

# Environmental Action Plan and Results for FY2005

Komatsu has formulated an Environmental Action Plan (implementation policies) in each field for the practical implementation of the Komatsu Earth Environment Charter. Komatsu specifies its operational targets every fiscal year and keeps checking yearly developments, facilitating establishment of a strong base to implement the Action Plan.

## ■ Environmental Management

Implementation policies	Objectives for FY2005	Results (Asterisks indicate results for FY2005)	Mid- and long-term objectives	Further information
1. Implement Environmental Action Plan	Draw up and promote the Plan	*Conducted internal environmental auditing	Strengthening of sales- and service-related environmental activities	P. 16
		*Held Third Global Safety and Environmental Affairs Meeting	Strengthening of overseas environmental activities	P. 17
2. Environmental education and training: Implement the Plan	Draw up and promote the Plan	*Held ten lectures for over 2,500 attendees	Continuation of activities and lateral extension of activities to overseas facilities	P. 17
3. Environmental communication: Publish an environmental report	Formulate and publish the communication plan	*Published the report in July 2006 with enhanced coverage of environmental and social aspects	Reinforce quality of content: release report earlier than in previous years	—
4. Environmental accounting: Manage operations using standard indices for assessing environmental impact	Establish control with a standard set of indices in Komatsu Group facilities	*Compared the development of Komatsu's four manufacturing facilities by applying standard indices for assessing environmental impact	Lateral expansion to Group manufacturing facilities	P. 19

## ■ Research and Development

Implementation policies	Objectives for FY2005	Results (Asterisks indicate results for FY2005)	Medium- and long-term objectives	Further information
1. Reduce the environmental impact of construction equipment •Develop lower-emitting diesel engines •Proactively meet exhaust emissions regulations •Develop environment-friendly construction equipment (GALEO series) •Meet noise and vibration regulations •Meet medium-term objectives for development of environmental technology	Develop engine compliant with foreign emissions regulations	*Developed engine technology "ecot3" to meet Tier III emissions regulations entering into force in Japan, the U.S., and Europe in 2006	Develop engine compliant with Tier IV emissions regulations entering into force in 2011	P. 8
	Develop hydraulic excavator	*Developed PC200/210-8 mid-sized hydraulic excavator; reduced fuel consumption by up to 10%	Expand number of models compliant with Tier III emissions regulations entering into force in 2006	P. 21
	Develop bulldozer	*Developed D155AX large bulldozer; improved fuel efficiency by 25%		P. 22
	Take measures prior to enforcement of regulations	*EU Noise Regulations: Had met the more stringent noise control directive that went into effect in 2002 *EU Vibration Regulations: Publicly disclosed operator vibration values for all models of machines in advance of entry into force in 2007	Further reduce noise and vibration levels in expectation of next-stage regulations (around 2010)	—
	Attain medium-term objectives (for FY2005)	*Attained all objectives in CO <sub>2</sub> emissions reductions, recyclability ratio, and emissions of substances of environmental concern, except for hydraulic excavator recyclability ratio	Attain subsequent medium-term objectives (for FY2010). Work towards recyclability of counterweights in hydraulic excavators to improve recyclability ratio	P. 20
2. Provide customers with solutions for their environmental protection activities •Promote on-site recycling using mobile recycling equipment	Expand scope of application of recycling engineering and promote social recognition of recycling engineering	*Promoted on-site recycling of construction residuals at point of generation by mobile recycling equipment	Expand range of machines in the mobile recycling equipment series; expansion of areas of applicability	P. 22
3. Promote reuse and recycling •Promote Reman business •Reduce the environmental impact of Reman business •Acquire ISO14001 certification at Reman Centers	Put developments into actual use	*Promoted its Reman business (remanufacturing used machine components) on a global basis	Expand and promote Reman business	P. 23
	Acquired ISO14001 certification at one Reman Center	*Acquired ISO14001 certification at the Reman Center in Australia, for a total of five Centers acquiring certification out of seven Centers worldwide	Acquire ISO14001 certification within FY2006 at two remaining Centers	P. 23
4. Reduce environmental impact of industrial machinery •Address environmental issues from forge rolling machines	Develop large AC servo press	*Realized energy conservation (−40%), improvements in productivity (+35%), space minimization (−50%), noise reduction (−20dB)	Expand number of servo press models	P. 23

### External Commendations on Environmental Conservation and Social Activities and External Evaluations

#### 2005

- May** • Received Japan Construction Mechanization Association's Incentive Award for efforts to reduce environmental impact during construction work on Subway Line No. 13 (Tokyo Metro Co., Komatsu)
- Aug.** • Ranked 28<sup>th</sup> (Komatsu), 34<sup>th</sup> (Komatsu Forklift) in Nihon Keizai Shimbun newspaper's Second Annual Survey of Product Quality Management  
• Attained 38<sup>th</sup> in CSR ranking in Japan, *Nikkei Business* magazine, FY2005 (Komatsu)
- Sep.** • Ranked 94<sup>th</sup> in Nihon Keizai Shimbun newspaper's "2005 Most Pleasant Companies to Work For" overall ranking (Komatsu)
- Oct.** • Ranked 20<sup>th</sup> in American magazine *BusinessWeek's* "The Asian BusinessWeek 50—Leaders" (Komatsu)
- Nov.** • Chief Master Hiroimi Kawashima (Komatsu Osaka Plant) receives official commendation from Ministry of Health, Labour and Welfare for preeminence as a technician (contemporary master craftsman) for FY2005  
• Jungo Iwamoto, Shigenari Tsunoda, and Mamoru Okada receive the "Naniwa no Meiko" award of Osaka Prefecture, recognizing them as among Osaka's most preeminent technicians (Komatsu Osaka Plant)
- Dec.** • Ranked 85<sup>th</sup> (Komatsu), 154<sup>th</sup> (Komatsu Zenoah), and 237<sup>th</sup> (Komatsu Forklift) out of 558 manufacturing companies in Nihon Keizai Shimbun newspaper's: Nikkei Environmental Management Ratings

- Won an award in the Nikkei Annual Report Awards (Komatsu)

#### 2006

- Feb.** • Won Gold Prize in the First Awards of Excellent Successful ESCO Business, sponsored by the Energy Conservation Center (Komatsu Oyama Plant)  
• Received first prize in the Committee Chair's Award for Rationalization of Energy Use, presented by the Kanto Coordinating Committee for Effective Use of Electric Power (Komatsu Mooka Plant)  
• Received commendation from the governor of Toyama Prefecture in FY2005 Energy Conservation Month Awards in Hokuriku District, (Komatsu Castex Himi Plant No. 1)
- Mar.** • Ranked 11<sup>th</sup> in Nihon Keizai Shimbun newspaper's Nikkei PRISM (Private Sector Multi Evaluation System) evaluation of top companies in Japan (Komatsu)
- May** • Tohatsu environmental rating of A (Komatsu) \*34 companies earning A or above  
• Received Japan Construction Mechanization Association's Contribution Prize for development of ultra-low noise technology for large-scale construction machinery (Komatsu)  
• Received Toyo Keizai/Green Reporting Forum's Ninth Green Reporting Awards: Excellence Prize (Komatsu)

### External Commendations on Environmental Conservation and Social Activities (Overseas Commendations)

#### 2005

- May** • Low-noise small wheel loader received German "Blue Angel" eco-mark certification (Komatsu Hanomag GmbH)  
• Awarded gold medal from Indian safety-related NPO Greentech Foundation (L&T-Komatsu Limited)
- Jun.** • Commended as "corporate friend of schools" by Suzano Region Education Supervision body (Komatsu do Brasil Ltda.)
- Aug.** • Received First Alto Tiete Region CSR Award, sponsored by daily newspaper *Mogi News*, São Paulo, Brazil (Komatsu do Brasil)
- Nov.** • Commended in Umeå, Sweden as "Best Company in Umeå," FY2005 (Komatsu Forest AB)

#### 2006

- May** • Received British Royal Society for the Prevention of Accidents Gold Award for Occupational Health and Safety (Komatsu UK Ltd.)

## ■ Manufacturing

Implementation policies	Objectives for FY2005	Results (Asterisks indicate results for FY2005)	Medium- and long-term objectives	Further information
1. Environmental management system*: Encouraging Komatsu Group manufacturing facilities, including those overseas, to acquire ISO14001 certification by the end of FY2005	Acquire certification at one overseas facility Acquire integrated certification for Komatsu's four plants	*No newly-acquired certification *Upon Oyama Plant undertaking screening for certification renewal, undertook screening for integrated certification of Komatsu's four Plants (certification granted in May 2006)	Acquire integrated certification for the entire Komatsu company	P. 17
2. Reduction of greenhouse gas emissions: •Make a 25% improvement by FY2010 in volume of CO <sub>2</sub> emissions per unit of manufacturing value from the level of achievement in FY1990 at Komatsu manufacturing facilities	Improve 1.5% year on year	*Improved 17.7% from the level of achievement in FY1990; attained a 4.1% improvement over the previous year	Achieve by FY2010	P. 24
•Make a 25% improvement by FY2010 in energy consumption per unit of manufacturing value from the level of achievement in FY1990 at Komatsu manufacturing facilities		*Improved 20.2% from the level of achievement in FY1990; represents a 0.3% increase over the previous year	Re-express objectives in terms of CO <sub>2</sub> emissions volume	P. 24
•Make a 13% improvement in energy consumption per unit of manufacturing value from the level of achievement in FY2000 by FY2010 at the Komatsu Group's domestic manufacturing facilities		*Improved 14.3% from the level of achievement in FY2000; represents a 4.2% improvement over the previous year	Achieve by FY2005	P. 24
3. Effective use of resources •Maintain or make further progress on attainment of zero emissions (Komatsu parent company to maintain its zero emissions; Group companies to attain by the end of FY2005)	Attain zero emissions, including Group companies	*Attained zero emissions at all Group companies *Accomplished recycling ratio of 99.6% across the entire Komatsu Group	Maintain zero emissions; attain zero emissions at Komatsu Group manufacturing facilities overseas	P. 25
•Achieve a 50% reduction by the end of FY2005 in the unit waste volume from the level of achievement in FY1990 at Komatsu manufacturing facilities and Komatsu Castex Ltd. Himi Plant	Implement action plans at a model manufacturing facility Extend the activities to other manufacturing facilities	*Accomplished a 57% reduction in the unit waste volume from the FY1990 achievement level	Accomplish further reductions	P. 25
•Achieve a 50% reduction by the end of FY2005 in the unit waste volume from the level of achievement in FY1998 at the Komatsu Group's domestic manufacturing facilities		*Accomplished a 42% reduction in the unit waste volume from the FY1998 achievement level; represents a 10-percentage point improvement over the previous year	Achieve by FY2005	P. 25
•Achieve a 30% reduction by the end of FY2005 in unit waste processing costs from the level of achievement in FY2000 at the Komatsu Group's domestic manufacturing facilities		*Accomplished a 67% reduction in unit waste processing costs from the FY2000 achievement level	Accomplish further reductions	P. 25
•Achieve a reduction of greater than 5% by FY2005 in the volume of water consumed per unit of manufacturing value from the level of achievement in FY2002 at the Komatsu Group's domestic manufacturing facilities	Improve 5% year on year	*Accomplished a 28.1% reduction in the volume of water consumed per unit of manufacturing value from the FY2002 achievement level	Accomplish further reductions	P. 25
4. Environmental risk management •Implement voluntary reductions on the release of chemical substances Achieve a reduction of greater than 5% by FY2005 in the volume of PRTR-related substances released into the air per unit of manufacturing value from the level of achievement in FY2002	Firmly ensure the control of chemical substances; reduce volume of released chemical substances	*Increased 16.7% over the FY2002 achievement level	Achieve by FY2005; establish objectives and accomplish further reductions	P. 26
•Implement voluntary reductions on VOCs Achieve a reduction of greater than 50% by FY2006 in the volume of VOCs released per unit of manufacturing value from the level of achievement in FY2002		*Accomplished a 11.2% reduction from the FY2002 achievement level	Achieve by FY2006	P. 27
•Implement permanent measures required to renovate underground tanks in service for 20 or more years by FY2001 (142 tanks renovated out of 144 tanks at the Komatsu Group's domestic manufacturing facilities)	Renovate two remaining tanks	*Was unable to renovate (renovation extended to FY2006 or beyond)	Address sequentially all underground tanks in service for 20 or more years	P. 26

\*Komatsu is responsible for setting overall direction for Komatsu Group companies regarding environmental management. Each subsidiary is responsible for the implementation of related policies and measures.

## ■ Procurement and Logistics

Implementation policies	Objectives for FY2005	Results (Asterisks indicate results for FY2005)	Medium- and long-term objectives	Further information
1. Green procurement •Promotion of improvements at suppliers through the establishment of environmental management systems and by specifying matters that require environmental consideration	Grasp suppliers' organizations for environmental management by means of Environmental Check Sheets	*Grasped organizations for environmental management among Komatsu "Midori-kai" group members by means of Environmental Check Sheets (61 of 126 companies have acquired ISO14001 certification)	Implementation of environmental management system of ISO14001 or an equivalent at suppliers by FY2008	P. 28
2. Environmental conservation in logistics •Develop and commercialize Information Clearing House (ICH) system in domestic heavy material logistics beyond individual corporate frameworks	Fully implement integrated transport reform domestically	*Attained a 91% truck loading ratio (objective for FY2006 is 85%) *Attained a 81% trailer loading ratio (objective for FY2006 is 75%)	Accomplish further improvements	P. 29

## ■ Sales and Services

Implementation policies	Objectives for FY2005	Results (Asterisks indicate results for FY2005)	Medium- and long-term objectives	Further information
1. Carry out occupational health and safety and environmental conservation activities at sales agencies and rental companies based on relevant guidelines	Distribute guidelines; enhance awareness of safety and environmental issues	*Distributed Occupational Safety and Health Management System and Environmental Guidelines for use by sales agencies and rental companies and launched implementation *Conducted education by means of Safety and Environment Newsletter	Provide support for activities to all sales agencies and rental companies based on Occupational Safety and Health Management System and Environmental Guidelines	P. 36