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Editorial Policy

This environmental report describes the environmental protection and social responsibility activities of Cosmo Oil Group for FY 2001 (from April 1, 2001 to March 31, 2002).

For clarity, the GRI Guidelines* were used as a reference for reporting on the triple bottom line—the environment, society, and the economy. Cosmo Oil Group provides products that have less environmental impacts through their entire life cycle, and places great importance on environmental protection and social responsibility in its activities; such as the provision of a stable supply of petroleum and the prevention of accidents. In this report, issues related to the environment and society are reported together in one section, “Environmental and Social Performance”. In addition, the Environmental Reporting Guidelines released by the Japanese Ministry of the Environment were followed to ensure systematic disclosure of information about our business processes.

While actively participating in environmental protection activities, Cosmo Oil is also promoting the efficient use of oil and developing multi-energy technologies. This report emphasizes our efforts to develop environmental technologies and our new energy businesses.

*The GRI (Global Reporting Initiative) Guidelines are a global framework for comprehensive sustainability reporting, which includes environmental reporting. The Guidelines emphasize the triple bottom line—the environment, society, and the economy.

Scope of Report

This report mainly covers FY 2001; however, some of our activities in FY 2002, such as case examples and organizational structure for environmental management, are also included.

The scope of the data in this report is the Cosmo Oil Group. See page 44 for the outline of the Cosmo Oil Group.

The data on “Reduction of Environmental Impacts” contained in this report mainly cover oil refineries and other related businesses. The data on “Environmental Accounting” and “Recognition of the Environmental Impacts from Business Activities” cover the Research and Development Center and Cosmo Matsuyama Oil Co., Ltd., etc. as well as the above.

Fiscal Year 2001 Highlights

New Targets and Performance Indicators

Medium-term Environmental Plan for the Period FY 2002-2004: Blue Earth 21

Cosmo Oil aims to be an “environmentally preferred company” by fulfilling our environmental, social, and economic responsibilities. →page 7

Quantitative Assessment of the Environmental Impacts from the Entire Business Activities

We assessed the environmental impacts from our entire business activities based on a life cycle assessment (LCA). →page 27

Introduction of New Performance Indicators into Environmental Accounting

As part of environmental accounting, we calculated integrated environmental indicators and environmental productivity on a trial basis. Different types of environmental impacts arising from business establishments and those generated when customers use the products are evaluated comprehensively. The environmental productivity was calculated based on this evaluation. →page 26

Integrated Evaluation of Environmental Impacts from Oil Refineries and Customer Use of Products

In order to reduce environmental impacts occurring at the time of product use by increasing the quality of petroleum products, a large amount of energy is required during the refining process at oil refineries thereby increasing the environmental impacts generated. We conducted, on a trial basis, an integrated evaluation of the increase in environmental impacts from oil refineries and the reduction in the impacts from customer use of products. →page 22

Environmental Protection Activities

Launch of the Zero-Flare Project

This project has resulted in a CO₂ emissions reduction of approximately 200,000 tons per year. This reduces the environmental impacts of products in terms of life cycle assessment (LCA). →page 29

Activities Involving Customers and Society

Introduction of “Cosmo the Card Eco” Credit Card

“Cosmo the Card Eco” credit card has been introduced to invite consumers' participation in our environmental protection activities. →page 37

Cosmo Earth Conscious Act

The Act, which is a partnership between Cosmo Oil along with Tokyo FM and other JFN (Japan FM Network) stations, has been spreading the message of environmental conservation and working on various environmental conservation activities. →page 39

Conservation of Tropical Rain Forests in Papua New Guinea

We are providing assistance for local people to make the transition from slash-and-burn farming to settled farming in order to help conserve the tropical rainforest and solve the food problem. →page 39

External Recognition

The Grand Prize for the Global Environment Award

Cosmo Oil received the “Award for Excellent Companies Chosen by the Global Environment Council” in the “11th Grand Prize for the Global Environment Award”. →page 42

Third Prize in the “5th Green Reporting Award”

Cosmo Oil was awarded third prize in the “5th Green Reporting Award” for its Environmental Report 2001. →page 42

Minister of Health, Labor and Welfare Commendation

Chiba Oil Refinery received the Minister of Health, Labor and Welfare Commendation for its activities to improve occupational safety. →page 18

Director-General of Fire-Defense Agency Award

Yokkaichi Oil Refinery received the “Director-General of Fire-Defense Agency Award” at the Convention on Hazardous Materials. →page 18

Inclusion of stocks in SRI Funds

Cosmo Oil's stocks have been included in two SRI funds. →page 43

Striving to Be an Environmentally Advanced Company as a Member of Society and a Global Citizen

The 20th century was an era of economic growth, and also an era when human beings, for the first time in history, acknowledged the fact that the Earth was approaching its carrying capacity. Today's environmental problems, which include global warming, destruction of the ozone layer, deforestation, desertification, acid rain, and the loss of biological diversity, are all warning alarms issued by the Earth. They are, without exception, the consequences of activities by human beings, who have been enjoying the Earth's resources and petroleum in particular. It is also true, however, that only through these consequences could human beings be reminded of the finiteness of the Earth. Cosmo Oil is promoting innovative solutions by interweaving environmental concerns with every single aspect of our business. We recognize that we are part of an industry that has supported economic development through exploiting petroleum and delivering oil-based products and thus, we have undoubtedly caused negative impacts on the environment. We are striving to contribute to the protection of the environment on a global scale, acknowledging that we are indeed, global citizens.

Possible Actions as a Petroleum Company

Japan currently relies upon oil-based products for more than half of its energy consumption, and thus it is hard to imagine that society's dependence on oil-based energies could radically change in the near future. We therefore believe that the efficient use of petroleum products—producing more valuable products from crude oil—is crucial. Cosmo Oil refines crude oil and produces and sells various kinds of oil-based products including gasoline, jet fuel, kerosene, diesel oil, and heavy fuel oil. We are now trying to raise the proportion of products other than heavy fuel oil through more sophisticated refining processes to respond to the fall in demand for heavy fuel oil. The reduction of sulfur content in diesel fuel is an area in which the oil industry as a whole is exerting great efforts. The oil industry is going to start providing low-sulfur diesel fuel in September 2002 in response to the Tokyo Metropolitan Government's plan to strengthen its regulations on emissions from diesel

vehicles in October 2003. The Metropolitan Government gave the Petroleum Association of Japan the "Environmental Grand Prize (Governor Prize)" for the industry's active involvement. The oil industry, which consumes energy through refining crude oil, has also set the target of reducing crude oil energy consumption units by 2010 to 10 percent below 1990 levels. Cosmo Oil had achieved a 9.1% reduction by the end of 2001.

Cosmo Oil Tackles Global Warming on a Global Scale

Among environmental problems, most of which are global by nature, global warming is the one that many countries are addressing. South Pacific island countries are in danger of being submerged due to the rising sea level, which is caused mainly by the gradual melting of the Antarctic icecaps and Alpine glaciers. There is also concern that climatic changes may trigger a food crisis. The main cause is the increasing emissions of CO₂ (carbon dioxide), which is one of the major greenhouse gases.

CO₂ is generated through the burning of gasoline and diesel fuel when our customers drive a car, as well as in the process of refining crude oil. The CO₂ that has been emitted can no longer be turned into petroleum again. Cosmo Oil, which emits a sizeable amount of CO₂ in its business processes, is committed to contributing to the prevention of global warming, through our activities implemented on a global scale.

For example, in the Zero-Flare Project at Abu Dhabi Oil, a subsidiary of Cosmo Oil, the gases that emerge during crude oil drilling are not burned off but instead returned to the ground, thus reducing CO₂ emitted in the host country. In Papua New Guinea, we are consistently supporting local people in refraining from slash-and-burn farming, where forest is burned to develop land for farming, and we are encouraging settled farming. We also seek possibilities of CO₂ emissions trading in view of hedging the risks associated with the reduction of greenhouse gases, enhancing business opportunities in future, and contributing to forest conservation and afforestation in host countries.



To Become an Environmentally Advanced Company

We have declared our resolve to become “environmentally advanced company”, but we are still in the process. In order to reach this ultimate goal, it is necessary to continuously improve our business processes, through a close combination of environmental protection activities, employee training and enlightenment, and social communications. We therefore set up the Environment Affairs Office and Public Relations Office within the Corporate Planning Department, and prepared our medium-term environmental plan for the period FY 2002-2004, replacing our previous action plan. It is also important to develop environmental technologies such as for VOC (volatile organic compounds) absorption, wastewater treatment and soil improvement, and new energy technologies including GTL (Gas to Liquid) and fuel cell systems. We incorporated our research and development arm into Cosmo Oil in FY 2001 and

decided to focus on three research subjects: support for the oil-based primary business, environmental technology development, and new energies.

We published our first environmental report in 2001, in the belief that it is crucial, as a corporate citizen, to disclose our business activities and to listen to the voices of society. This report, which has been reviewed by an independent party to ensure the correctness and transparency of the information contained, provides detailed information on our approach to our social responsibilities. To help us to continuously improve our environmental protection and social responsibility activities, we welcome your opinions and comments.

A handwritten signature in black ink that reads "Keiichiro Okabe". The signature is written in a cursive, flowing style.

Keiichiro Okabe
 Chairman and Chief Executive Officer
 Cosmo Oil Co., Ltd.

Strengthening Management Bases and Improving the Corporate Value of Cosmo Oil Based on the Triple Bottom Line: the Environment, Society, and the Economy

As a Member of the Energy Industry

Cosmo Oil, as a member of the energy industry, has been working hard to fulfill its social responsibilities to provide a stable supply of petroleum-based products for many years. With the increasing public recognition of the importance of environmental protection, there also is a demand from the market for enterprises not only to fulfill environmental regulations and meet their social responsibilities but also to take the lead in environmental protection and to disclose related information.

This trend has been accelerated by the increasing number of green consumers who are willing to selectively purchase environmentally friendly products and green investors who invest into those companies that are advanced in their environmental protection.

Becoming an environmentally advanced company is one of the goals of our two-year business plan from 2001 called "Value Creation 21". We have

set this goal based on the awareness that, in order to become a sustainable company while meeting social responsibilities in today's changing business world, Cosmo Oil must strike a balance between the environment and the economy.

Establishment of a New Organizational Structure for Environmental Management

Cosmo Oil set up the Global Environment Committee and was promoting the development of basic policies and environmental activities in each department with the initiative of the Action Group. Each division made these efforts separately, but we now believe they must be implemented as coordinated company-wide activities.

In view of the current demand from society and the company's circumstances, we recognize that environmental issues should be tackled from a managerial viewpoint and thus, in order to expand our environmental protection activities, we will introduce a

Basic Policy on Safety and the Environment

The mission of Cosmo Oil, as a member of the energy industry, is to make local and global efforts for environmental protection. The Basic Policy on Safety and the Environment, which was created by the Global Environment Committee in February 2001 in order to clarify the existing policy, defines our consensus and commitment to society.

Basic Policy on Safety and the Environment

Recognition

Cosmo Oil is a major energy supplier providing Japan with energy through petroleum refining and sales; it recognizes the importance of providing a safe and stable product supply while protecting the regional and global environment.

Safety Policy

Cosmo Oil sees safety and the development and maintenance of stable operations as extremely important missions. As its business involves combustibles, high-pressure gases, and other potentially dangerous materials, it must work for the sake of the community, its employees, and those engaged in its business activities. It must also secure the safety of those inhabiting nearby areas.

Environmental Policy

Cosmo Oil responds to environmental problems as one of its most important activities. The company aims to minimize the environmental impact which occurs through its business activities and to apply the best of its abilities and technological skills it has developed over the years to contribute to society through the development of environmental technology.

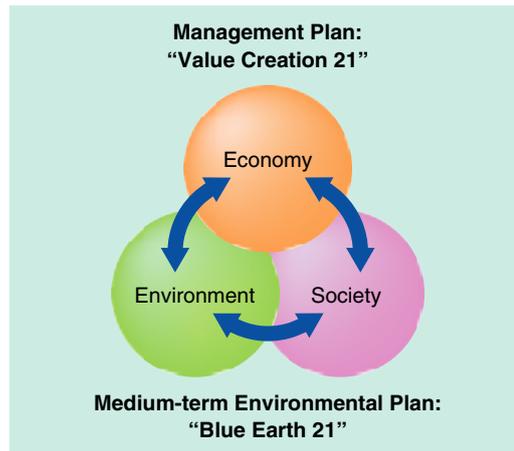
unique environmental management system (EMS) which encompasses the whole company in FY 2002. In addition, we will reestablish our organizational structure to clarify where the company's environmental decision-making authority lies so that the PDCA (Plan-Do-Check-Action) cycle is effectively implemented. This will be made possible by placing the "Global Environment Committee", which promotes environmental protection, and the "Comprehensive Safety Action Headquarters", which promotes safety, under the control of the Executive Board.

Cosmo Oil drew up a new medium-term environmental plan, "Blue Earth 21*", as a goal shared and strived for by all employees. It demonstrates our efforts to address environmental issues both internally and to the public. "Blue Earth 21" includes action targets for the reduction of environmental impacts. These targets cover all stages of the life cycle of our products from oil development and production to distribution and sales at service stations.

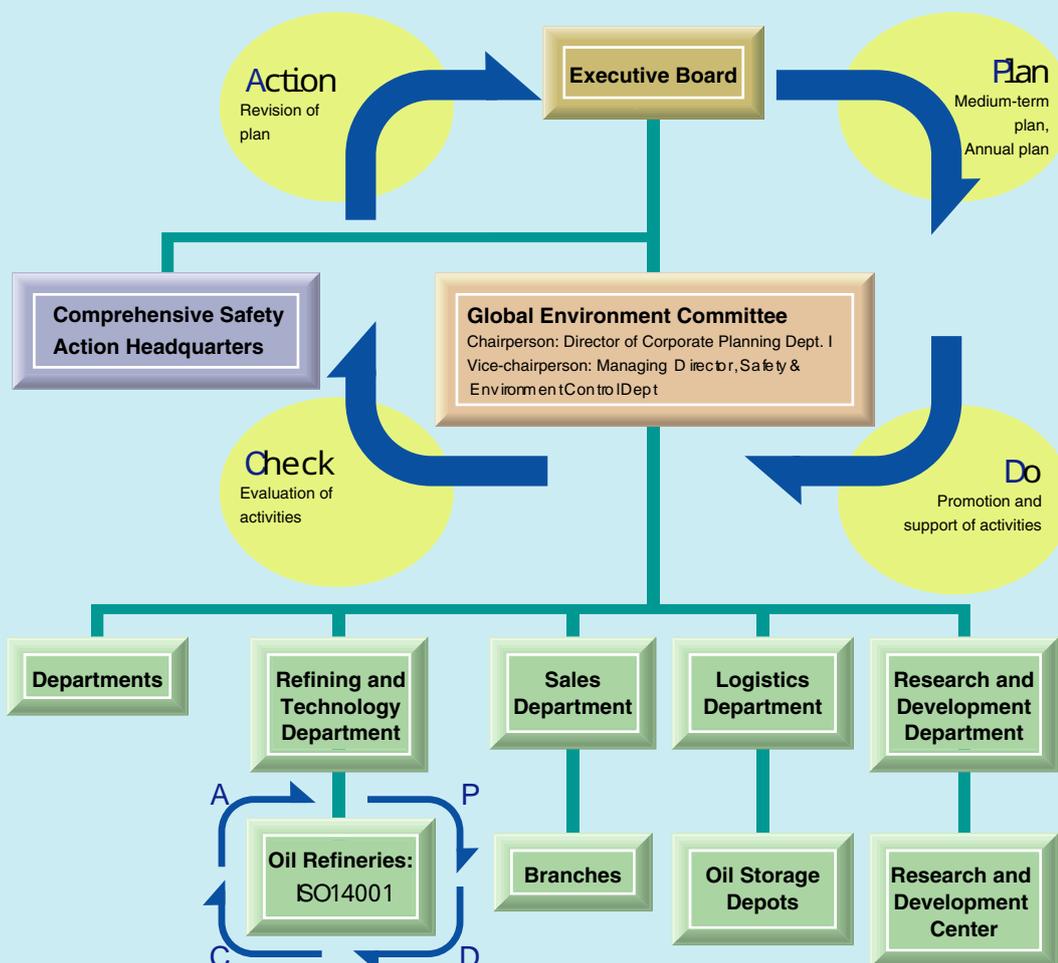
We also set action targets with social aspects from the viewpoint as a corporate citizen.

Hence, we strive to operate our business based on "Blue Earth 21", a medium-term environmental plan, and "Value Creation 21", which is a business plan, focusing on the triple bottom line: the environment, society, and the economy.

*See pages 7 and 8 for details.



Promotion of Continuous Improvement through PDCA Cycles by a New Organizational Structure for Environmental Management



Medium-term Environmental Plan: Blue Earth 21

In an effort to become a sustainable company while meeting environmental, social, and economic responsibilities as a company, Cosmo Oil drew up “Blue Earth 21”, a medium-term environmental plan in FY 2002.

Six challenges are included in “Blue Earth 21” under the “Medium-term Environmental Plan Slogans”. By further categorizing them into nine principle themes, we will work hard to achieve concrete targets set for each department by FY 2004.

Medium-term Environmental Plan Slogans

**“Environmentally preferred
Cosmo Oil.”**

**“Aiming for a true environmentally
advanced company.”**

**“Meeting social responsibilities
as a corporate citizen.”**

**“Striking a balance between environmental
protection and economic efficiency.”**

Six Challenges

1. The challenge to develop green products

The development and sales of products with minimum environmental impacts.

2. The challenge to promote green factories

Efforts to achieve zero emissions and to minimize CO₂ emissions and waste generation.

3. The challenge to establish green logistics and sales

Promotion of resource and energy conservation.

4. The challenge to develop new energy technologies

The development of new energy technologies such as fuel cell and GTL (conversion of natural gas to liquid hydrocarbons) technology.

5. The challenge to promote green offices

The promotion of the three “R’s” (reduce, reuse, and recycle).

6. The challenge to establish environmental communication

The fostering of environmental awareness among all employees and cooperation with stakeholders.

* Ideas of environmental contribution projects:

Cosmo Oil implements and supports environmental contribution projects based on the recognition that it is our responsibility to hand down an affluent society to the next generation, namely to promote sustainable development.

1. Environmental improvement and environmental protection activities in Japan and overseas.
2. Education and enlightenment activities for children.

Medium-term Environmental Plan “Blue Earth 21”

Theme

1. Prevention of Global Warming

Promotional activities for the reduction of energy consumption at each operating department.

Efforts to use the Kyoto Mechanism and to develop new energy technologies.

2. Reduction of Pollutant Emissions

Control of air and water pollutant emissions in accordance with the voluntary standards, which are more stringent than regulatory standards.

Efforts of voluntary VOC emission control.
Further reduction in industrial waste.

3. Soil Environment Protection

Soil environment assessment by site and response to detected problems.

Soil environment assessment at service stations and promotion of pollution prevention.

4. Resource Conservation

Reduction in general waste by promoting three “R’s” Paper (reduce, reuse, and recycle).

5. Reduction of Environmental Impacts of Products

Provision of oil-based products that have less environmental impacts.

6. Green Procurement

Expansion of the range of items considered for green purchase.

7. Research and Development

Technology development in the oil-related business area.
Technology development in the environmental area.

Technology development in the new energy area.

8. Environmental Contribution Projects

Promotion of continuous projects based on Cosmo Oil’s basic policy*.

Social Action Programs

9. Organization of Environmental Management

Promotion of continuous improvement of environmental management systems.

Improvement of communication activities for a variety of stakeholders

Medium-term Targets (FY 2004)

Energy Conservation	9.2% reduction of crude oil energy consumption units used at oil refineries (compared with 1990 levels). Further reduction in the amount of fuel used for logistics. The promotion of energy conservation within our offices.
Kyoto Mechanism	Consideration of the use of the Kyoto Mechanism.
New Energies	Consideration of the introduction of power generation systems using natural energy resources (wind and solar power).

Air Pollution Control	Maintenance of the current levels of NOx, SOx and dust emissions from oil refineries. Consideration of the installation of VOC reduction equipment on dispensers at self-service stations.
Water Pollution Control	Maintenance of the current level of COD discharges.
Industrial Waste Reduction	Average annual reduction rate of 81% (compared with 1990 levels) in the amount of waste disposal from oil for a three-year period (2002-2004).

Business Establishments	Soil investigation at business establishments and the implementation of necessary measures.
Service Stations	Promotion of pollution prevention based on the new control standards. Voluntary inspection of service station facilities and implementation of necessary measures.

Commodities	40% reduction in paper purchased (compared with 2000 levels). Promotion of general waste reduction by encouraging garbage separation and recycling.
Water	Consideration of installation of wastewater recycling facilities at service stations.

Diesel Oil	Provision of low-sulfur diesel oil meeting the regulatory level of less than 50ppm sulfur content.
Gasoline	Establishment of a new long-term supply system for the products subject to regulations.

Office Supplies	Green purchasing ratio of 80% (based on the purchase value).
Others	Promotion of the green procurement of equipment and materials (construction materials, submaterials (catalysts, containers, etc.), and consumable supplies (service station uniforms, etc.).

Reduction of Environmental Impacts	Development of high-activity desulfurization catalysts.
Waste Reduction	Reduction of the amount of catalyst used, development of technologies for spent catalyst recycling, and for the reduction of excess sludge generated from oil refineries.
Soil Remediation	Development of a new method for the evaluation of oil content in the soil.
Environmental Businesses	Development of technologies for absorption/recovery of vapors including VOC.
Performance Evaluation of New Energies	Development of technologies for fuel cell system and the conversion of natural gas to liquid hydrocarbons (GTL: Gas to Liquid).

Environmental Technology Support	Transfer of environmental technologies to other countries.
Eco Card Project	Implementation of and support for projects for the prevention of global warming, natural environment conservation, environmental education, etc.
	Active involvement in social action programs.

Human Resource Development	Creation of a system to share environmental awareness.
Communication	Promotion of effective environmental information disclosure for each type of stakeholder.

Promoting Effective Use of Energy Resources: Aiming to Become “Environmentally Preferred Cosmo Oil”

Effective Use of Oil Resources from a Product Life Cycle Perspective

The great progress of civilization in the 20th century was made possible by petroleum energy; the old century has now come to an end and a new one has begun, which can now be called “the century of the environment”. The relationship between people and petroleum has reached an entirely new phase. The inescapable reality is that petroleum resources are finite. If consumption continues at the current pace, the nearly unanimous prediction is that the crisis of supply shortages will occur during the 21st century.

Some people say, “It is not because stones ran out that the Stone Age came to an end”. There is a growing recognition that it is crucial to develop alternative energies that are less damaging to the environment before we use up fossil energy

resources. But nuclear energy and other alternatives to petroleum also have a variety of problems, so the widespread use of new energy sources will take some time. Petroleum is indisputably the most beneficial energy resource for society at the current time.

The Cosmo Oil Group’s businesses encompass every stage of the life cycle* of petroleum, including oil development in the oil-producing countries, import of crude oil, production of products such as fuel oils and lubricants at oil refineries, and sales of products to businesses and consumers. Our top priorities are the effective production of products from crude oil and the minimization of environmental impacts at each process. We must therefore work on the environmental issues more actively and responsibly.

In “Value Creation 21”, our management plan created in 2001, we are focusing on becoming an environmentally advanced company. In 2002, we

* See page 27.

