

# Activities for Reducing Environmental Impact from Upstream and Downstream Operations

In keeping with the company's Environmental Action Plan for Procurement, Komatsu Group companies are responsible for conducting green procurement. Komatsu also continues to promote improvements in transport and packaging, bringing about greater efficiency in manufacturing and logistics through state-of-the-art technology such as electronic tags.



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Executive Officer  
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For Komatsu to provide to its customers products that are in harmony with the environment, it is necessary for raw materials and procured components and parts also to be goods and products that take the environment into account.

Komatsu utilizes two approaches to realize procurement that gives consideration to the environment—that is, Green Procurement. The first of these is the preferential purchasing of goods and products that have low environmental impact. At the same time, the company promotes towards its major business associates activities that educate and enlighten them with regard to environmental awareness as well as the creation of environmental management systems.

## Green Procurement

### Strengthening of Environmental Management in Major Business Associates

#### Promoting the Creation of Environmental Management Systems

In order for Komatsu systematically to enter into environmental conservation activities along with its business associates, Komatsu has distributed to these associates Environmental Check Sheets. In addition to becoming able to grasp their environmental management frameworks and environmental effects, Komatsu urges its business associates to acquire environmental management system (EMS) certification. However, since the current state of affairs, in which 61 of 126 companies have acquired such certification, is less than satisfactory, by FY2008 Komatsu will be promoting more strongly the acquisition of EMS certification such as ISO14001 or Eco-stage certification by every major business associate.

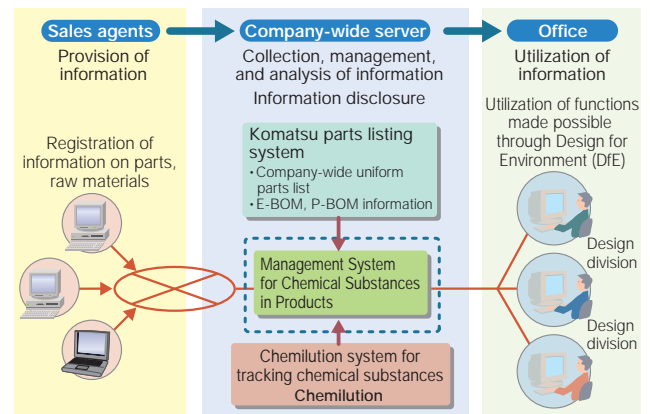
### Reinforcement of Reductions in Substances of Environmental Concern

In order to reduce the substances of environmental concern derived from raw materials and other sources, in December 1999 Komatsu distributed its Green Procurement Guidelines and called for the management of substances of environmental concern. In the future, in addition to identifying the chemical substances used in Komatsu products and reducing or eliminating the use of regulated substances, the company will by FY2010 establish a system whereby information from business associates will be collected and tabulated in order to create a means for conducting information disclosure at any time, to be known as the Management System for Chemical Substances in Products.

#### Environmental Action Plan for Procurement

Item	Results from FY2005			Cf. medium-term expansion plan for green procurement items (formulated in FY2003)			
	Total amount purchased (thousand yen/year)	Amount of green procurement items purchased (thousand yen/year)	%	Plan for FY2005		Plan for FY2010	
				Amount of green procurement items purchased (thousand yen/year)	%	Amount of green procurement items purchased (thousand yen/year)	%
Stationery items, office supplies	15,500	10,100	65%	8,500	55%	9,000	58%
				1,000 items originally approved for purchase not reduced (enhancing the monetary proportion procured)			
Toner cartridges	23,200	5,100	22%	7,000	30%	10,000	43%
				70 items approved for purchase			
Copy paper	19,200	15,837	82%	6,000	31%	8,000	42%
				9 items originally approved for purchase reduced to 5, with 100% being green products			
Total	57,900	31,037	54%	21,500	37%	27,000	47%

### Composition of the Komatsu System for Supporting Environment-friendly Design



### Promoting the Procurement of Materials with Low Environmental Impact

#### Example of Green Procurement of Office Supplies and Office Automation Products

With regard to office supplies and office automation products, Komatsu is making efforts to improve the monetary proportion of procured goods that have been purchased under green procurement, such as products that have an eco-mark. The target for FY2005 of purchasing 41% of such supplies was met, with the actual figure being 54%. Komatsu will continue its activities to increase further the monetary proportion of products obtained through green procurement.

## Environmental Conservation in Logistics

### Ongoing Activities to Improve Logistics

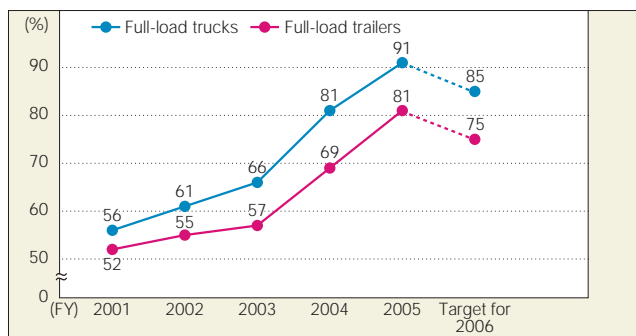
#### Improvements in the Manufacturing Process

In cooperation with Komatsu Forklift Co., Ltd., a Group company, Komatsu developed and introduced the KOMFORKAS system for forklift operation management, securing a 10% improvement in the rate of forklift utilization during the manufacturing process. In FY2006, Komatsu will expand the number of plants utilizing this system while introducing biodiesel fuel, among other measures.

#### Improvements in the Transport of Products

Building upon its results in FY2004, Komatsu has been actively expanding its collaborative transport alliance. As a result, the full-load round trip efficiency has improved dramatically for heavy load trailers and transport trucks, which in the past had been difficult to utilize in round trips due to insufficiencies in the number of vehicles available for logistics. Komatsu successfully realized its target under its five-year plan ahead of schedule.

#### Change in Full-load\* Trucks and Trailers (for transport of construction equipment)



\*Full-load ratio = number of loaded runs/total number of runs

#### Improvements in Packaging

Komatsu has been promoting process simplification (energy conservation) and return/reuse (resource conservation) through a change to steel pallets for packaging parts used in manufacturing by overseas companies. As a result, the company has achieved a steel-pallet implementation rate of 99.5% and a return/reuse rate over 90%.

In addition, these efforts were extended to replacement parts, which has been difficult to improve upon insofar as the shipping volume and shipment receiver vary with each shipment. By promoting the use of returnable packaging and steel pallets made to fit marine shipping containers, the company achieved approximately a 15% return ratio for packaging materials. The company intends to continue these efforts in FY2006 by expanding the parts and regions eligible for implementation.

Besides this, in FY2006, the company will promote packaging return/reuse (resource conservation) for parts supplied from Japanese corporations to Komatsu Group manufacturing facilities overseas.

#### Modal Shifts

At component plants for engines and hydraulic equipment, Komatsu has launched a shift from truck-based transport to rail-based transport in long-distance transport of components to vehicle body plants, resulting in 65 tons of annual CO<sub>2</sub> emissions reductions for FY2005. In the future, the company intends to expand the number of locations at which such measures are underway.

#### Building of New Plants

In order to meet expanding demand for construction equipment and industrial machinery, Komatsu has begun the construction of new environment-friendly plants at the ports of Hitachinaka in Ibaraki Prefecture and Kanazawa in Ishikawa Prefecture. Upon completion of these plants, through the reduction of overland transport of products to the ports, CO<sub>2</sub> emissions reductions of some 2,000 tons annually are expected.



Image of the Ibaraki Plant upon completion

## Overview of Komatsu's Environmental and Social Activities to Date

- 1962 •Continuous support of the Flower Association of Japan since its founding
- 1990 •Annual Directors' Caravan for Inter-office Communication (discussion sessions held when executive directors visit business units launched)
- 1991 •Clarification of Komatsu's corporate approach (Change of company name in Japanese public relations to "Komatsu", adoption of new corporate brand logotype)  
•Earth Environment Committee established
- 1992 •Komatsu Earth Environment Charter and Environmental Action Plan formulated  
•Marking of plastic parts conducted  
•Environment-friendly product mobile crusher BR60 put on the market
- 1994 •Statutory Auditors (Board) established  
•First *Environmental Report* published
- 1995 •Transition to alternatives for chlorofluorocarbons in air conditioning in construction equipment completed

- Biodegradable hydraulic fluid put into practical use
- Specified chlorofluorocarbons and 1,1,1-trichloroethane completely phased out
- Objective of acquiring ISO14001 certification at all Komatsu manufacturing facilities stated
- 1996 •Successful planting and raising of trees in tropical forest of Indonesia (2,500 trees)
- 1997 •Compliance Department established  
•Second *Environmental Report* published
- 1998 •Ethics Committee established (renamed Compliance Committee in 2001)  
•First edition of *Komatsu's Code of Worldwide Business Conduct* published
- 1999 •Executive Officer system established  
•Board of Directors reorganized (smaller Board; election of an external director)  
•Compensation Council established  
•All four Komatsu manufacturing facilities acquire ISO14001 certification
- 2000 •*Environmental Report* again published; thereafter, published annually
- 2001 •Environment-friendly construction equipment GALEO series put on the market, satisfying Tier II emissions regulations in Japan, the U.S., and Europe
- 2002 •All seven domestic Komatsu Group manufacturing facilities acquire ISO14001 certification  
•All four Komatsu manufacturing facilities attain zero emissions
- 2003 •Environmental Affairs Department established  
•Komatsu Earth Environment Charter revised
- 2004 •Corporate Social Responsibility Department established  
•Sixth revised edition of *Komatsu's Code of Worldwide Business Conduct* published  
•Komatsu Group business units acquiring ISO14001 certification total 30
- 2005 •Second Global Environmental Affairs Meeting convened
- 2006 •Environment-friendly construction equipment GALEO series put on the market, satisfying Tier III emissions regulations in Japan, the U.S., and Europe  
•Third Global Safety and Environmental Affairs Meeting convened  
•Attainment of zero emissions at all domestic manufacturing facilities