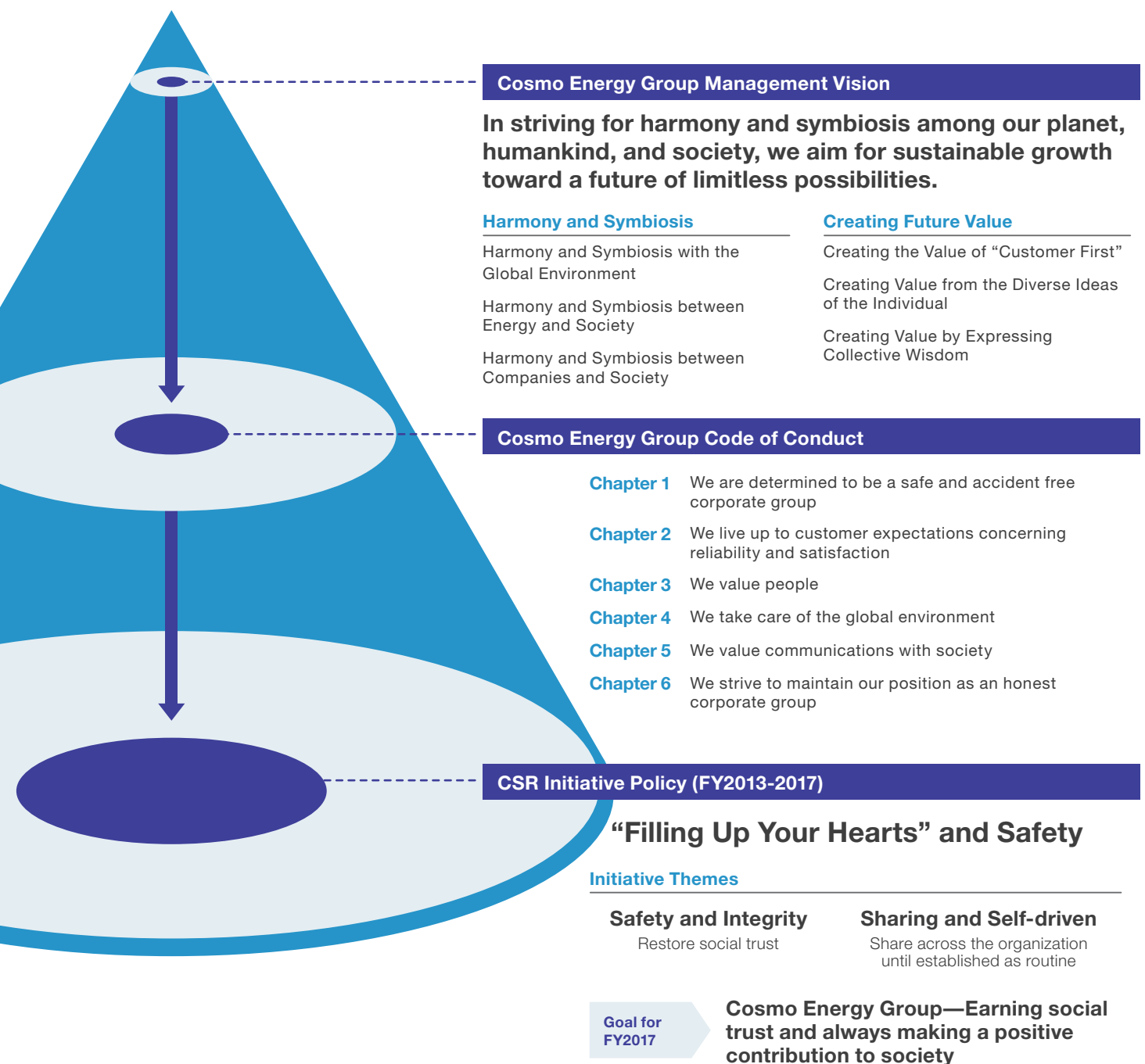


# CSR Initiatives of the Cosmo Energy Group

In order to realize the Management Vision of the Cosmo Energy Group, all employees are conscientiously engaged in CSR activities. CSR management is being promoted under the Consolidated Medium-Term Management Plan and the CSR Initiative Policy, based on the Cosmo Energy Group Code of Conduct.



## Major Initiatives by Business Segment

CSR Initiative Policy	Oil Exploration and Production Business	Petroleum Business	Petrochemical Business	Renewable Energy Business
<b>Strict Safety Management</b>	Enhanced risk management P.35 Promotion of safety management activities P.35			
	Safe stable operations P.20	Adoption of OMS P.36		
<b>Business Operation with Integrity; Raising Customer Satisfaction</b>	Corporate ethics promotion structure P.37 Penetration of Code of Conduct P.37			
		CSR initiatives at service stations P.38 Ensuring customer support P.38 Evaluation for three Promises P.38		
<b>Enhancing Human Rights / Personnel Policies</b>	Initiatives on diversity P.39 Facilitating work-life balance P.40 Reducing long working hours P.40			
	Human resources development and human resources capable of global operations P.39			
<b>Promoting Environmental Initiatives</b>	Environmental impact of business activities P.42			
	Environmental preservation activities P.20	Energy conservation at refineries P.41 Use of water and wastewater measures P.41		Boosting the energy self-sufficiency rate P.26 Reduction in CO <sub>2</sub> emissions P.26
<b>Implementing Better Communication with Society</b>	Business Continuity Plan (BCP) P.43			
	Japanese language lessons P.20	Cosmo Oil Eco Card Fund P.44 Cleanup campaign P.44 Social contribution activities P.44		

### Internal Control System

In order to implement its Management Vision and Code of Conduct while ensuring that operations are carried out in an appropriate and efficient manner, the Cosmo Energy Group has established and maintained systems for carrying out director and employee duties of the Company and its Group companies, risk management and internal audit systems, and audit performed by the Supervisory Committee. We also have an organization for internal control by

establishing four committees, chaired by each director in charge. These committees evaluate the performance of CSR activities, bring important matters to the Executive Officers' Committee for discussion, and forward them to the Board of Directors. Such matters are also brought to the Cosmo Energy Group CSR Promotion Liaison Meeting to be shared by Group companies for the control of the entire Group companies.

#### Cosmo Energy Holdings Committee Structure





## CSR Initiatives of the Cosmo Energy Group

# Strict Safety Management

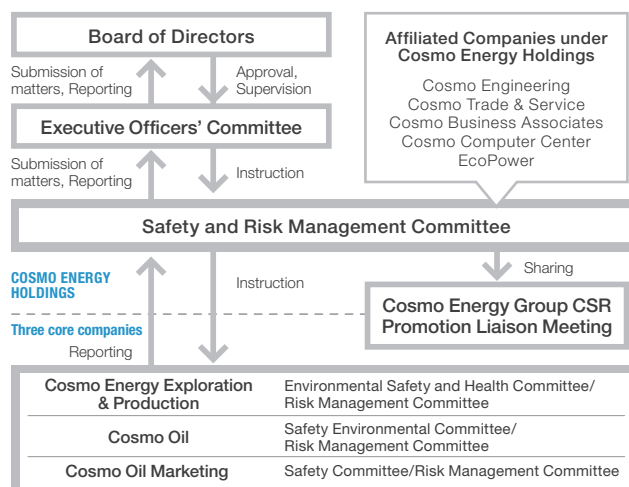
The Cosmo Energy Group prioritizes strict safety management as part of the CSR Initiative Policy. Under the Consolidated Medium-Term Safety Plan (FY2013–2017), by holding strong commitment to the stable supply of energy, the Safety and Risk Management Committee is promoting safety management at the group-wide level. Committee strives to eliminate work-related accidents and incidents in each office and each division and to secure safe operations and stable supply.

## Enhanced Risk Management of the Entire Group

### Safety and risk management committee

The Group convenes a Safety and Risk Management Committee meeting twice a year to discuss the group-wide safety policy and to verify progress in safety initiatives for the enhancement of safety management.

Each of the three core companies has a committee that matches its business and functions: the Environmental Safety and Health Committee in Cosmo Energy Exploration & Production, the Safety Environmental Committee in Cosmo Oil and the Safety Committee in Cosmo Oil Marketing. These committees make planning for safety initiatives and conduct inspections to verify and supervise initiatives for safety management.



## Promotion of Safety Management Activities

### Safety initiatives

Based on the Group's Safety Policy "Establish a culture of safety for compliance in good faith," safety initiatives have been implemented. In FY2016, the number of work-related accidents was 118 (30 accidents requiring time off from work and 88 accidents not requiring time off), and the number of work-related accidents during commuting was 20. There were no fatal accidents from work or during commuting.

From FY2017, the scope of the survey is expanding to include employees of subcontracting companies in addition to directly-hired employees of Group companies. We will continue our strong efforts to reduce work-related accidents.

### Increase in capacity utilization

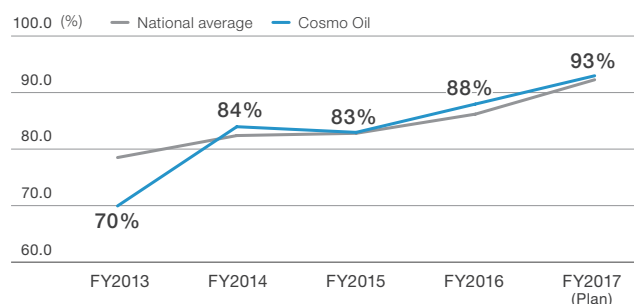
Since the Great East Japan Earthquake of 2011, we had suffered from our main Chiba Refinery not being in operation for roughly two years. From FY2013, the Chiba Refinery gradually resumed operation and it has significantly improved its capacity utilization by achieving two-year long run in FY2016. Our entire manufacturing division is striving to further enhance safe operation and stable supply by introducing a new Operations Management System in January 2016. In addition, we will begin a business alliance with another company in Yokkaichi in FY2017 and integrate the refining operation once the Chiba JV pipeline is completed in FY2018 in order to further enhance our competitiveness.

### Number of Work-Related Accidents in FY2016

	Total work-related accidents		Accidents involving directly-hired employees		Accidents at subcontracting companies, etc.	
	Accidents requiring time off from work	Accidents not requiring time off from work	Accidents requiring time off from work	Accidents not requiring time off from work	Accidents requiring time off from work	Accidents not requiring time off from work
Accidents during work	30	88	13	52	17	36
Accidents during commuting	1	19	1	14	0	5

\* Including Cosmo Energy Holdings, Cosmo Energy Exploration & Production, Cosmo Oil, Cosmo Oil Marketing, Maruzen Petrochemical, and 33 related companies

### Capacity Utilization Rate at Refinery (calendar-day basis)



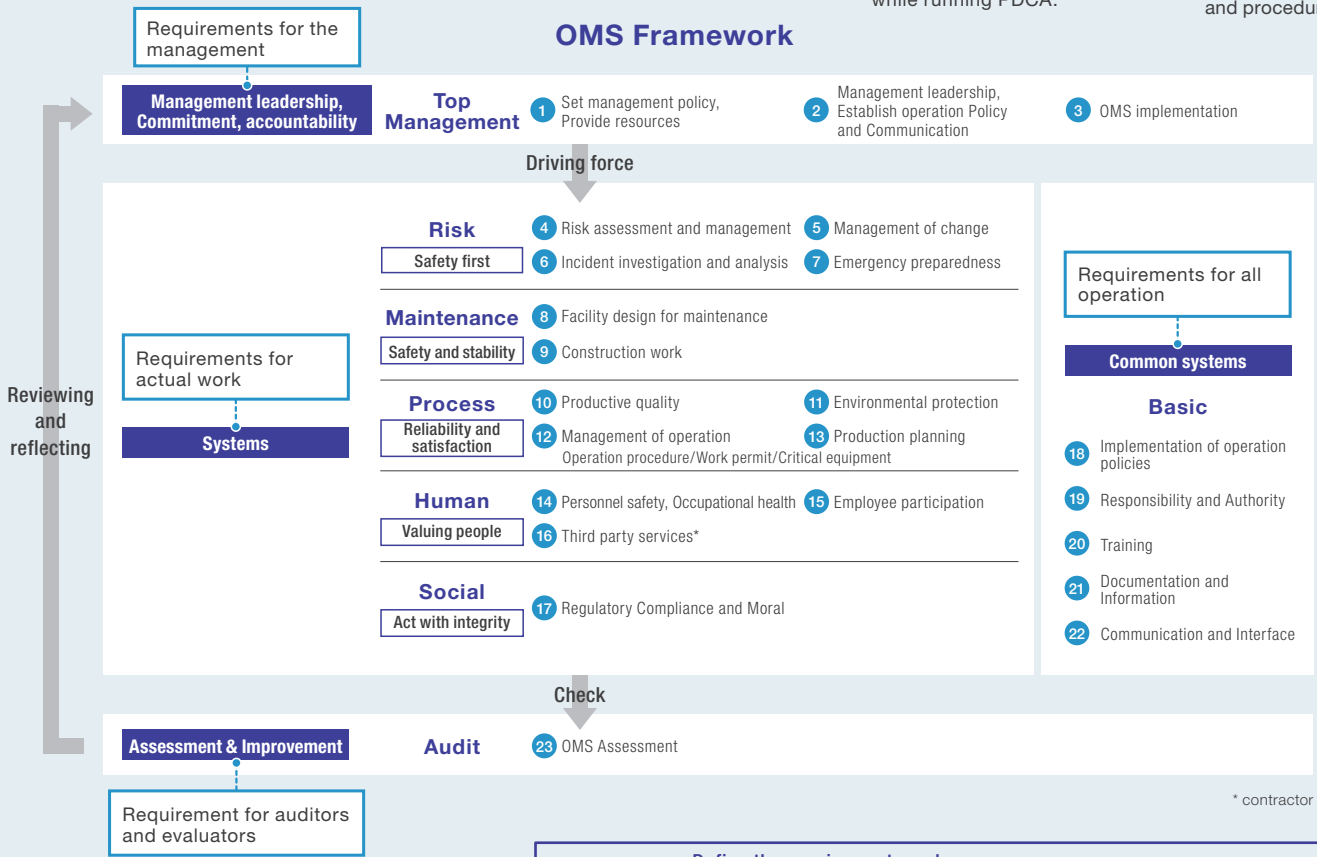
\* Source for national data: Agency for Natural Resources and Energy of the Ministry of Economy, Trade and Industry

TOPICS

# Operations Management System

## Adoption of Operations Management System

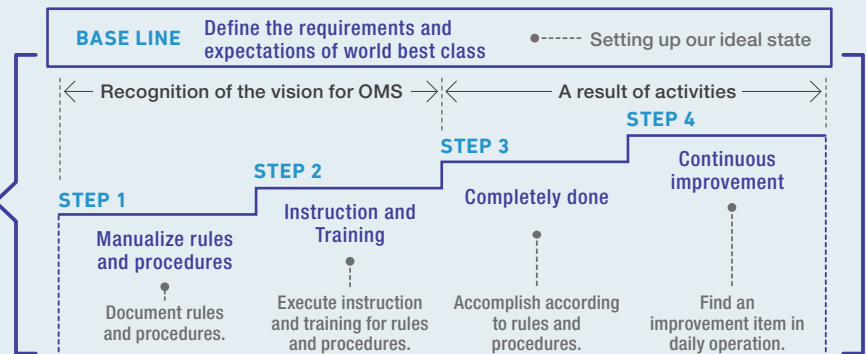
In January 2016, Cosmo Oil adopted the Operations Management System (OMS) with the aim of achieving safety operation and stable supply of world best class. We have identified 23 important items for operation to recognize the gap between the current state and the ideal state and to make continuous improvements. The Adoption of the OMS has established the base for operating-related management systems, and we will achieve safety operation and stable supply, improve operations, and avoid opportunity losses on top of this base.



\* contractor

### Four steps of OMS

The OMS comprises (1) Manualize rules and procedures; (2) Instruction and Training; (3) Completely done; and (4) Continuous improvement. By repeating the process step by step, the OMS enables us to be closer to our ideal state (safety operation and stable supply of world best class). We are embedding this process of documentation-training-accomplishment-improvement in our culture to improve ourselves further.



### One year after adoption of the OMS, some changes began to appear in employees' mindsets

Although we are still at the starting phase one year after the adoption of OMS, gradual changes have appeared in employees' mindsets. In FY2016, the first year, we focused on STEP 1 (Manualize rules and procedures) and STEP 2 (Instruction and Training). As a result, employees have become more conscious of the three key points of the OMS (risk base; completely done; and continuous

improvement), and have begun to incorporate them in their actual work.

In FY2017, the second year of adoption, we plan to implement the OMS concept more deeply by finding more opportunities to execute STEP 3 (Completely done) and STEP 4 (Continuous improvement).



## CSR Initiatives of the Cosmo Energy Group

# Business Operation with Integrity; Raising Customer Satisfaction

All employees of the Cosmo Energy Group are engaged in their work with social responsibility and integrity, and high morale. We provide products and services that deliver comfort, peace of mind, and trust to customers, in order to fulfill their satisfaction.

## Corporate Ethics Promotion Structure

### The CEG corporate ethics consultation helpline

The Cosmo Energy Group (CEG) has established the Corporate Ethics and Human Rights Committee to promote and implement the CEG's Code of Conduct, and check its status. The Committee's operation is supported by the CEG Corporate Ethics Office. The CEG Corporate Ethics Consultation Helpline, by which compliance issues or ethical issues can be reported or consulted anonymously, has also been established within the Corporate Ethics Office and at an outside law firm.

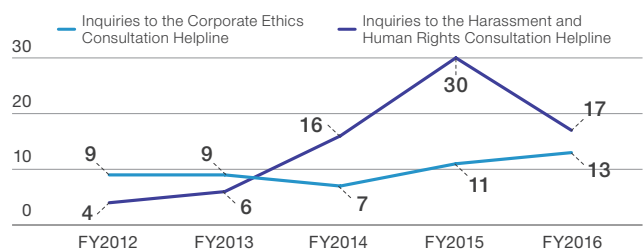
Details of the reported and consulted issues and the response by the respective office are forwarded to the Supervisory Committee and are reflected in future CSR activities. There were zero incidents involving serious compliance violations\* in FY2016. From FY2017, the Harassment and Human Rights Consultation Helpline is eliminated and integrated into the CEG Corporate Ethics Consultation Helpline.

\* The most serious violations stipulated in the internal rules or accidents.

### Corporate Ethics Promotion Framework Structure



### Number of Inquiries



## Penetration of Code of Conduct

### Corporate ethics training

To promote employee training for appropriate work execution and thorough ethical corporate activities, the Corporate Ethics Training was held 65 times in total from October 2016 to March 2017 and was attended by 47 related companies. Our aim in FY2016 was to "learn the right behavior and ways of thinking as Cosmo people." Group discussion was conducted on how to practice CSR management and the Code of Conduct, as well as human rights and diversity measures, according to the CEG Code of Conduct.



Corporate Ethics Training

Employees who  
took the training

**92.4%**

4,195 employees

### Corporate ethics e-learning course

As a follow-up study to the Corporate Ethics Training, the e-Learning Course was implemented in February-March 2017 for all Group employees to individually take online. Using the original textbook, it is aimed at better understanding the Code of Conduct and maintaining high morale.



Ratio of employees  
who took the course

**97.4%**

6,011 employees

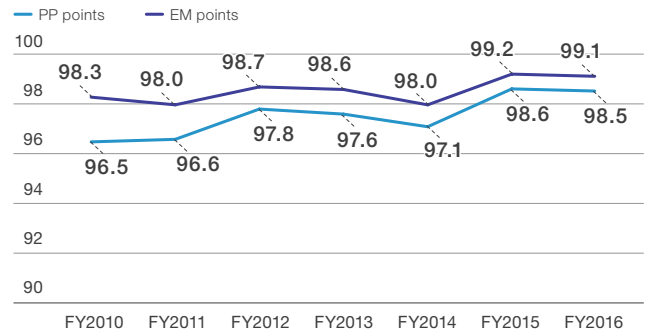
e-learning log-in screen

## Raising Customer Satisfaction

### CSR initiatives at Service Stations

Cosmo Oil's service stations are promoting CSR activities such as thorough compliance and consideration of the environment, and believe appreciation of this will be good for the Cosmo Brand. As a CSR survey, the Cosmo Energy Group conducts annual privacy policy (PP) surveys to check proper management of personal information and environmental management (EM) surveys to check if environment/safety-related equipment and facilities are properly managed to prevent oil leakage, prevent its diffusion, and treat contamination at service stations. In FY2016, inspectors visited 1,198 service stations, while 1,529 service stations conducted their own self-assessments.

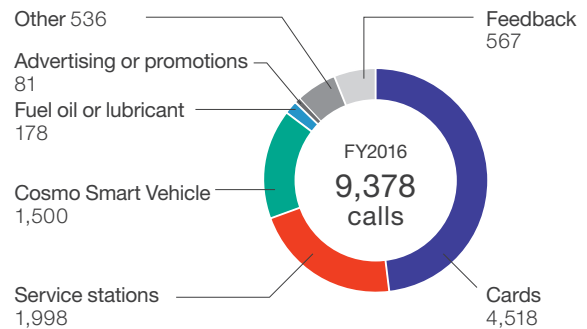
PP Points and EM Points



### Ensuring customer support

The Cosmo Oil Customer Center operates a customer support hotline 24 hours a day. In FY2016 the support hotline received 9,378 calls, down 768 from the previous year. Among the calls, the smart vehicle-related inquiries increased 616 from the previous year, suggesting some impacts of TV commercials and internet ads. On the other hand, the support line also received feedback accounting for 567 calls, of which 539 concerned service stations. We heed those voices of customers so that we can better provide satisfying services, as declared in our message "Filling Up Your Hearts, Too."

Customer Support Hotline Calls by Type



### Calls to the Customer Support Hotline

#### Praise

I signed a contract for a Cosmo My Car Lease, expecting the car to be delivered soon. However, the car I was using today didn't start and I was in big trouble. I called the head of the Cosmo Oil service station for help and he arranged a substitute vehicle for me. Thank you very much.

Reply from an operator in charge

Although it is a part of our job to dispose of the current vehicle and arrange a substitute vehicle, we appreciate your compliment very much.

#### Feedback

I used a self-service gas station for the first time and didn't know how to use it, but the staff member at the station was not helpful.

Reply from an operator in charge

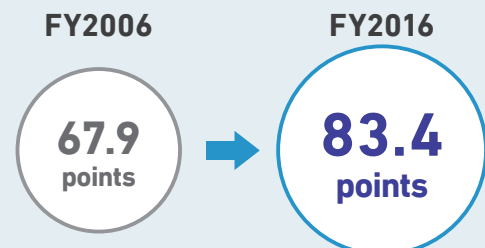
We take your feedback seriously, share it within the company, and strive to thoroughly train our staff and further improve services.

## TOPICS

### Regular Checking of Service Stations for Fulfillment of Three Promises

True to the "Filling Up Your Hearts, Too," declaration, Cosmo Oil service stations are working to fulfill the following three brand promises to customers. We are confident that keeping these promises at all service stations will result in favorable attitudes toward the Cosmo Brand and its being preferred by more customers. To check the status of our initiatives and enhancing services, outside mystery examiners investigate services at stations three times a year.

Total Scores of the Survey by Outside Mystery Examiners (100 points at best)



#### "Filling Up Your Hearts, Too" Declaration Three brand promises

- **Comfort** Customers will be greeted with a welcome and a smile at clean Cosmo Oil service stations.
- **Peace of mind** Cosmo Oil service stations will offer quality-assured products and services.
- **Trust** Cosmo Oil service station staff will be responsible for their answers to customers' queries.





## CSR Initiatives of the Cosmo Energy Group

# Enhancing Human Rights / Personnel Policies

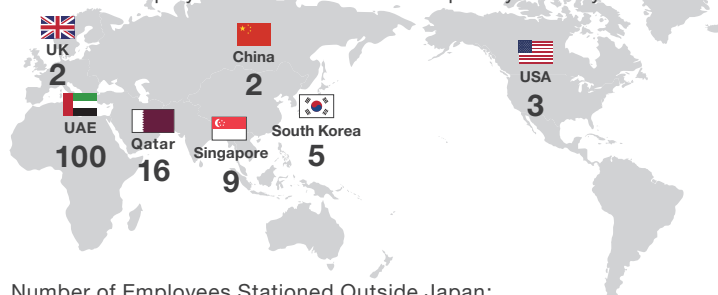
The Cosmo Energy Group believes that our human resources are the source of our value creation. We strive to develop people who proactively tackle issues of the changing business environment with a sense of speed. At the same time, we respect diversity and make efforts to encourage employees to play an active role by making use of their diverse backgrounds.

## Human Resources Development and “Global Human Resources”

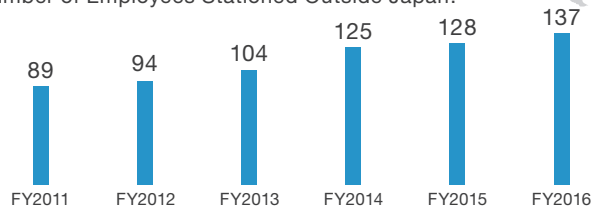
### Development of professionals and dealing with globalization

The personnel system has identified a desired employee as a professional with aspirations and willingness to improve. We depart from conventional seniority-based personnel management in favor of aiming at selectively developing personnel that match objectives. We have included knowledge and skills needed for business as an item included in promotion reviews, as one means we encourage personal development. We have conducted training courses for managers to improve their fostering of subordinates and have enhanced the training course for female employees to further encourage their development. The Cosmo Energy Group has 137 employees stationed in seven countries outside Japan. Aiming to become a vertically integrated global energy company, we urgently need to foster global human resources with diverse experience and skills. Therefore we send young and mid-career employees to work on projects outside Japan and to study abroad for continuing education. We have sponsored select employees study at overseas universities or international universities in Japan (12 employees in the past five years.)

Number of Employees Stationed Outside Japan by Country:



Number of Employees Stationed Outside Japan:



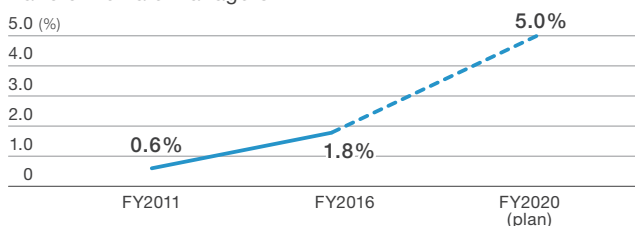
\* The number of employees includes employees of Cosmo Oil and Cosmo Engineering, Cosmo Trade & Service, and Cosmo Energy Exploration & Production (as of March 31, 2017)

## Initiatives on Diversity

### Focus on empowering women in the workplace

The Cosmo Energy Group is committed to achieve diversity in its workplace. We aim to achieve high productivity and continue to grow by having a workplace that allows motivated employees with diverse backgrounds go about their work proactively. For that purpose, the Diversity Promotion Office was established in June 2015 to promote development and use of diverse human resources and the human rights measures. In particular, we are focusing on encouraging female employees' work, by implementing an action plan targeting the ratio of female managers at 5% of total by 2020 (compared to 1.8% as of March 31, 2017.)

Ratio of Female Managers



\* Employees of Cosmo Oil (including those seconded outside, and excluding seconded employees to Cosmo Oil from other companies)

### Respecting for human rights

We respect the human rights of each employee and endeavor to make pleasant positive workplaces by preventing harassment. The CEG Corporate Ethics Consultation Helpline is open to dispatched workers and part-timers in addition to full-time employees, to consult on issues concerning human rights and harassment for improving workplaces.

### Respecting diversity

Under the continuing theme of promoting diversity and offering fair employment opportunities, we are striving to increase our employment of persons with disabilities. The persons with disabilities as of June 1, 2016 fell short of the 2.0% rate mandated in Japan but increased to 2.36% as of June 1, 2017, exceeding the mandate rate. We are also striving for development of workplaces and promotion of employment for persons with disabilities. In FY2016, we hosted internships for one student with mental disabilities and another student with hearing disabilities as one measure to expand workplaces for such persons.

## Facilitating Work-life Balance

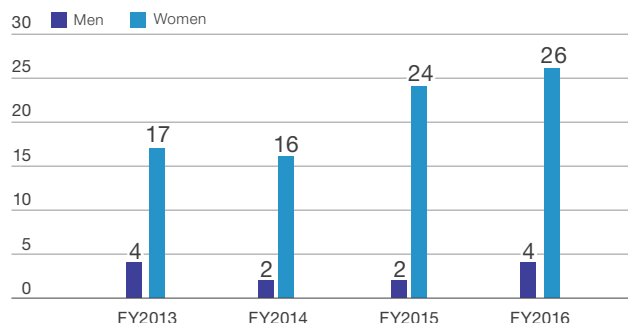
### Creating the system that allows employees to continue to work

The Cosmo Energy Group has adopted various programs so that our employees can work in good mental and physical personal condition and balance their work with their life events. Employees who are having babies and raising children can utilize childcare leave and also the arrangements for working reduced hours or the work-at-home program. Moreover, we encourage employees to take the special occasion paid holidays that we provide for each child's first birthday. We have also prepared some programs that allow employees with a change in family circumstances to continue to work: namely, a program with limited workplace options due to childcare or elderly care; a re-employment program for employees who have forced to leave a company due to needs related to childcare or elderly care; and a work-leave program due to work re-assignment of a spouse. We also have a career support program for employees who take child care leave to facilitate their return to work.

#### Child Care Support Programs

Leave of absence for child care (up to the end of a fiscal year after the child turns 3)	Work-at-home program
Short working hours for child care (up to the beginning of the 4th grade of the child)	Limited workplace options
Time-off for child care (only for female employees)	Subsidy for use of child care and other facilities
Limit to overtime and night work	Use of outside services to find a nursery
Off-days needed for child care and nursing care	Use of support services of wiiwiw, inc.
Special occasion paid holidays	Benefits for child care leave (Mutual aid associations)

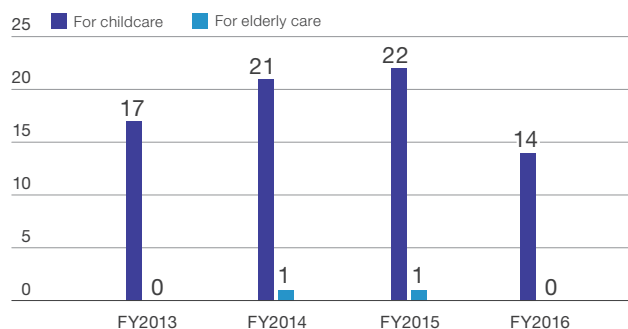
#### Number of Employees Taking Childcare Leave



\* Employees taking childcare leave ranging over two years are counted in both years.

\* Employees of Cosmo Oil (including those seconded outside, and excluding seconded employees to Cosmo Oil from other companies)

#### Employees Working Reduced Hours



\* Employees taking childcare leave ranging over two years are counted in both years.

\* Employees of Cosmo Oil (including those seconded outside, and excluding seconded employees to Cosmo Oil from other companies)

## Reducing Long Working Hours

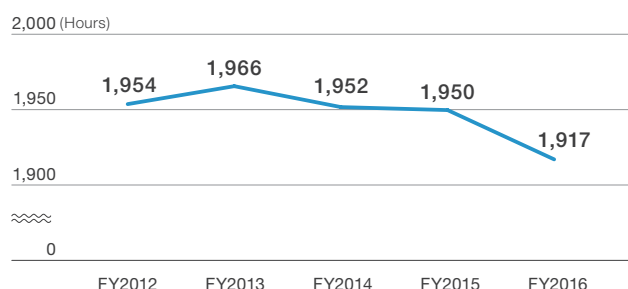
### Enhancing productivity and achieving appropriate working hours

Valuing the health of employees and working to facilitate work-life balance, we have aimed to optimize working hours by improving productivity since FY2014.

Targeting at 1,900 total annual work hours, initiatives in FY2015 include the encouragement of employees to work mornings rather than nights (revision in additional pay rate for overtime), to take a so-called "refresh day" (no-after-hours work day), to turn off the light in the workplace at 20pm (to discourage non-essential after-hours work), and to factor in the actual number of hours worked by subordinates and its improvement into personnel assessment of managers. These efforts have resulted in a decline in working hours for the third consecutive year and more employees have made plans to take their paid holidays.

In FY2017, we plan to continue these initiatives and also to introduce a new IT system for achieving higher productivity and workstyle innovation.

#### Total Annual Work Hours



\* Cosmo Energy Holdings, Cosmo Energy Exploration & Production, Cosmo Oil, and Cosmo Oil Marketing (including employees seconded from Cosmo Engineering and Cosmo Trade & Service)

#### Average Monthly Overtime Hours and Average Annual Paid Holidays Taken

	FY2012	FY2013	FY2014	FY2015	FY2016
Average monthly overtime hours	22.5 hours	23.2 hours	22.3 hours	22.5 hours	19.6 hours
Paid holidays taken	17.8 days	17.4 days	17.7 days	18.4 days	18.5 days

\* In the case of employees who join the company in April: 15 paid holidays in their first year, then 17 days after one year of employment, 19 days after two consecutive years, and 21 days after three consecutive years.



## CSR Initiatives of the Cosmo Energy Group

## Promoting Environmental Initiatives

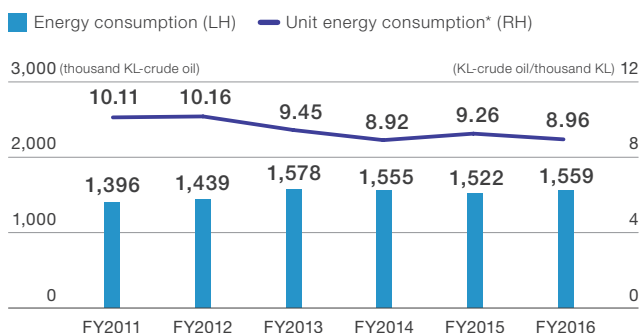
The Cosmo Energy Group advocates “promoting environmental initiatives” as one of the priorities of our CSR Initiative Policy. In the Consolidated Medium-Term Environmental Plan (FY2013-2017), we have three priorities: responding strategically to global warming while ensuring business continuity, reducing environmental impact, and promoting environmental contribution activities. We are taking action to realize the corporate messages of “Living with Our Planet” addressed to society.

## Initiatives in Response to Global Warming

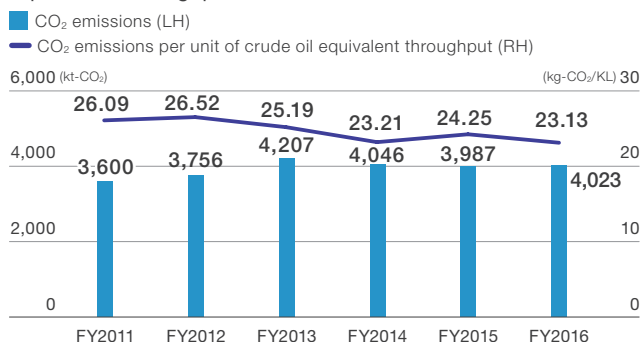
## Energy conservation at refineries

The Cosmo Energy Group's refineries represent over 60% of CO<sub>2</sub> emissions generated by the Group. The Group is working to reduce this figure and conserve energy by introducing high-efficiency equipment and improving operational performance. In FY2016, an increase in crude oil refining volume resulted in an increase of the aggregate amount of energy consumption. However, due to the promotion of energy conservation activities at refineries, unit energy consumption and CO<sub>2</sub> emissions per unit of crude oil equivalent throughput decreased compared to the previous year.

## Energy Consumption and Unit Energy Consumption



\* Unit energy consumption indicates total energy consumption divided by the total crude oil equivalent throughput, taking into account the complexity of refining technology. The unit used is kiloliters of crude oil equivalent/thousand kiloliters (KL-crude oil/thousand KL). Total energy consumption is calculated by converting heat, electricity, and other energy use into the thousand kiloliters of crude oil equivalent (thousand KL-crude oil).

CO<sub>2</sub> Emissions and CO<sub>2</sub> Emissions per Unit of Crude Oil Equivalent Throughput

\* As the Sakaide Refinery was turned into a distribution terminal in FY2014, the data has been collected from three refineries since FY2014, compared to from four refineries up to FY2013.

\* In addition to the figures shown in the graph, N<sub>2</sub>O released from the catalyst regeneration tower amounted to 17 kt of CO<sub>2</sub> equivalent in FY2016.

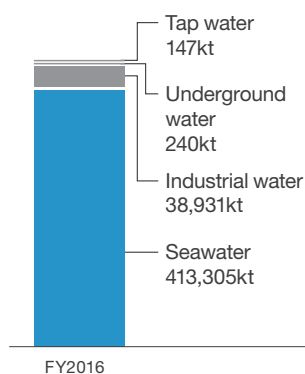
## Reducing Environmental Impact

## Use of water and water discharge measures

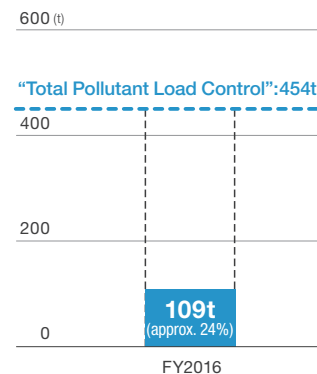
The Cosmo Energy Group's refineries and plants use a vast amount of water (over 90% is seawater) mainly for cooling but also for cleaning and boiler feed water. In FY2016, 452,622kt of water was used, of which 38,931kt was industrial water. We are striving to use water efficiently, including the reuse and recycle of water.

Concerning water discharge, we discharge the seawater used for cooling into the sea, and properly treat the water used for cleaning and other operating processes at stricter levels than required by the legal standard levels for minimizing environmental impact when discharged. In FY2016, the total amount of Chemical Oxygen Demand (COD, an indicator used to quantify the amount of oxidizable pollutants found in water discharge) was at a low level, equivalent to about 24% of the “Total Pollutant Load Control amount” (annual value for reference.)

## Amount of Water Used



## COD Load of Effluent



\* The amount is an aggregate amount for refineries and plants of Cosmo Oil, Cosmo Matsuyama Oil, and Cosmo Oil Lubricants.

\* Total Pollutant Load Control amount (annual value for reference): The prescribed daily load is multiplied by 365 to get an annual amount. In the case that the amount temporarily exceeds the legal limit, we report to the relevant authority and promptly take measures to make the amount fall below the legal limit.

## Environmental Impact of Business Activities in FY2016

INPUT		Business Activities	OUTPUT	
<b>Energy</b>			<b>Emissions</b>	
Fuel	22,487 TJ		CO <sub>2</sub>	1,254 kt-CO <sub>2</sub>
<hr/>			<hr/>	
<b>Energy</b>			<b>Emissions</b>	
Fuel	11,033 TJ		CO <sub>2</sub>	754 kt-CO <sub>2</sub>
<hr/>			<hr/>	
<b>Petroleum Business</b>			<b>Petroleum Business</b>	
<b>Energy</b>			<b>Emissions</b>	
Purchased power	3,828 TJ (395,519 MWh)		CO <sub>2</sub>	4,029 kt-CO <sub>2</sub>
Fuel	56,681 TJ (crude oil equivalent 1,462 thousand KL)	SO <sub>x</sub>	3,244 t	
		NO <sub>x</sub>	2,036 t	
<b>Water</b>		<b>Water discharge</b>		
Seawater	389,088 kt	Water discharge	399,645 kt	
Industrial water	36,492 kt	Chemical oxygen demand (COD)	106 t	
Underground water	240 kt	<b>Industrial waste</b>		
Tap water	151 kt	Final disposal	83 t	
<b>Petrochemical Business</b>			<b>Petrochemical Business</b>	
<b>Energy</b>			<b>Emissions</b>	
Purchased power	1,440 TJ (148,439 MWh)		CO <sub>2</sub>	2,404 kt-CO <sub>2</sub>
Fuel	41,919 TJ (crude oil equivalent 1,082 thousand KL)	SO <sub>x</sub>	792 t	
		NO <sub>x</sub>	897 t	
<b>Water</b>		<b>Water discharge</b>		
Seawater	29,340 kt	Water discharge	33,770 kt	
Industrial water	20,898 kt	Chemical oxygen demand (COD)	64 t	
Underground water	42 kt	<b>Industrial waste</b>		
Tap water	0 kt	Final disposal	467 t	
<b>Products</b>	Production of oil products 23,908 thousand KL	Electricity sold <sup>5</sup> 134,279 MWh	Steam sold <sup>6</sup> 4,127 TJ	CO <sub>2</sub> sold 144 kt-CO <sub>2</sub>
<b>Energy</b>			<b>Emissions</b>	
Purchased power (storage)	132 TJ		CO <sub>2</sub> (storage)	28 kt-CO <sub>2</sub>
Fuel (storage)	275 TJ		CO <sub>2</sub> (transport)	183 kt-CO <sub>2</sub>
Fuel (transport)	2,636 TJ	<hr/>		
<b>Energy</b>			<b>Emissions</b>	
Purchased power	474 TJ		CO <sub>2</sub>	22 kt-CO <sub>2</sub>
Fuel	1 TJ		<hr/>	
<b>Energy</b>			<b>Emissions</b>	
Purchased power	102 TJ		CO <sub>2</sub> (product use)	52,455 kt-CO <sub>2</sub>
Fuel	56 TJ		SO <sub>x</sub> (product use)	144,481 t
		CO <sub>2</sub> (electricity sold)	65 kt-CO <sub>2</sub>	
		CO <sub>2</sub> (steam sold)	202 kt-CO <sub>2</sub>	
			<b>Emissions</b>	
			CO <sub>2</sub>	9 kt-CO <sub>2</sub>
<hr/>			<hr/>	

1. "Crude oil production" and "Crude oil transport" are estimated based on LCI for Petroleum Products by Fuel and Environmental Impact Assessment for Petroleum Products, published in March 2000 by the Japan Petroleum Energy Center.

2. For "Manufacturing" and subsequent stages, energy consumption is calculated in accordance with the Act on the Rational Use of Energy.

3. CO<sub>2</sub> emissions for "Manufacturing," "Product transport and storage (oil depots)," and "Sales (service stations)" (based on data from Cosmo Oil Sales Corp.), "R&D centers, offices, and other facilities" are calculated in accordance with a manual for GHG emissions accounting, reporting, and disclosure systems published by Japan's Ministry of the Environment and Ministry of Economy, Trade and Industry.

4. Figures given for "Manufacturing" include data from Cosmo Oil's three refineries, Yokkaichi Kasumi Power Station, and Cosmo Oil Lubricants in the Petroleum Business and Cosmo Matsuyama Oil and Maruzen Petrochemical in the Petrochemical Business. However, figures for SO<sub>x</sub> and NO<sub>x</sub> exclude data from Cosmo Oil Lubricants.

5. "Electricity sold" refers to electricity supplied externally by Cosmo Oil's Chiba Refinery and Maruzen Petrochemical's Chiba Plant. CO<sub>2</sub> emissions from "Manufacturing" were calculated by deducting the portion of CO<sub>2</sub> emissions attributed to electricity sold. CO<sub>2</sub> emissions from utility (power) were included in the CO<sub>2</sub> emissions from "Manufacturing."

6. "Steam sold" refers to steam sold by the Chiba Refinery, Cosmo Matsuyama Oil, and Maruzen Petrochemical's Chiba Plant. CO<sub>2</sub> emissions for "Manufacturing" were calculated after deducting the portion of CO<sub>2</sub> emissions that results from the generated steam sold.

7. CO<sub>2</sub> emissions from "Product transport" include data from the specified consigners in accordance with the Act on the Rational Use of Energy.

8. CO<sub>2</sub> emissions for "Consumption (product use)" are calculated by multiplying shipped volume of fuel products (such as gasoline and heavy fuel oil) by CO<sub>2</sub> emission coefficient. CO<sub>2</sub> emissions attributable to generated "Electricity sold" and "Steam sold" are calculated separately.

9. SO<sub>x</sub> emissions for "Consumption (product use)" are for reference, and were estimated from the sulfur content of products without accounting for sulfur reduction during use. Accordingly, actual SO<sub>x</sub> emissions are lower than the estimate.

10. Data for "R&D Centers" includes the R&D Center of Cosmo Oil, the R&D Laboratory of Cosmo Oil Lubricants, and Research Center of Maruzen Petrochemical.

11. Figures given for "Offices and other facilities" are the amount of electricity use of Cosmo Energy Holdings, Cosmo Energy Exploration & Production, Cosmo Oil, Cosmo Oil Marketing, Group companies that share the eco-office activities, and Maruzen Petrochemical.

\* The Cosmo Energy Group's total direct (Scope 1) emissions from business activities were 6,060kt CO<sub>2</sub> equivalent, and its indirect (Scope 2) emissions were 431kt CO<sub>2</sub> equivalent.



## CSR Initiatives of the Cosmo Energy Group

# Implementing Better Communication with Society

Our mission and role as a company that supports energy infrastructure centered on oil are substantial. We believe that our obligations are to establish a system to maintain the stable supply of energy and to continue our own environmental activities through our business activities in order to resolve social issues in the world.

## Structure to Persistently Protect Stable Supply

### Business continuity plan (BCP)

We have revised the Earthquake BCP Manual in tandem with the transition to a holding company structure, established Crisis Response Headquarters respectively at the holding company and other Group companies, and changed the system to initiate the BCP. Moreover, even if we are unable to establish the Crisis Response Headquarters at the head office due to factors such as an earthquake directly under the Tokyo metropolitan area, we have prepared manuals for the Provisional Crisis Response Headquarters to be established at the Cosmo Oil Sakai Refinery and the Kansai Branch of Cosmo Oil Marketing. In FY2017, we are planning to conduct more effective training.

### BCP facilities at head office

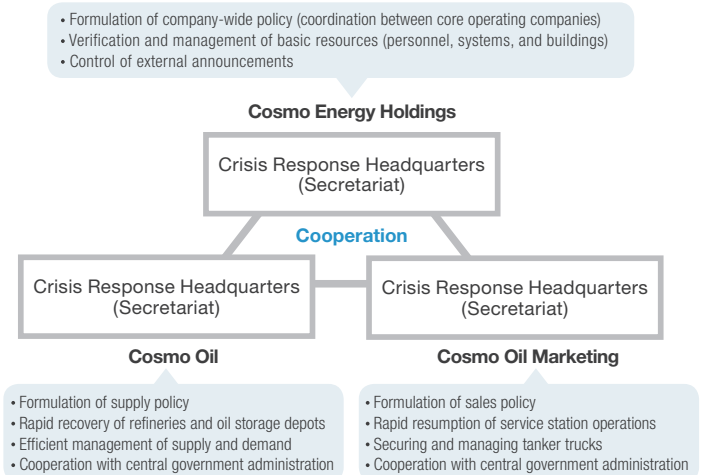
The Group has installed satellite phones and MCA wireless\* at each business site, and has a system that enables communication to be conducted even in situations where fixed phones and mobile phones cannot be used. Furthermore, at the head office, emergency-use generators have been installed while, in the main conference room, which is to be used as the Crisis Response Headquarters, power switching boards for normal use and emergency use (BCP enabled boards) and electrical outlets that can be used when using emergency-use power sources (BCP enabled electrical outlets) have been installed.

\* A Multi-Channel Access (MCA) radio system is a business-use mobile communication system that can be used at the time of a major disaster in Japan.

### Crisis response headquarters training

Since FY2015, we have been conducting training to ensure business continuity, based on the assumption that an earthquake may occur directly under the Tokyo metropolitan area and the headquarters will be unable to function. On October 17, 2016, we carried out a drill to set up a provisional crisis response headquarters at a refinery and branch in the Kansai region, on behalf of the headquarters in Tokyo. By collecting damage information and conducting procedures to maintain supply, we verified the items required until the resumption of shipments. After resolving the issues extracted from this training, we have reflected improvement points in manuals, and we intend to capitalize on them. As part of risk management, we will continue to conduct BCP training in an integrated way and strive for the stable supply of petroleum products.

### BCP organizational structure



### Summary of Earthquake BCP of Cosmo Energy Group

Key points	<ul style="list-style-type: none"> <li>• Unifies disaster estimation in the BCP framework and the BCP manuals of each division</li> <li>• Estimates damage at each company and each division based on disaster assumptions</li> <li>• Clarifies business continuity objectives in terms of the Company, based on disaster assumptions and damage estimations</li> <li>• Separates operational flow at each company and each division chronologically, clarifies operational details during this period, and strengthens inter-divisional cooperation</li> </ul>
Basic policy	(1) Priority on human life, prevent secondary disaster, secure stable supply (2) Rapid restoration of sequential supply chain BCP (encompassing the scope from refineries and oil depots to service stations) (3) Consistency with "Japan's Petroleum Supply Plan for Disasters"* based on the Oil Stockpiling Act
Scenarios	Major earthquake in Tokyo and/or Nankai Trough great earthquake
Business continuity objectives	We will strive to continue oil refinery shipments to service station operations to prevent suspension of the stable supply of oil products or enable resumption within 24 hours.
Advance response (disaster prevention, disaster mitigation)	<ul style="list-style-type: none"> <li>• Regular implementation of earthquake BCP training</li> <li>• Hardware countermeasures against earthquakes and tsunami (safe shutdown of equipment, lateral flow countermeasures, etc.)</li> </ul>

\* Plans where oil refiners supply oil by cooperating in implementing joint operations, including the establishment of a joint operating system, joint use of facilities, and cooperation relating to transportation



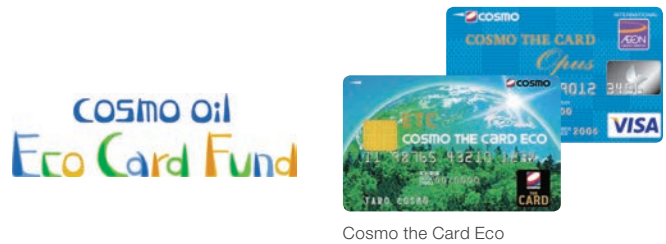
Training at the provisional crisis response headquarters



## Unique Environmental Social Contributions Utilizing Business Activities

### “Cosmo Oil Eco Card Fund”

The Cosmo Energy Group has been issuing the Eco Card as a membership card to our loyal customers who frequently use our service stations and have a high level of environmental consciousness since 2002. There are 64,000 card holders. This Eco Card has an add-on feature to contribute to environmental activities: both card members and the Cosmo Energy Group make donations to fund the Cosmo Oil Eco Card Fund, which supports projects to counter environmental problems across the world. In FY2016, the Fund supported 14 projects, and was involved in a project to plant 35,000 trees as well as another to preserve a 38,000 hectare forest. The roots of climate change problems are often poverty, education, economic growth, and other social issues in emerging countries. The projects the Fund supports tend to help resolve these issues as well. In FY2016, we received an award from a local government for our contribution to a project in the Solomon Islands in the South Pacific. This project, which began in 2002, aimed to balance the preservation of tropical rain forest and economic growth. We will continue to help resolve social issues in the world jointly with our Eco Card members.



Cosmo the Card Eco



Award ceremony in the Solomon Islands

Detailed information

Cosmo Oil Eco Card Fund Activity Report 2017  
<https://ceh.cosmo-oil.co.jp/eng/envi/ecoreport/index.html>

### “Cosmo Earth Conscious Act” cleanup campaign

Since 2001, the Cosmo Energy Group, in a partnership with the Japan FM Network Association, has been promoting Cosmo Earth Conscious Act initiatives for the preservation and conservation of the global environment. These efforts include cleanup campaigns, where participants enjoy nearby nature while cleaning up throughout Japan.

At 631 locations over the past 16 years, 239,590 participants of these campaigns have collected a total of 6,852,072 liters of garbage.

Each summer, a cleanup campaign is also held at Mt. Fuji. Ken Noguchi, a Japanese alpinist, and 160 volunteers from all over Japan clean up Mt. Fuji while enjoying eco trekking.



Cleanup Campaign in Mt. Fuji



Digging up and collecting garbage that was unlawfully dumped and buried on Mt. Fuji

### Social contribution activities

Based on “Harmony and Symbiosis between Companies and Society,” one of the principles of the management philosophy, the Cosmo Energy Group is undertaking various social contribution activities.

The Cosmo Waku Waku Camp, a nature camp for elementary school-aged children who have lost their parent(s) in traffic accidents, is a representative project that was launched in 1993. At the 24th camp in FY2016, 42 children and nine voluntary employees participated. The children experienced gorge climbing, thinning of trees, and craft production using the felled trees to appreciate nature for three days.



Cosmo Waku Waku Camp

Detailed information

Website on social contribution  
<https://ceh.cosmo-oil.co.jp/eng/social/index.html>