave before and after birth, and morning sickness leave	The 8 weeks leave acquisition before delivery exceeding the legally stipulated 6 weeks is allowed at MOL. In addition, up to each 6 week before and after birth is granted as paid leave. A total of 5 days of morning sickness leave is granted. We also have a system that allows pregnant employees to adjust the time they report for work or clock-out by one hour.
Child-care leave	In addition to the legal 12 months of leave following birth, we offer child-care leave through April 30 following the child's first birthday.
Family-care leave	We have introduced a system that permits up to 2 years of family-care leave, exceeding the legal family-care leave of 3 consecutive months.

We also have a well-developed benefit system to ensure a robust environment in which employees are able to work to the fullest of their abilities.

System name	Contents
Refreshment holiday	Employees with more than 15 years of consecutive work experience receive 5 days' holiday and a cash incentive Employees with more than 25 years of consecutive work experience receive 10 days' holiday and a cash incentive or a cruise on a subsidiary's ship
Casual wear day	Every day from June through September and every Friday from October through May is a "Casual Day" in which employees are encouraged to come to work in casual clothing.

### ●Equal Opportunity

One of our company visions says that the company must be fair, attractive, and rewarding to all employees. So we are trying to realize the fair and efficient human policies in an area of personnel evaluation and so on. In regard to employment, we comply with the Equal Employment Opportunity Law and laws on the employment of disabled individuals.

## Care for our Crew

### Approach to our Crew

We regard our crew as vital managerial resources and believe that fostering professionalism and educating the next generation of crew members is fundamental to our future success.

### Safety and Health Management at Working Place

We strive to improve the work environment and safety and health aboard ships through the Onboard Management Committee and Onboard Safety and Health Committee. We develop shipboard work plans, conduct safety checks of vessel facilities and work environments, carry out safety and welfare management, and train staff in onboard tasks.

Moreover, in view of refreshing and motivating crew onboard, we endeavor to see that they receive sufficient land-based leave, and provide them with health check-ups during leave on land.

### I have happily resumed working at the office.

I took advantage of the child-care leave system and returned to my post at the company this April. Thanks to this system, I was able to dedicate the first year to raising my child and taking the time to select a suitable nursery, so I feel satisfied.

Currently I am working hard on CSR (corporate social responsibility) in the department dealing with environmental issues. I work on the internal e-mail magazine "Gekkan Kankyo" (Monthly Environment), which promotes environmental education within the company. I participate in programs outside of the company and find my workday very fulfilling.



CSR and Environment Office  
Corporate Planning Division  
Chief Assistant

**Hiroko Inomoto**

### ●Our approaches to employees abroad and local employees

In FY2004, there were 156 Japanese employees working abroad. The Human Resources Division have an exclusive staff to support employees and their family members abroad with their needs in their lives, medical conditions and children's education. Our overseas subsidiaries employ approximately 3,000 people in total and contribute to creating the employment and developing the local economy.

### ●Relation with the Labor Union

The land-based employees join the MOL Labor Union while MOL seafarers join the All Japan Seamen's Union. Currently, good relationships between the Company and the MOL Labor Union, and the Company and the All Japan Seamen's Union, are maintained.

### Managing Facilities for Educating and Training Crew

In order to familiarize our crew with marine environmental rules and regulations and ensure safe navigation, we operate training centers in the Philippines, India, Indonesia and Montenegro, in addition to Japan. At the centers, we incorporate environmental protection-related training with courses using high-level training equipment.

In the Philippines in March 1999, we established a school for the education of crew and the well-equipped facilities and solid course contents have produced several outstanding crew. In light of our long efforts, in November 2002, the President of the Republic of the Philippines and the nation's labor and employment minister gave us the first DOLE International Employees Award.



Training Center in Philippine

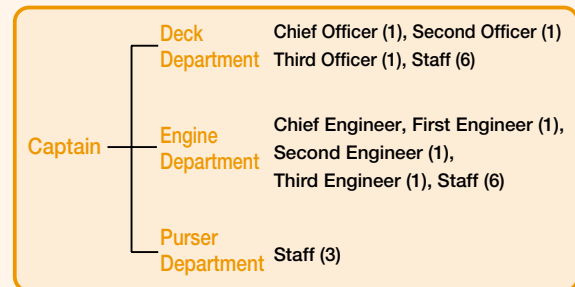


## Our Crew

One of our core workplaces in our business is a ship where experienced crew is indispensable for safe and efficient operation. Our crew must graduate from the special maritime educational institutions and have maritime certificates before they get on our ships. In the past, there were employees who spent their entire careers on ships as crew. However, cost competition and a reduction in Japanese sailors have resulted in increasing number of non-Japanese among our crew. At the same time, the number of seafarers working on land has increased in order to deal with management of ships and crew, safe operation measures and other maritime technical matters. MOL crew with 10 years onboard experience need to acquire technical skills and knowledge nearly on par with the captain or chief engineer. Once they have attained such proper level of skill, they apply their skill and experience to the business on land. Nowadays MOL seafarers work at sea and on land alternately.

Of the nearly 500 ships we operate, MOL Japanese seafarers work on only 30 ships. The remainders are staffed by seafarers of the group companies in Japan, Filipino seafarers, Indian seafarers, European seafarers and other nations' seafarers. All vessels are managed according to our own thorough and strict system, including environmental protection education. We can expect a high level of performance and service from our crew. Although the number of crew on each ship varies, crew of a ship is usually composed of between 20 and 30 seafarers.

Organization of a ship (in the case of 23 seafarers)



number of seafarers in parentheses



The Captain and the Pilot give instructions to the crew as the vessel enters a port



Maintenance of the generator

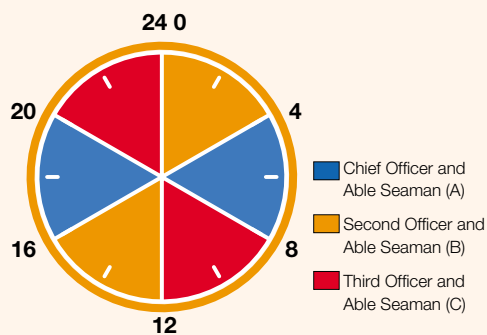
### A Day in the Life of Crew

Here we introduce a day in the typical life of crew.

#### ●Deck Department

During the navigation at sea, 3 teams of one officer and one Able Seaman are on watch alternately under a 24-hour system of 6 shifts of 4 hours to ensure safe navigation. Each team is on watch or piloting the boat twice a day, once in the day and once in the night.

- 07 — 08:00 Morning exercises, meeting about cleaning and work planning (except staff on watch)
- 08 — 08:30 Breakfast
- 09 — 12:00 Maintenance and other work (same as above)
- 12 — 13:00 Lunch, rest
- 13 — 17:00 Afternoon exercises, maintenance and other work (same as above)
- 18 — 19:00 Supper



Working system of officers

#### ●Engine Department

- 07 — 08:00 Morning exercises, meeting about cleaning, work planning (all of Engine Department)
- 08 — 08:30 Breakfast
- 09 — 12:00 Maintenance and other work (same as above)
- 12 — 13:00 Lunch, break
- 13 — 17:00 Afternoon exercises, maintenance and other work (same as above)
- 18 — 19:00 Supper

※During the night, the engine room has no personnel on watch (called M Zero Engine Operation), but a rotational watch system is in place so that one of the engineers is on call in case of engine trouble.

#### Purser Department

- 06:30 — 09:00 Breakfast preparation, cleaning and service
- 10:00 — 12:45 Lunch preparation and service
- 13:00 — 16:00 Cleaning of the public space in the bridge
- 16:15 — 19:00 Supper preparation and service

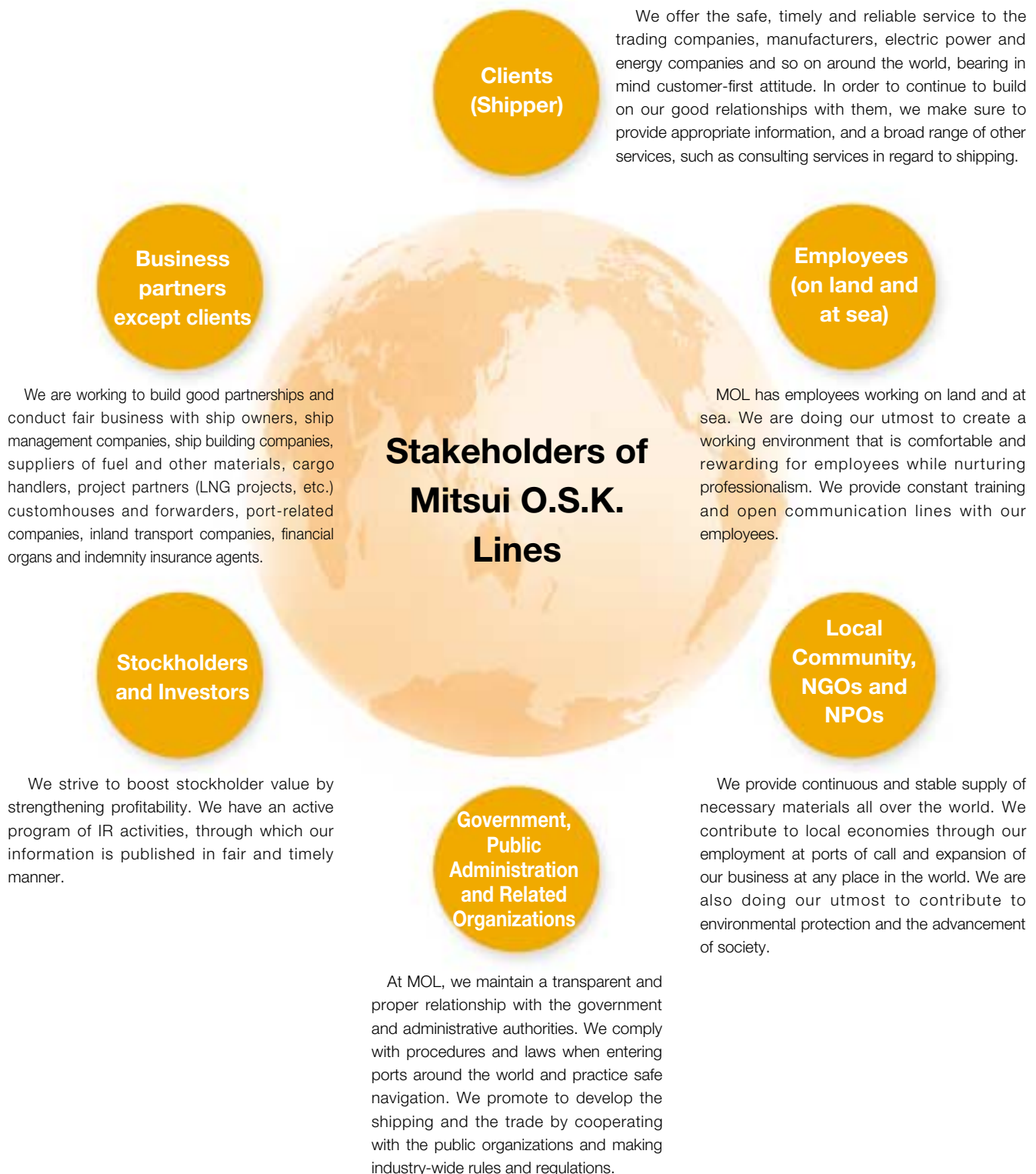
※Members take their meals when they have free time.





# Interaction with Society and People

As the core of our Group's business is ocean transport and we conduct business on a global scale, we have a various type of stakeholders all around the world. We will continue to value our relationships with stakeholders and build a better partnership with them.



## Social Contribution Activities

### Cooperation in Marine Research Projects

The ocean, which covers 70 percent of the earth's surface, is said to be closely involved in climate change, but many aspects of this remain to be clarified. MOL cooperates in the conduct of ocean monitoring surveys as follows.

#### ● Monitoring Surface Water Temperatures using XBT (Expendable Bathythermograph)

These surveys provide a clear picture of oceanic circulation, interactions between the ocean and the atmosphere, and the ocean's role in climate change. We monitor the Indian Ocean using the VLCC "KATORI".

#### ● Monitoring CO<sub>2</sub> in Air and Seawater

CO<sub>2</sub> in the air and seawater is monitored in order to shed light on the absorption and exchange between the air and the seawater of CO<sub>2</sub> and the distribution of CO<sub>2</sub> concentration. We conduct monitoring using container vessels operating between Japan and Australia.

#### ● Monitoring Aerosols<sup>(\*)</sup>

Our coal carrier, "Yahagi Maru", and ore carrier, "Shinzan Maru", are outfitted with devices that automatically track the sun and collect aerosol concentration data. We cooperate with various research institutions in providing data.



Aerosol density monitoring device

### Beach Cleanup

We have participated in the Kanagawa beach cleanup activity since 2000. It is sponsored by the Kanagawa Coast Environment Foundation. In 2003, about 50 persons of MOL group participated and picked up litter along the shoreline at Yuigahama, Kanagawa Pref.



A photograph after the beach cleanup

### Cooperation in seminars and trainings held by third party organization in Japan and abroad

- Accepting teachers under "Teachers' Training in Corporation Program" sponsored by the Keizai Koho Center (Japan Institute for Social and Economic Affairs)
- Dispatching our directors and/or executive officers to lecture at universities (via Japan Federation of Freight Industries)
- Cooperating in "Captain Coming Back to the Alma Mater" project, sponsored by the Japan Captains' Association

### Social Contribution Activities at MOL Group Companies

#### Mitsui O.S.K. Passenger Line, Ltd.

- Donating paper versions of the Nippon Maru to 5th graders at Nagano Prefecture elementary schools as well as dispatching a specialist to give lecture. (Masato Nishiguchi, an expert with paper crafts and author of "Fune no Hanashi" (Stories about ships) and "Paper Craft Seisaku no Kotsu" (Tricks to Making Paper Crafts). Please refer to <http://www.mopas.co.jp>)



Paper crafts of the Nippon Maru

- Providing the Nippon Maru as a gallery for young artists to present their works (sponsored by the Mitsui O.S.K. Lines PR Office)
- Conducting vessel tours for local residents in various places (Osaka, Fukui, Aomori and other cities)

- Participating in forums on the culture of cruises (sponsored by Japan's Ocean-going Passenger Cruise Association)
- Dispatching a retired captain to lecture at the "Okinawa Ports, Tourism and Resorts" seminar on the theme of "Ports from the View Point of Cruise."
- Providing materials to the Museum of Maritime Science

#### International Container Terminal Co., Ltd.

- Providing terminal tours to elementary and middle school students, overseas trade trainees (cosponsored by Mitsui O.S.K. Lines (Japan), Ltd.)

#### Mitsui O.S.K. Lines (Japan), Ltd.

- Cooperating in the transport of goods such as clothes for a Brazilian charitable organization, "Children's Garden"

#### MOL Logistics (Japan) Co., Ltd.

- Regular donations of a fixed amount to the Supporters' Association of the Japan Oral School for the Deaf
- Collaborating with MOL and Mitsui Sumitomo Insurance's volunteer group, "Smile Heart Club", to send hand-knit sweaters to children in the former Yugoslavia. MOL Group employees also volunteered in knitting sweaters.

(\*) Aerosols

Aerosols are minute particles floated in the air, such as sand, dust, volcanic ash, soot from factory smoke or automobile exhaust. Experts have called attention to the relationship of aerosols with climate change and with depletion of the ozone layer. Aerosols are recognized for their abilities to mitigate global warming by reflecting sunlight and to spur the creation of clouds. However, there is much that is unclear about their role; more accurate information about aerosol concentrations on a global scale is needed.



## Communication

### Communication with Outside the Company

#### ● Information Disclosure on our Website (in English and Japanese) (<http://www.mol.co.jp/safety/>)

On our Website, in addition to "MOL Services" "Investor Relations" we have set up an "Environment" page where we carry environment-related information. This Environmental and Social Report is also available at the URL (in both HTML and PDF formats).

#### ● The 5th Anniversary of our Environmental and Social Report

In 2000, we published the Japanese international shipping industry's first Environmental Report (in English and Japanese). This year marks our fifth such publication. We have also published an environmental education pamphlet (in English and Japanese) for use of MOL, group companies and their vessels.



The Environmental Reports we have published so far (2000 to 2003)

### Communication within our group

We have established an Environment Bulletin Board on our LAN that Group company employees can access.

In addition, we have been distributing "Gekkan Kankyo" (Environment Monthly), an internal e-mail magazine carrying new topics, in an effort to boost environmental awareness among MOL as well as Group company employees.

### Appreciation from outside parties

#### ● Inclusion in the DJSI (Dow Jones Sustainability Indexes)

MOL was included in the Dow Jones & Company's DJSI, which evaluates companies with prospects for long, sustainable growth, environmental policies, social policies and IR activities (September 2003).

#### ● Inclusion in the FTSE4 Good Global Index

MOL was included in the FTSE4 Good Global Index, a leading index of corporate social responsibility and one of the major indexes of the FTSE in September 2003. It is a joint venture between the United Kingdom's Financial Times and the London Stock Exchange.

#### ● Evaluation by Japanese research analysts

We earned the second place in the transportation industry at Awards for Excellence in Corporate Disclosure selected by Japanese research analysts. (September 2003)

#### ● Nikkei Environmental Management Survey

We earned the second place in the section for Transportation, Warehouse, and Realty Industries at the seventh "Nikkei Environmental Management Survey" (announced in December, 2003).

#### ● Chosen "Best in Class"

MOL was selected from the enterprises in the worldwide shipping sector for the "Best in Class" award in the Storebrand SRI Evaluation 2004 for its commitment in both the social and environmental fields in August, 2004.

#### ● B+ Ranking from Core Ratings Ltd.

MOL was awarded an overall "B+" grade for its performance in the environmental, social, employment and ethical realms in August 2004. This is the third highest of 7 grades.

#### ● Enrollment in the Corporate Governance Fund of the Pension Fund Association

The Corporate Governance Fund, managed by the Pension Fund Association, which operates the public pension funds in Japan, has invested in MOL. This fund has invested the same amount (10 billion in total) in each of 43 Japanese companies recognized for excellence in corporate governance. MOL is the only investment recipient in the transport sector.

#### ● 57th Place in CSR Ranking by NIKKEI BUSINESS magazine

MOL was ranked 57th among Japanese companies in the CSR ranking by NIKKEI BUSINESS, one of the leading business-news magazines in Japan (August 2004).

#### ● Selected as a "Green Top Runner" in Environmental Management Rankings

In 2003, we were selected as one of 68 "Green Top Runner" companies in the examination of the Environmental Management Rating held by the Sustainable Management Ratings Institute, an organization affiliated with the NPO Sustainable Management Forum of Japan (<http://www.smri.jp>). In the 63 criteria used in the selection process, we logged 52 excellent rankings, 8 good rankings and 3 acceptable rankings.



Mitsui O.S.K. Lines environmental management rating tree

# Management Plan and Financial Data

We are striving to become a strong and resilient MOL Group capable of leading the international shipping industry toward a sustainable development of global economy.

## Group Mid-Term Management Plan, MOL STEP (Mitsui O.S.K. Lines' Strategy towards Excellent and Powerful Group)

In FY1994, we embarked on a plan to boost our international competitiveness under the management plan, MOL's Creative and Aggressive Redesigning, 90's, or MOCAR90's. For the past 10 years, we have carried out 4 Mid-term Management Plans. In 1999, MOL Group's corporate value began to expand following the merger with Navix Line; the scale of our business operations grew and our financial position improved. While the world economy remains somewhat unclear, China seems to be pulling the global economy; the U.S. drives a steady rise in global marine cargo transport and a change in the flow of the world trade is expected. It is being forecast that the market and business chances available for ocean-going shipping

companies will grow. We believe that it is no exaggeration to predict that ocean-going shipping will continue to grow steadily while serving as a model of sustainable development of the world economy.

MOL will leverage this business environment to realize significant growth. We have established a new plan, "MOL STEP", following our Mid-term Management Plan "Mitsui O.S.K. Lines new expansion target" or "MOL next" ended in FY2003. This plan offers a long-term vision for each sector with numerical targets for FY2009, as well as a 3-year concrete action plan for the period FY2004 to FY2006 to see that we reach our ultimate goals.

### Content of Strategy

**Long-term vision :** Make the MOL Group an excellent and resilient organization that leads the world shipping industry.

**Main theme :** "Growth"-Develop the MOL Group into the world's largest, highest-quality, unique ocean transportation company group with full range of services.

**Strategies for growth :** Focusing on expanding the global ocean shipping market

- 1) Aggressive investment in shipping industry - Create a unique business portfolio by selectively allocating resources in growing areas
- 2) Increase business in high-growth markets around the world
  - \* Chinese market : Participate in all facets of the burgeoning ocean shipping, taking advantage of business opportunities such as natural resources and energy, automobiles and other product exports.
  - \* European and American markets : Expand customer base by offering high-quality services and strengthening sales force
  - \* Emerging markets : Secure business in markets such as India, Russia, etc., which show significant potential for future growth.

**Strategies to strengthen competitiveness :** to ensure sustainable growth of the MOL Group.

- 1) Strengthen customer-oriented sales force
- 2) Strengthen cost competitiveness (target of accumulated cost reduction for 3 years: ¥20 billion)
- 3) Offer high quality services

**Strategies to increase corporate strength :** to prepare for a new stage of growth

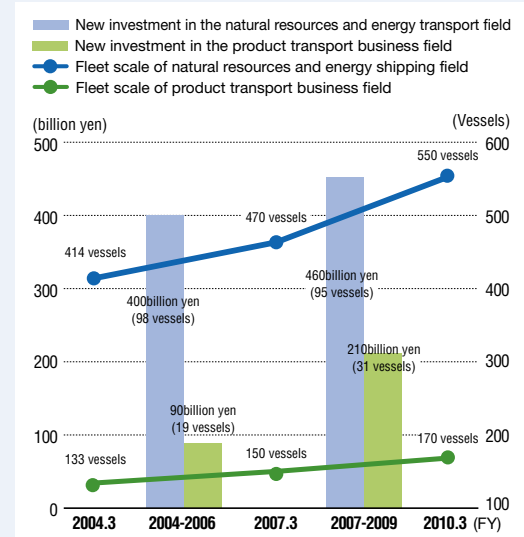
- 1) Strengthen financial position
- 2) Expand group-wide management
- 3) Develop human resources

**Safe operation / Environmental protection**

**Group business :** Maintain and develop surrounding businesses with ocean shipping as core

### Fleet management plan

In order to meet the forecasted increase in global marine cargo transportation we are aggressively investing in the shipping business.



**Natural resources/energy transport field**  
(dry bulk carriers, tankers and LNG carriers)

We are further expanding our business in the natural resource and energy transportation field to shore up our position as the world's top in the sector

**Product transport business field**  
(containerships, pure car carriers, logistics)

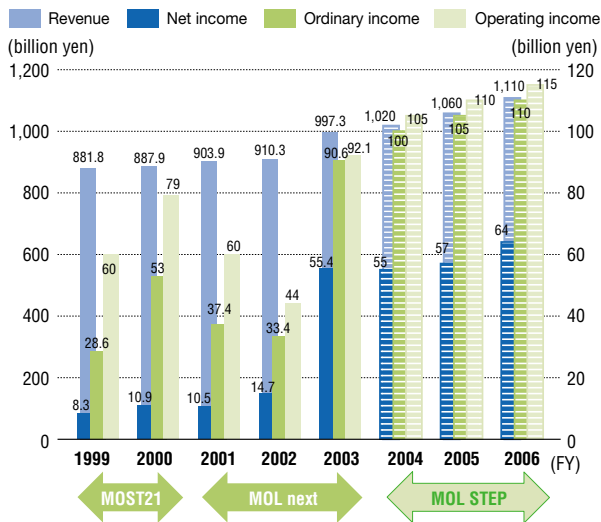
We will meet diversified customer needs and grow with market expansion



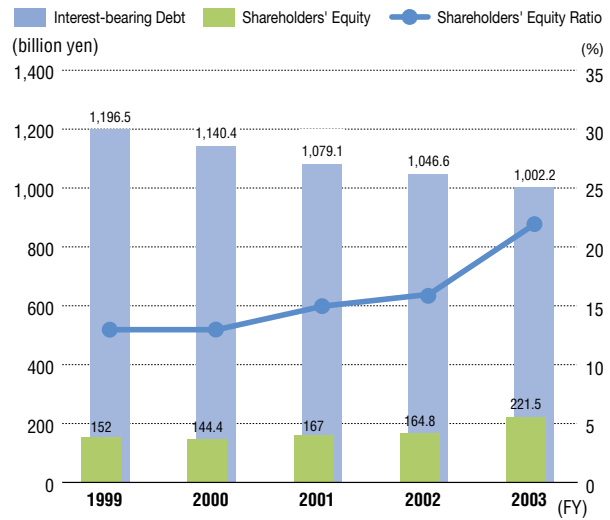
## Financial Data

FY2003 marked the end of our Mid-term Management Plan "MOL next." We were able to achieve strategies of growth and strengthening competitiveness targeted in the Plan. And thanks to strong market, we were able to achieve an all-time high profit together with all numerical targets of revenue and financial figures. We paid a 6 yen increase from last year's dividend (1 yen of this was a commemorative dividend to celebrate the 120 year anniversary of our founding) for a total of an 11 yen dividend.

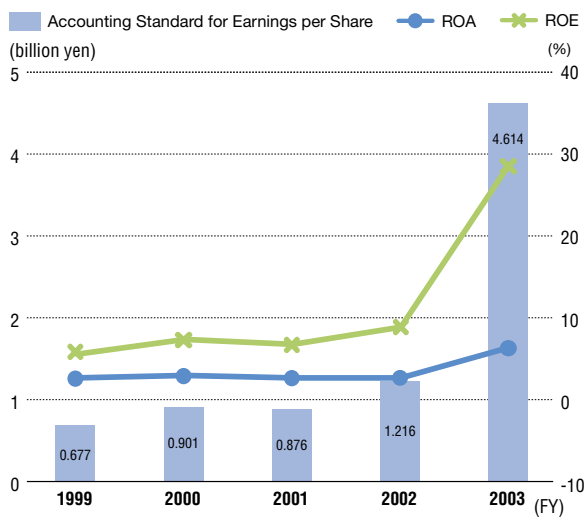
### MOL Group Mid-term Management Plan



### Total Assets, Shareholders' Equity

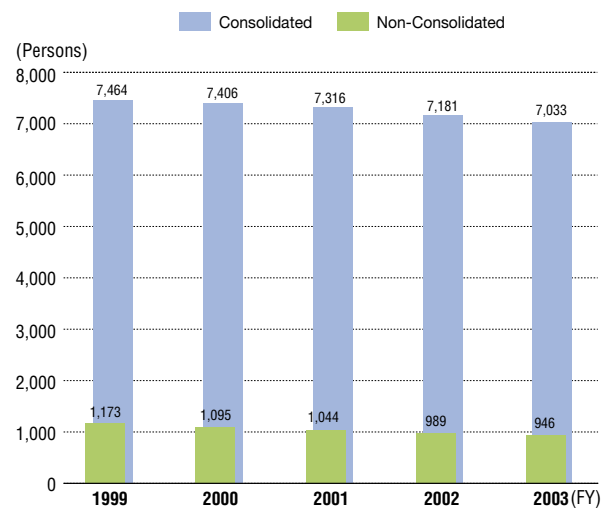


### EPS <sup>(※1)</sup> / ROE <sup>(※2)</sup> / ROA <sup>(※3)</sup>

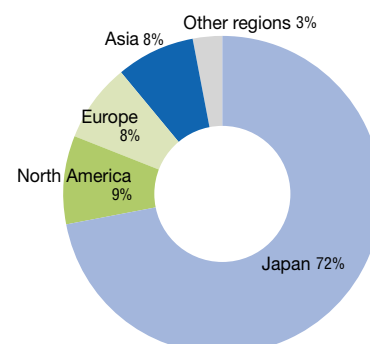


※1 EPS Earnings per Share  
 ※2 ROE Return on Equity  
 ※3 ROA Return on Assets

### Number of MOL employees (Non-Consolidated / Consolidated)



### Number of employees by region (Consolidated)



# Third Party Opinions



Artist / Marine Issue Pundit  
**Ryouhei Yanagihara**

I first began to have an interest in ships as an elementary school pupil early in the nineteen-thirties. Ships at that time were of the three-island type, with long funnels that spewed out clouds of dark smoke. I would count the streams of smoke swirling into the sky as I enjoyed the port's lively atmosphere. The first time I rode a passenger ship abroad was nearly 40 years ago when I took an American passenger ship to Honolulu. During that journey, plastic tray, food and all from lunches held on the deck would be tossed overboard. It sounds so unbelievable today.

I've learned that shipping companies are recently taking far more steps to keep the global environment clean. They are researching and developing technologies such as double-hull tankers, ballast water filter treatment systems, and wind-powered electric generators on ships. I heard that MOL launched a pure car carrier "Courageous Ace" in 2003, which was awarded as "A ship of the year 2003" for its environment-friendly technology of reducing wind resistance, raising fuel efficiency and then reducing exhaust gas. I highly appreciate MOL's attitude toward the environment protection.

#### Profile

1931 Born in Tokyo

1954 Graduated from the Kyoto City University of Art and joined the Advertising Department of Kotobukiya (Now Suntory Co.,Ltd). He collaborated with Ken Kaiko and Hitomi Yamaguchi to create the "Uncle Torrys" commercials that became immensely popular.

Since his childhood he has much interest in ships, embarking on numerous passenger ships and ferries as well as working to spread word about things and thoughts on sea and ship. He has received awards for his work, including the Transportation Culture Award and the Special Marine Literary Award.

1969 He was named an honorary captain by Mitsui O.S.K. Lines.

Recent publications: "Fune," a work of his pictures published by Koguma Corp. in April 2004.

"Ryouhei Sketches of Tokyo Bay Ports" published by NTT Publishing in July 1997.

●The illustration on the back cover of this report is also one of Yanagihara's work.



Hitotsubashi University Graduate School of  
Commerce and Management  
Professor Doctor of Business Administration  
**Kanji Tanimoto**

By upgrading its Environment Report and adding elements of CSR to make it into a full-scale Environmental and Social Report, I get the sense that this year Mitsui O.S.K. Lines has reached another level of awareness of the triple bottom lines of the environment, social responsibility and economic success. Originally, the report was to be compiled within the month of June. Company officials in charge brought me all kinds of materials. It was then that I learned that a CSR and Environment Committee was going to be established and the Technical Division's Environment Group was to be revamped into a CSR and Environment Office, and that the new environment management plan was to be conducted under the new mid-term management plan, MOLSTEP. I proposed that the report should wait until the new policy and plan were fully incorporated into the 2004 Report. And the original schedule was extended for over a month. The social component was expanded and an economic report was added. Witnessing the flexible approach of MOL with its long tradition, I felt that the company was really sincere in its CSR efforts.

I think that, in light of current trends promoting CSR further, there is a need to expand the social items for stakeholders of the report. I look forward to seeing new CSR initiatives in action by the company's management.

#### Profile

1955 Born in Osaka

1979 Graduated from Department of Commercial Science, Osaka City University  
1984 Earned doctoral credits at Kobe Graduate School of Business Administration, Kobe University.

1989 Acquired Doctor of Business Administration (Kobe University)

After working as a professor in Wakayama University's school of economics, assumed current position in 1997.

Recent works: "CSR Management" (writer and editor) published by Chuo Keizasha in July 2004, "SRI Shakaiteki Sekinin Toshi Nyumon" (SRI: An introduction to Socially Responsible Investing) (Writer and editor) published by Nihon Keizai Shinbunsha in June 2003

Research themes: Corporate Systems Theory, Corporations and Society.



Managing Director and Managing  
Executive Officer  
(Vice Chairman of the CSR and  
Environment Committee)  
**Hidehiro Harada**

## In Response to these Opinions

I would like to thank Mr. Yanagihara and Professor Tanimoto for their valuable comments. Mr. Yanagihara commented on the difference of awareness on environment between the past and the present, and appreciated our approaches toward the global and marine environment. Environment protection in conjunction with safe navigation is one of the most important issues in running our company, and we will continue to further strive to address both of these from the viewpoint of software

and hardware. To promote our initiatives for the comprehensive concept of CSR including the environment, the end of June this year, we established a committee and a unit tasked with this purpose. This year also happens to be the 120th anniversary of our company's founding as well as the first year of our new mid-term environmental management plan, "MOL STEP". As Professor Tanimoto stated, we would like to firmly embed CSR in the management of the MOL Group.



# Chronology of Environmental Protection Activities

Blue letters : MOL and group activities ● : Activities and events in shipping industry



## 2004

- Jan - Shosen Mitsui Ferry Co. Ltd. acquired ISO14001 certification.
- Mar - Initiated the world's first test of wind generated power on vessel. Completed eradication of refrigerated containers using R-12 refrigerant.
- Jun - "MOL's Environment Committee" was reorganized as "the CSR and Environment Office". Also, "the Environment and Technology Group" is reorganized as "the Corporate Planning Division's CSR and Environment Office".
- The IMO adopted an international treaty controlling release of ballast water. A part of legislation on prevention of marine pollution was amended in Japan.

## 2003

- Jan - Acquisition of ISO14001 certification (head office and vessels).
- Apr - Established "the Corporate Social Responsibility (CSR) Sub-committee".
- Sept - Mitsui O.S.K. Passenger Line, Ltd. acquired ISO14001 certification.
- Oct - 4 Major overseas subsidiaries introduced "Environmental Targets Management System".
- IMO adopted policy to strengthen the sides of bulk carriers on a mandatory basis.

## 2002

- Feb - First internal environmental audit for "MOL EMS 21".
- Sept - Launch of the Environmental Targets Management System (EMS) for Group Companies\* targeting 36 major Group companies. Established a crew-training center in Montenegro.
- Full implementation of ISM Code.

## 2001

- Feb - Initiated switch to TF paint for vessels in service and started outfitting vessels with NOx reducing engines.
- Apr - Started operation of the Environmental Management System, MOL EMS 21.
- Jun - Initiated replacement of onboard refrigerants with R404A.
- Adoption of an international treaty banning TBT paints, etc.
- Constitution of Environmental Charters by Japanese Shipowners' Association.
- Environmental Seminar held by Japanese Shipowners' Association.

## 2000

- Sept - Renamed the "Special Committee of Environment and Technology Development" as the "Environment Committee." Established the Environment Policy Statement.
- Oct - Published our Environmental Report 2000, the first in Japan's overseas shipping industry and published annually ever since.

## 1998

- Partial implementation of ISM Code. /Japanese Shipowners' Association develops the "Voluntary Action Plan for the Prevention of Global Warming".

## 1996

- Japanese Shipowners' Association joins the Japan Business Federation's Voluntary Action Plan.

## 1993

- Establishment of crew training center in Manila.

## 1999

- Japanese Shipowners' Association established Ad-hoc Committee for Environmental Initiatives.

## 1997

- Reorganization of the "Special Committee on Global Environmental Protection Issues" as the "Special Committee of Environment and Technology Development."

## 1994

- Adoption of MOL Safety Management System.
- Acquisition of ISO9002 and ISM Code certificates.

## 1992

- Establishment of "Special Committee on Global Environmental Protection Issues"
- Started replacing chlorofluorocarbons in containers with R134a.
- Introduction of tankers with double-hull structures (MARPOL 13G)/Oil emission standard strengthened.

## 1990

- Adoption of policy to ban the use of TBT paint on newly built vessels.
- Adoption of OPRC Convention (International Convention on Oil Pollution Preparedness, Response and Co-operation).
- Enactment of Oil Pollution Act (OPA90).

## 1982

- Establishment of "Navigation Technology Research Center" (later renamed the Technology Research Center).

## 1973

- Adoption of IMO MARPOL Treaty (spurred by the Torrey Canyon grounding accident in 1967).

## 1972

- London Convention (Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter).

## 1987

- Invention of Propeller Boss Cap Fins (PBCF), which improves propeller efficiency and reduces fuel consumption.



## Postscript by the editor

Thank you for taking your time to read through to the end. It seems just a short while ago that we started publishing these reports, but this marks our fifth publication of an environmental report (changed to an Environmental and Social Report in 2003). The previous Technology Group, Technical Division was reorganized to the CSR and Environment Office, Corporate Planning Division, in June 2004. In the future, we are committed to heightening further MOL Group's efforts in both the areas of environmental protection and CSR.

We welcome and would be grateful for any opinions, comments or observations that you care to submit using the enclosed questionnaire.

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