

Environmental Accounting

In order to bring about the greatest possible environmental performance at the lowest possible cost, Komatsu manages its environmental activities based on a standard set of indices. The company will apply this concept to Group manufacturing facilities both in and outside Japan.

Concept of Environmental Accounting

Komatsu began releasing environmental accounting data in FY1999 in order to manage ongoing and effective environmental conservation activities and disclose to its customers, shareholders, and all other stakeholders the content, cost, and effects of those activities. In FY2000, the company expanded this environmental accounting to its manufacturing facilities outside Japan. The costs of environmental conservation are calculated in accordance with guidelines and manuals published by the Ministry of the Environment of Japan.

Environmental accounting is still in the developmental stages. In the future, Komatsu intends to monitor efficiently the costs and effects of environmental conservation in light of the life cycles of its products and build a new environmental accounting system that can be an effective tool for evaluating environmental management.

Costs and Environmental Effects of Environmental Conservation

Komatsu's investment in Japan increased to 1,304 million yen, a 7% year-on-year jump despite the previous year's already high figures, as a result of increases in environmental conservation-related investment in keeping with the expansion in production capacity that occurred against the backdrop of expansion of the global market for construction and mining equipment, among other factors. In particular there was an increase in investment in measures to control environmental impact in manufacturing facilities, namely improvements in pollution mitigation and prevention equipment, including enhanced functioning capacities of wastewater processing facilities, and energy conservation-related measures.

Research and development costs in Japan remained at a very high level just as in the previous fiscal year, at 12,832 million yen. Substantial research and development expenditures were devoted to reducing the environmental impact of products, especially in the development of new products that meet Tier 3 emission standards, which became effective in 2006. As a result, the environmental conservation costs arising from R&D activities accounted for over 70% of the com-

pany's total expenditures, as in the previous fiscal year. With regard to expenditures at its manufacturing facilities, Komatsu was able to reduce the cost of maintaining equipment through improvements in control efficiency, offsetting fees for ESCO services and other energy conservation-related costs as well as fees resulting from greater amounts of waste for disposal resulting from increases in production volume (waste processing fees), ultimately resulting in holding expenditures to the same level as the previous fiscal year. These costs reflect expenses involved in surveys related to soil and groundwater contamination conducted at land tracts owned by the company as well as remedial countermeasures. Furthermore, concerning the effects of environmental conservation, numerical data about the following items have been disclosed.

Environmental performance improvements that can be measured quantitatively

Net economic effects that contribute to earnings through cost reduction and avoidance and that can be directly measured in monetary terms: In FY2006, Komatsu was able to achieve considerable positive economic effects as a result of energy conservation improvements. Moreover, the reuse of furnace slag in roadbed materials has increased steadily.

The effects of reducing the environmental impact of Komatsu's products during use and the non-economic effects of external activities are still being estimated.

Management Based on Environmental Impact Point*¹ (EIP)

With the aim of obtaining maximum ecological benefit (environmental performance) with minimum economic cost (financial performance), Komatsu integrated a standard set of indices for assessment of all environmental impacts attributable to its manufacturing facilities. This has made it possible not only to express quantitatively (numerically) such qualitative terms as "environment-friendly plant" but also to show clearly the progress of targets and measures. Furthermore, as a rational environmental impact assessment index (JEPIX)*² well adapted to the actual conditions of environmental activities in Japan was developed, Komatsu decided to adopt this analytical technique in

Environmental Costs (Investments and expenses)

Top figure: Komatsu and Komatsu Group's manufacturing facilities in Japan
Bottom figure: Komatsu Group's manufacturing facilities outside Japan

Category	Investment			Expenses		
	FY2005		FY2006	FY2005		FY2006
	Investment* (millions of yen)	Investment* (millions of yen)	Contents	Expenses* (millions of yen)	Expenses* (millions of yen)	Contents
(1) Business area cost	1,063 596	1,071 558		2,823 2,075	3,027 2,483	
1. Pollution prevention cost	483 421	669 359	• Investment for installation and conversion of pollution mitigation/prevention facilities (installation of effluent processing facilities, conversion of coating booths, etc.)	903 606	836 623	• Cost of maintaining equipment for mitigation/prevention of air and water pollution and for noise and vibration prevention (labor and depreciation costs)
2. Global environmental conservation cost	457 150	349 190	• Investment for implementing energy conservation measures (introduction of solar energy generation, installation of new ventilation systems, etc.)	950 468	1,027 647	• Cost of maintaining energy conservation facilities, such as cogeneration systems (labor and depreciation costs)
3. Resource circulation cost	123 25	53 9	• Investment for reducing the volume of waste materials (conversion of recycling facilities, introduction of equipment for separating waste, etc.)	971 1,001	1,164 1,214	• Waste materials processing cost
(2) Upstream/downstream cost	0 0	0 0		259 740	311 1,962	• Reduction of the environmental impact of components, etc. when shipping to outside Japan • Reduction of the environmental impact of mass-production units
(3) Administration cost	13 0	14 0	• Investment for beautifying manufacturing sites	605 412	613 801	• Cost of maintaining environmental management systems • Cost of creating green spaces and beautifying manufacturing sites
(4) R&D cost	142 15	219 23	• Investment in research facilities for reduction of environmental impact	13,449 602	12,832 836	• Cost of R&D activities to reduce the environmental impact of products • Cost of R&D activities to develop environment-friendly equipment
(5) Social activity cost	0 0	0 0		7 7	13 27	
(6) Environmental remediation cost	0 0	0 125		147 7	662 109	• Cost of conducting surveys and remedial countermeasures related to soil and groundwater contamination
Total	1,219 611	1,304 707		17,291 3,843	17,457 6,219	

*All figures are rounded off to the nearest million yen.

FY2002. In addition, in order to enable visualization and facilitate understanding of which process is generating what environmental impact, the analytical method known as the "material flow network" was adopted in FY2003. Since FY2004, the company has raised the level of environmental management by increasing the number of wastes undergoing thermal recycling and chemical substances being assessed. Aiming to create truly zero emissions plants, Komatsu will be considering improvements from even more diversified aspects in the years to come.

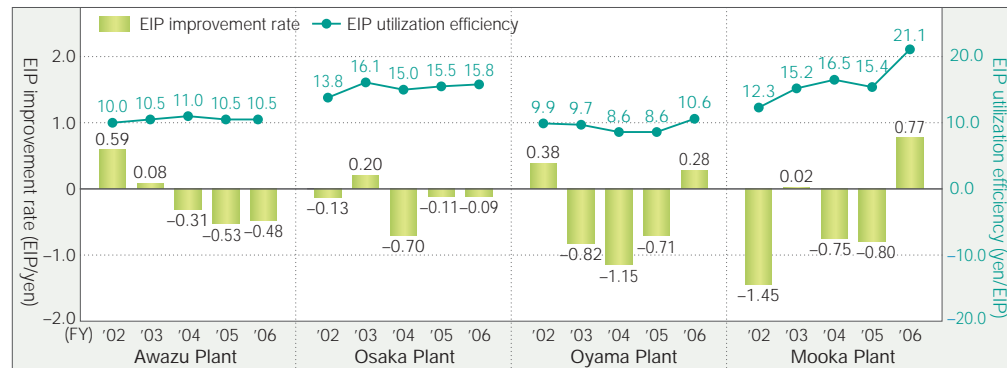
*1 An integrated index of various environmental impacts

*2 The Environmental Policy Priorities Index for Japan (JEPiX) was developed at International Christian University as part of the 21st Century COE Program of the Ministry of Education, Culture, Sports, Science and Technology.

Approaches to Environmental Accounting

Komatsu made an attempt to integrate the environmental impact of operations at each of its manufacturing facilities, associate the values obtained with environmental accounting, and use the two indices shown in the diagram below to evaluate the degree to which indices are being met for each of its manufacturing facilities.

Comparison and Trend of EIP Improvement Rates/EIP Utilization Efficiency



EIP improvement rate:

- Effect of environmental impact reduction in relation to cost (EIP/yen) for environmental conservation activities, enabling Komatsu to measure the extent of environmental impact reduction for each monetary unit of 1 yen for environmental conservation activities.
- This enables the company to assess the effectiveness of environmental conservation activities.

EIP utilization efficiency:

- Manufacturing value in relation to the degree of environmental impact (yen/EIP), enabling Komatsu to measure the amount of monetary value added (manufacturing value) in relation to the degree of environmental impact.
- This enables the company to assess the environmental impact utilization efficiency rate directly related to business activities.

Cost of environmental conservation activities:
costs + investment amounts – depreciation amount
EIP: Environmental Impact Point

Environmental Effects

Top figure: Komatsu and Komatsu Group's manufacturing facilities in Japan

Bottom figure: Komatsu Group's manufacturing facilities outside Japan

Environmental impact reduction effects			Economic benefits			Avoidance benefits of environmental risks (see Note below)	Contribution to profits (see Note below)
Items of environmental impact	Reduction volume (t/year)	Rate of year-on-year changes (%)	Type	Monetary value* (millions of yen)	Major activities		
CO ₂ emissions	13,584	-4.5	Energy conservation	720	•Energy conversion, etc.	<ul style="list-style-type: none"> • There were no accidents or pollution in Japan during FY2006 that led to violations of the law. • No litigation costs were required in Japan during FY2006. 	<ul style="list-style-type: none"> • Proceeds from mobile recycling equipment • Proceeds from value added due to reduced environmental impact of products (engines) • Proceeds from Reman business
	-11,567	6.7	Resource conservation	25			
Water consumption	110,897	-2.0	Waste materials reduction	222	•Promotion of recycling through thoroughgoing sorting		
	47,003	-5.8	Gain on sale of valuables	350	•Reuse of furnace slag for roadbed materials		
Waste materials generation	-2,985	10.7	Other	1			
	9,227	-9.4	Total	1,318			
				283			

*Figures are rounded off to the nearest million yen.

Note: Komatsu used statements instead of numeral figures to describe the "Avoidance benefits of environmental risks" and the "Contribution to profits." The company will further develop concepts and ways to understand effects in these categories. The sales amounts of businesses for content presented in "Contributions to profits" in FY2006 are as follows:

- Mobile recycling equipment business: 11.4 billion yen
- Engine business: 80.3 billion yen (While sales of engines, the power source for construction equipment, are derived from Komatsu's overall construction equipment business, the engine sales here indicate the total for intra-Group sales of engines from the Engine & Hydraulics Business Division, including both sales to companies not belonging to the Group and intra-company sales.)
- Reman business: 24.6 billion yen (Worldwide Reman business sales from April 2006 to March 2007)

As a result, it was found that the manufacturing facility that was most effective in reducing its environmental impact in FY2006 was the Mooka Plant, which had implemented energy conversion. Concurrently carrying out energy conversion, the Oyama Plant succeeded in decreasing total environmental impact, especially its volume of CO₂ emissions, despite an increase in manufacturing volume. In FY2006 the Mooka Plant furthermore obtained the equivalent value added (manufacturing value) with the least integrated environmental impact, achieving efficiency roughly double that of the Awazu Plant. From these facts, it follows that the Mooka Plant is the "most environment-friendly plant" when expressed in quantitative terms.

Komatsu considers it important to continue evaluating the degree of conformance to environmental standards set based on time-serial data obtained by using the two indices of overall environmental impact improvement efficiency and overall environmental impact utilization efficiency. In addition, Komatsu has plans to introduce this concept to the Komatsu Group's manufacturing facilities both in and outside Japan in order to practice ecological business management on a consolidated basis.

Effects on Society during the Product Use Stage*

Environmental impact reduction effects	Tangible benefits
<ul style="list-style-type: none"> • Environmental impact reduction resulting from on-site recycling methods • Environmental impact reduction resulting from product operation • Waste components reduction resulting from Reman business 	<ul style="list-style-type: none"> • Reduction of expenses for processing waste materials • Savings in operating and maintenance costs • Reduction of repair costs

*Concerning the effects on society derived from product use by customers, the major items of qualitative information are shown here as a reference.