Cosmo Matsuyama Oil Co., Ltd.

Address: 3-580 Okaga, Matsuyama-shi, Ehime-ken Start of operations: February 1944
Area: 532,879 m^2 Employees: 102 Business activities: Production and sales of fuel oils, petroleum products, petrol solvents and liquefied gases (as of March 2003)

■Regulated pollutants

	Pollutant	Regulation	Type of control	Standard	Actual performance	
					Maximum	Average
Air pollutants	Nox (m3n/hour)	–	–	–	16.18	12.47
	Sox (m3n/hour)	Pollution control agreement	Total pollutant load	208	68.30	46.44
	Particulate (boiler) (g/m3n)	Pollution control agreement	Concentration	0.17	0.05	0.04

	Pollutant	Regulation	Type of control	Standard	Actual performance	
					Maximum	Average
Water pollutants	COD (kg/day)	Note 1	Total pollutant load	363.3	66.7	6.6
	COD (mg/l)	Prefectural ordinance	Concentration	15(10)	5.1	3
	SS (mg/l)	Prefectural ordinance	Concentration	20	5	3
	Oil content (mg/l)	Prefectural ordinance	Concentration	2	Below measurement threshold	
	Nitrogen (mg/l)	Water Pollution Control Law	Concentration	120(60)	0.89	0.53
	Phosphorus (mg/l)	Water Pollution Control Law	Concentration	16(8)	0.17	0.11
	Phenol (mg/l)	Prefectural ordinance	Concentration	0.3	Below measurement threshold	

Note 1: Law for Special Measures for the Conservation of the Seto Inland Sea

Figures in parentheses = daily average

■Environmental performance

	Amount
Energy	55,574 kl-crude oil/year
CO2	145,380 t-CO2/year
SOx	965 t/year
NOx	193 t/year
COD	2.4 t/year
Industrial waste generated	649 t/year
Industrial waste recycled	517 t/year
Industrial waste sent to landfill	42 t/year

PRTR Law designated chemical substance	Releases/transfers
Ethylene Glycol (atmospheric releases)	2,200 kg/year
Xylene (atmospheric releases)	33 kg/year
Xylene (atmospheric releases)	11,000 kg/year
Xylene (releases to water bodies)	0.5 kg/year
1,2-Dichloroethane (atmospheric releases)	5,600 kg/year
1,3,5-trimethylbenzene (atmospheric releases)	290 kg/year
1,3,5-trimethylbenzene (releases to water bodies)	1.6 kg/year
Toluene (atmospheric releases)	20,000 kg/year
Toluene (transfers)	0.1 kg/year
Phenol (atmospheric releases)	68 kg/year
Phenol (releases to water bodies)	2.5 kg/year
Benzene (atmospheric releases)	4,600 kg/year
Benzene (transfers)	0.6 kg/year
Dioxins (atmospheric releases)	0.06 mg-TEC/year
Dioxins (releases to water bodies)	1.0 mg-TEC/year
Dioxins (transfers)	0.32 mg-TEC/year

■Environmental accounting

Item	Environmental costs (million yen)	
	Investments	Expenditures
1.Business area costs	0	79
Global environment costs	0	72
Pollution prevention cots	0	0
Resource circulation costs	0	7
2.Upstream/downstream costs	10	475
Green procurement costs	0	0
Product environmental impact reduction costs	10	475
Product sulfur reduction costs	0	0
Gasoline	0	0
Naphtha	0	0
Jet fuel	0	0
Kerosene	0	0
Diesel fuel	0	0
Heavy fuel oil A	0	0
Heavy fuel oil C	0	0
LPG	0	0
Cost of substituting toxic substances in gasoline	2	359
Cost of reducing aromatics in petrochemical pruducts	8	116
3.Management activity costs	0	40
4.Research and development costs	0	0
5.Social activity costs	0	0
Total	10	594

Cost of purchasing recycled paper 0 (million yen)

Item	Environmental protection effects Reduction of environmental impacts (2001 value minus 2002 value) Environmental impact
1.Business area effects	
Effects of reduction in resource inputs	(TJ)
Energy input	59
	(thousand t)
Water input	721
Effects of reduction in emissions and waste generation	
Releases to the atmosphere	(thousandt-CO2)
CO2	6
	(t)
SOx	16
NOx	-6
Benzene	3.5
Releases to water bodies	(t)
COD	0.0
Industrial waste emissions	(t)
Generated	-333
Recycled	-402
Sent to landfill	54
2.Upstream/downstream effects	
Effects of reducing environmental impacts of products	
Reduction of sulfur in products	(potential SOx emissions, t)
High octane gasoline	0
Regular gasoline	1
Naphtha	6
Jet fuel	36
Kerosene	3
Diesel	1
Heavy fuel oil A	-22
Heavy fuel oil C	0
LPG	0
Total	24
	(t)
Reducing benzene in gasoline	-71
	(kL)
Effects of reducing aromatics in petrochemical products	184 (thousandt-CO2)
CO2 emissions from product use	135