

#### **Message from Top Management**



Amid the radical changes that the business environment has undergone due to the global economic downturn that started in September, 2008, Komatsu has been steadily implementing structural reforms to make the company leaner and stronger. During this time, we have been focusing our efforts on developing the human resources which will support our global business, through methods such as building awareness of Komatsu's universal sense of values explicitly defined in The KOMATSU Way.

Currently, our market is beginning to show signs of recovery, spurred on primarily by development in the emerging nations. Capitalizing on our strong corporate structure, which was achieved through ongoing structural reforms, Komatsu started a new threeyear Mid-Range Management Plan in April, 2010, under the title "Global Teamwork for Tomorrow," steering a new strategy for growth. In this plan, I set forth specific objectives that include enhancing added value of products by applying ICT (Information and Communication Technology), developing products for global environmental friendliness and safety, and strengthening regional business operations in emerging and resource-rich countries. These activities will not only advance Komatsu's business, but will provide us the opportunity to reduce impact on the global environment, and contribute to economic development and improvement in the standard of living through the products and services we provide to our customers throughout the world.

Today, the definition of CSR (Corporate Social Responsibility) is shifting away from its original meaning of being merely social contribution, to a broader meaning – asking what value a company brings to society. Komatsu recognizes that the business activities which embody our strength are in fact CSR activities that respond to the demands of society, and this is what we are determined to pursue.

#### Environmental Activities

Komatsu has placed environmental activities as one of the highest management priorities, and set new medium and long-term environmental targets for 2020. To meet these new targets, we are actively pursuing initiatives using measures that are both "proactive" and "protective."

On the "proactive" side, we are emphasizing reduction of CO2 emissions throughout product use, to help mitigate climate change. We introduced hybrid hydraulic excavators that reduce fuel consumption by an average of 25% to both Japanese and overseas (China and U.S.A.) markets. These products have been well received by the market and we are planning to expand the line to include 30-ton class hydraulic excavators and wheel loaders. We are also pursuing initiatives to reduce environmental impact throughout the product lifecycle by utilization of ICT in our products and ICT-assisted construction systems, and enhanced performance of AC servo presses. On other fronts, our Biodiesel Fuel Project is making headway, and we are working to facilitate more eco-friendly mining operations. Efforts to achieve an across-theboard reduction in CO2 emissions in manufacturing include a transition to high efficiency production lines and the use of heat pumps in air conditioning systems.

Komatsu has also taken a proactive position on environmental issues that is more than just measures to mitigate climate change. We are developing our "Reman" business outside Japan, remaking components into "remanned" equipment that has the same quality as newly manufactured components. We are striving for "zero emissions" in which all waste are recycled. Our efforts to maintain biodiversity include to cultivate plants typically grown in the region on a vacant lot which used to be the Komatsu Plant where we plan to build a new training center. We will make the site available for educating local school children on the environment, and will install equipment that can be used to do experiments for education in when teaching science and *Monozukuri* (manufacturing competitiveness).

On the "protective" side, we are developing construction equipment that meets the Tier 4 interim (Stage 3B) emission standards that will take effect in Japan, the U.S.A. and Europe in 2011, and are reducing the use of lead, mercury and other substances of environmental concern.

We will continue to maintain strong cooperation with our overseas affiliates, sales agencies, rental companies, and business associates around the world to bolster our environmental activities, with even higher objectives in sight.

#### Endeavors for Quality and Safety, and Social Initiatives

"Quality and Reliability" is the basic stance of Komatsu's management. This impacts our plants, suppliers and customer sites worldwide, as well as the entire spectrum of the Komatsu Group's corporate structure, businesses, employees, and management.

By providing products, services and systems that are safe and innovative from the perspective of the customer, Komatsu is working at becoming "a company that our customers cannot do without" and making this the essence our brand management. For our employees, who represent a precious resource for Komatsu, we are continuing our efforts to be a company worth working for, to ensure health and safety in the workplace, and to implement systems that support these efforts.

To enhance the trust placed in us by society and our stakeholders, we have been thoroughly implementing compliance throughout the Group, based on a variety of principles and rules. These include principles embodied in the United Nations Global Compact, which we signed in 2008, as well as in *Komatsu's Code of Worldwide Business Conduct* formulated in 1998. We are continuously pursuing activities that help fulfill our role as a good corporate citizen who responds to the needs of the regions we operate in. This

includes helping remove anti-personnel landmines in war-torn regions and providing recovery assistance in disaster-stricken areas.

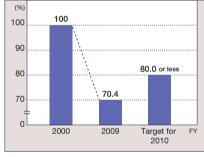
At Komatsu, all of our employees share the belief that "our corporate value is measured by the degree of trust placed in us by society and our stakeholders". As the Komatsu Group develops its businesses around the world, we will continue to pursue initiatives that instill the universal guiding principles of The KOMATSU Way in our employees, the backbone of our global business activities. At the same time, we continue to strive to be to our customers and society as a whole "a company that they cannot do without."

#### Kunio Noji

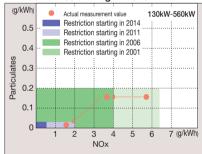
President and CEO

Kin Moj

#### CO<sub>2</sub> Emission Index per Unit of Manufacturing Value



#### **Exhaust Emission Regulations**



Planned Use of Vacant Lot at the Komatsu Plant



\* The United Nations Global Compact is a voluntary code of conduct in the four areas of human rights, labor, environment, and anti-corruption promoted by the United Nations for adoption by companies.

#### The Ten Principles of the Global Compact

[Environment]

[Human Rights] Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and

Principle 2: make sure that they are not complicit in human rights abuses.

[Labour Standards] Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4: the elimination of all forms of forced and compulsory labour;

Principle 5: the effective abolition of child labour; and

Principle 6: the elimination of discrimination in respect of employment and occupation.

Principle 8: undertake initiatives to promote greater environmental responsibility; and

Principle 7: Businesses should support a precautionary approach to environmental challenges;

Principle 9: encourage the development and diffusion of environmentally friendly technologies.

[Anti-Corruption] Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

#### 2009 Highlights



# **Customer Reactions to the Hybrid Hydraulic Excavators**

Komatsu has put hybrid hydraulic excavators on the market, not only in Japan but in China and the U.S. as well. On this occasion, we decided to ask some of our customers for their reactions.





# **Development of Engines Compliant with the Next Emission Standards**

Clearing the next emission standards, which will be implemented in a phased manner from 2011, is expected to require technology of the highest level.





#### P.8 Revision of the Komatsu Earth Environment Charter

For the first time in seven years, Komatsu has undertaken to completely revise its measures for meeting what has been described as one of the biggest challenges faced today – mitigating global warming and loss of biodiversity.

Komatsu Earth Environment Charter (June 2010 revision)

- <Corporate Principles>
- Contributions to Realization of Sustainable Society
- 2. Simultaneous Realization of Environmental and Economic Performance
- 3. Observance of Corporate Social Responsibility

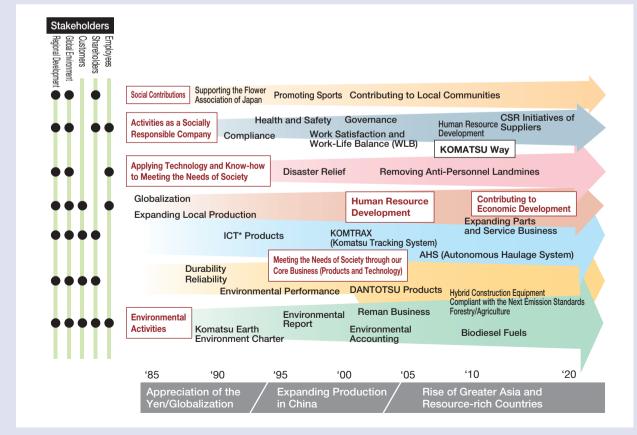


# Reducing CO<sub>2</sub> Emissions in Manufacturing Operations and Establishing New Medium-term and Long-term Targets

Komatsu has designated FY2015 as the new medium-term target and FY2020 as the new long-term target for contributing to mitigating climate change within the post-Kyoto Protocol framework.

	Medium-term plan 2015	Long-term plan 2020
Domestic unit of output com- pared with 1990	<b>4</b> 0%	<b>4</b> 3%
Overseas unit of output com- pared with 2005	<b>▲</b> 41%	<b>4</b> 4%

## **Business/Management Activities and CSR**



\*ICT Information and Communication Technology



#### P.23 Autonomous Haulage System

This is a new system proposed by Komatsu for controlling haulage equipment used in the mining industry. Through this system, the company will contribute to our customers' sustainability efforts and protecting the global environment.





# Assisting with Reconstruction after the Earthquake in Chile

When an earthquake struck Chile in February 2010, Komatsu provided assistance to the disaster area by supplying construction equipment, operators, cash donations and other support.



In light of the changing definition of CSR, we can look back on Komatsu's activities over the past 20 years and say that we were able, in some way, to meet the needs of society through the initiatives we took. We believe that in striving to be fully socially responsible, we are able to heighten the trust given to us by all stakeholders.

Today, we face challenges as a global operating company, such as protecting the global environment and contributing to the economic and human resource development of emerging nations. Komatsu, with the support and verification of a third party, is currently prioritizing CSR issues which bring the most value for society and draw on the company's core business leveraging its greatest strengths.



from left:

#### Masao Fuchigami

Director and Senior Executive Officer, Supervising Environment, Research, Design & Development and Quality Assurance

#### Masakatsu Hioki

Senior Executive Officer, Supervising Compliance, Legal Affairs, Human Resources, Education and Safety & Health Care

#### Fusao Seki

Senior Executive Officer, General Manager, CSR, Supervising Corporate Communications and General Affairs

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# Helping Mitigate Climate Change Through Komatsu

# PC200-8 Hybrid

# **Customer Opinions**

Komatsu led the world in initiating domestic sale of hybrid construction vehicles in 2008. Sales to customers in China, the U.S.A. and other countries started in 2009.

We collected the opinions of our PC200-8 hybrid hydraulic excavator users and present them here in this Special Story. JAPAN

**Tokichiro Yamaguchi** Chairman Fuji Corporation



When the PC200 hybrid was introduced, a customer who operates a Fuji type final disposal site amidst prime agricultural land in the city of Komoro in Nagano Prefecture commented: "It didn't take me long to decide to purchase one. Using environment-friendly construction equipment is a matter of common sense for us. We, in the waste treatment business, consider this to be our duty."

He also strongly advocated the benefits to the environment deriving from the use of hybrid equipment: "Our fuel consumption has dropped dramatically, that's a fact. But much more important is that we were able to achieve a dramatic reduction in CO<sub>2</sub> emissions."

PC200-8E\*

Effect of fuel consumption : ▲ 37% Fuel consumption per hour: 9.5 l/h

Period: Sep. 2009 – Mar. 2010 Number of hours of operation: 514 h

Fuel consumption of previous machines (PC200LC-8N1): 15.0 l/h

\* PC200-8E Hvbrid



Asadagumi Co. Ltd.



The hybrid equipment at the Shikoku Expressway improvement worksite operates about 8 hours a day, consuming 11 liters of fuel per hour. That is almost 40% less than our previous machines (from other makers). (Machines from other makers had to be refueled every day, while hybrid equipment was filled up only once every 2 to 3 days.) The quiet engine gave me a strange feeling at first, but I soon got used to it.

When we bought the equipment, I was thinking about running costs (reduced fuel consumption), but I also made the choice in the hope that we could reduce the burden on the environment, even if just a little.

Though we are working with large machinery, we are trying to harmonize with the Earth and the environment, without causing a major impact on the surroundings. That's why I am hoping that hybrid will come into greater use.

PC200-8E\*

Effect of fuel consumption : ▲ 39% Fuel consumption per hour: 11.0 l/h

Period: Aug. 2009 - Mar. 2010

Number of hours of operation: 683 h

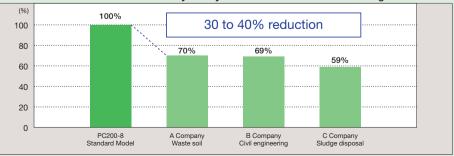
Fuel consumption of previous machines (other makers): 18.0 l/h (Operating 19 manufactured by other makers)





Efficiency Comparison of the PC200-8 Hybrid Hydraulic Excavator

#### Performance Values for the PC200-8 Hybrid Hydraulic Excavator Obtained through User Tests



JAPAN

Toshiyasu Taniguchi President Toshima Co. Ltd.



For us, fuel-efficiency is the most important criterion when choosing the type of equipment, because our construction equipment is operating from morning to evening. That's why we selected hybrid equipment.

Because of the need for long hours of operation, the PC200 hybrid hydraulic excavator was the best choice for us. The equipment causes less physical strain when we operate it, because the engine runs much more quietly than the engine on conventional machines. Once you get used to the power output, there is no problem.

Though addressing environmental problems is taken for granted in any kind of business activity, concrete environmental measures have not yet taken root at construction sites. I hope that this problem will be overcome using hybrid construction equipment.

■PC200-8E\* (First model for operation)

Effect of fuel consumption : ▲ 35% Fuel consumption per hour: 10.8 l/h

Period: Apr. 2009 – Mar. 2010 Number of hours of operation: 1,990 h

■PC200-8E\* (Second model for operation)

Effect of fuel consumption : ▲ 40%

Fuel consumption per hour: 10.0 l/h Period: Apr. 2009 – Mar. 2010

Number of hours of operation: 1,242 h

Fuel consumption of previous machines (PC200-8N1): 16.6 l/h



Site: Fogang, Qingyuan, Guangdong Province, China **Li Yang Ming** 

Operation site: Ground leveling work for a restaurant, and workor a resort willa land development project. Delivery date: April 1 2010



#### Purchase trigger

After an introduction from a sales representative, I saw the actual equipment at an exhibition

Important performance features that influenced the purchase decision

Fuel efficiency, fuel input/power output ratio, and environmental protection

Does the performance meet your expectations?

Yes, so far it does.

#### Other comments

Up to now, I have operated a new 13-ton class hydraulic excavator and a used 12-ton class hydraulic excavator. This time I was looking at a 20-ton class excavator and compared the PC 200-8 standard and hybrid machines. I ended up buying the PC 200-8 hybrid, because I thought the fuel consumption is quite low and it has high reliability.



Site: Fogang, Qing yuan, Guangdong Province, China

**Huang Rong Ha** 

Operation site: Red soil excavation and transportation of rocks for construction of stone walls Delivery date: April 9 2010



#### Purchase trigger

There was an introduction by a sales representative, but the purchase was triggered by a recommendation from a friend in the same line of business (who owns five Komatsu machines, but no hybrid machines). Important performance features that influ-

enced the purchase decision

Fuel consumption and ease of operation Does the performance meet your expectations?

I am satisfied with the fuel consumption. But, I have been using the machine for only three days, so I can't say much yet.

#### Other comments

I tried out two used 12-ton class hydraulic excavators and was very satisfied with the performance of the Japan-made construction machine by Komatsu (especially regarding durability). This time I decided to buy something in a completely different class, namely a hybrid machine, which was also recommended by a friend.







#### Operating Work Equipment + Starting Swing



#### Operating Work Equipment + Slowing Swing





# **Pursuing Environmental Management**

Komatsu promotes environment-friendly activities throughout the entire Group to realize its vision of "What Komatsu Can Do and What It Must Do" for the environment and the sustainable development of society.

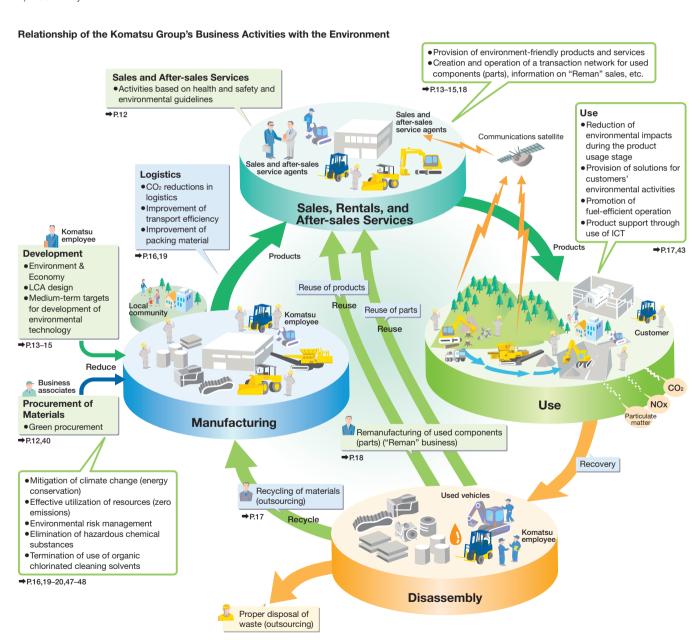


#### Komatsu's Relationship with the Environment

In recognition of the fact that our business activities deeply affect the environment on a regional and global level, we, at Komatsu, have placed the focus on the following four key areas:

- 1) Climate Change
- 2) Establishment of a Sound Material-Cycle Society
- 3) Conservation of Air, Water and Other Environments as well as Management of Chemical Substances
- 4) Biodiversity

In line with the Komatsu Earth Environment Charter revised in 2010, the Komatsu Group embarks on global initiatives across business areas guided by the fundamental principles of (1) Contributions to Realization of Sustainable Society, (2) Simultaneous Realization of Environmental and Economic Performance, and (3) Observance of Corporate Social Responsibility.



#### Komatsu Earth Environment Charter (June 2010 revision)

#### < Corporate Principles >

#### 1. Contributions to Realization of Sustainable Society

Mankind must not only promote the further growth of a rich and comfortable society but also pass down this indispensable environment of our planet earth to future generations in a sound and healthy condition.

We, at the Komatsu Group, define environmental conservation efforts as one of the highest priority management tasks, and endeavor to contribute to the sustainable growth of society by integrating advanced technologies into environmental conservation efforts in all our business activities. This is represented by our hybrid construction equipment which features a substantial reduction of CO<sub>2</sub> emissions while in operation and by our superior manufacturing.

#### 2. Simultaneous Realization of Environmental and Economic Performance

We are committed to improving both environmental performance and economic efficiency, as a group of companies working toward superior manufacturing for customer satisfaction. To this end, we constantly take up the challenge of advancing technologies to develop creative products that improve both environmental performance throughout the product's life cycle and the product's economic performance at the same time.

#### 3. Observance of Corporate Social Responsibility

Each company of the Komatsu Group promotes environmental conservation by not only complying with the applicable laws and regulations of the concerned host community, region and country but also by establishing its voluntary standards which consider global and local environmental concerns. Each company of the Group also strives to fulfill its corporate social responsibility by actively participating in local environmental conservation programs and thereby promoting close-knit communication with local communities, while striving to become a company trusted by all Komatsu stakeholders.

#### < Guidelines for Corporate Activity >

#### 1. Basic Stances on Earth Environmental Problems

We, at the Komatsu Group, work for sustainable society and earth environment through our global business operations by addressing the following four environmental problems with the stances discussed below.

#### 1) Climate Change

We will reduce the use of energy and emissions of greenhouse gas in all phases of our business activities ranging from research and development, production and logistics to sales and service as well as in the total life cycle of our products and services.

#### 2) Establishment of a Sound Material-Cycle Society

Through our business processes, we work to minimize the use of natural resources, such as materials and water, promote their re-use or recycle them as much as possible, and expand Zero Emissions from our manufacturing activities around the world. At the same time we ensure the thorough management of waste materials in all our business domains, including our suppliers and distributors. We also continuously work to increase the recyclability rate of products at the time of disposal.

#### 3) Conservation of Air, Water and Other Environments as well as Management of Chemical Substances

We comply with not only local laws and regulations but also with our established standards concerning the conservation of water quality, prevention of air pollution, noise and vibrations.

As much as possible, we also ensure the thorough management of chemical substances for use in our business activities, while continuously reducing the use of potentially harmful chemical substances or replacing them with alternative substances for discontinuation of their use.

#### 4) Biodiversity

We recognize biodiversity as one of the important issues concerning the earth environment, evaluate, understand and analyze impact on it in all our business domains, and work on our tasks according to the criteria of the highest impact and/or the most effective actions.

#### 2. Framework of Global, Group-wide Environmental Management System

The Komatsu Head Office, as well as the manufacturing facilities and main companies of the Komatsu Group, already with ISO certifications, will work to maintain and improve their environmental management system, while other manufacturing facilities and suppliers will also work to establish their environmental management systems and reduce their environmental impact.

The Komatsu Environmental Committee develops environmental action plans and common guidelines for the Komatsu Group. Based on these Group-wide plans and guidelines, each division or company sets up its own mid- to long-term targets, develops and implements specific action plans, reviews them regularly and works to continuously improve them.

#### 3. Environmental Education and Communication

We believe that it is important to enhance the environmental awareness of each and every employee and thereby actively promote environmental awareness and education programs for all employees.

We will gather environment-related information concerning not only our manufacturing facilities but also other related entities, such as major affiliated companies and suppliers, and strive to disclose such information, thereby facilitating proactive communication with all our stakeholders, such as customers, employees, local communities and suppliers and further expanding the content of environmental communication.



## **Environmental Action Plan and Results for FY2009**

To promote the Komatsu Earth Environment Charter, the company formulates environmental action plans (implementation policies) for each field, establishes action targets for each fiscal year, and steadily advances its policies, while following up on their implementation status.

#### **Environmental Management**

Implementation policies	Objectives for FY2009	Results for FY2009	Medium- and long-term objectives	Future information
Strengthen environmental management systems	Integrated certification of Ko- matsu NTC Ltd.	Business units integrated up to last fiscal year underwent in- spections to maintain certification; Komatsu NTC achieved integrated certification	Acquisition of integrated certification by all Komatsu Group companies	P.11
2. Environmental education and training: Implement the education plan	Draw up and promote the edu- cation plan	Held 14 courses with over 6,100 participants	Continue to organize courses and expand them to overseas locations	P.12
Environmental communication: Publish an environmental & social report	Formulate a communication plan and publish the report	Published the Japanese version in July and the English version in August	Enhance the quality of the content; release report earlier than in previous years	_

#### **Research and Development**

Implementation policies	Objectives for FY2009	Results for FY2009	Medium- and long-term objectives	Future information
Reduce the environmental impact of construction equipment     Develop low-emission construction equipment	Develop a vehicle compliant with the next emission standards	A vehicle compliant with the next emission standards is un- der development (equipped with compliant engine)	Develop engines and equipment compliant with the next emission standards for the U.S.A., Europe, and Japan, effective 2011	P.15
Meet noise and vibration standards	Meet EU noise and vibration standards	Achieved vibration exposure standards for all types of equipment destined for EU	Maintain compliance with EU noise and vibration standards	_
Reduce CO <sub>2</sub> emissions from construction equipment (improve fuel efficiency of products)	Reduce CO <sub>2</sub> emissions of equipment compliant with the next emission standards (hydraulic excavators: A10% compared to existing models) and hybrid equipment (hydraulic excavators: A25% compared to ordinary models)	Equipment compliant with the next emission standards is under development     Mass production of hybrid hydraulic excavators is underway	Reduce CO <sub>2</sub> emissions by 10% by FY2010 compared to the FY1998 level	P.5 P.6
Improve the recyclability rate of construction equipment	Achieve 99.5% for equipment compliant with the next emission standards	Equipment compliant with the next emission standards is under development     Chlorine-free hoses were brought into practical use	Achieve recyclability rate of 99.5% by FY2010	P.17
	Maintain reduction of hazardous substances at 75%	Equipment compliant with the next emission standards is un- der development (continued use of aluminum radiators/rigor- ous management of packing materials for canned counter- weights)	Reduce amount of hazardous substances by 75% compared to the 1998 level by 2010	_
Strictly control and reduce substances of environmental concern in construction equipment	Achieve the goal of shifting away from chromium (VI) and cadmium	Verified product quality after shifting away from chromated fastener components and completed the change to standard components made in-house (all design changes were com- pleted)	Ban chromium (VI) and cadmium starting in 2010	_
	Introduce a separate hazardous substances control system for each product type (to comply with REACH regulations)	System introduced in Japan (survey of substances by prod- uct type are underway)     System for EU is under development	Achieve 100% hazardous substances control for parts destined for EU by May 2011	P.21
Reduce the environmental impact of industrial machinery  • Market high-performance AC servo presses	Expand business affiliations for AC servo presses	Launched more compact AC servo presses	Expand AC servo press sales ratio	_
Market high-efficiency wire saws for solar cells	Develop minor-change model	Minor-change model of multi-wire saws for solar cells developed and released to the market	Expand business affiliations for high- efficiency wire saws	_
Promote reuse and recycling  • Promote the "Reman" business	Expand and promote the "Reman" business	Reorganized the "Reman" business globally (concentrate operations into seven Reman Centers in regions with a high demand for remanufactured parts)	Promote reuse and recycling through further improvements in recycling-related technologies for parts	P.18

#### Manufacturing

Implementation policies	Objectives for FY2009	Results for FY2009	Medium- and long-term objectives	Future information
Mitigation of climate change (energy conservation)     Make a 20% improvement by FY2010 in the amount of CO <sub>2</sub> emissions per unit of manufacturing value compared to the FY2000 level at the Komatsu Group manufacturing facilities in Japan	Improve 1% over the previous fiscal year	Improved 29.6% from the FY2000 level; attained a 3.2% improvement over the previous fiscal year	Set new targets	P.16
Effective utilization of resources     Maintain or make further progress in attaining zero emissions at the Komatsu Group manufacturing facilities in Japan	Attain a recycling rate of 99% or more	Attained a recycling rate of 99.1% across the Komatsu Group	Strive for further improvements at Komatsu Group manufacturing facilities in Japan Set new targets Attain zero emissions at Komatsu Group manufacturing facilities outside Japan	P.19
Achieve a reduction of more than 15% by FY2010 in the amount of waste generated per unit of manufacturing value compared to the FY2005 level at the Komatsu Group manufacturing facilities in Japan	Improve 3% over the previous fiscal year	Accomplished a 40.6% reduction in the amount of waste generated per unit of manufacturing value over the FY2005 level	Set new targets	P.19
Achieve a reduction of more than 10% by FY2010 in the amount of water used per unit of manufacturing value compared to FY2005 at the Komatsu Group manufacturing facilities in Japan	Improve 2% over the previous fiscal year	Accomplished a 15.9% reduction in the amount of water used per unit of manufacturing value over the FY2005 level	Set new targets	P.19
3. Environmental risk management  Implement voluntary reductions in the release of chemical substances Substitute reductions in the amount of VOCs released, which account for the majority of chemical substances released  Implement voluntary reductions in VOCs Achieve reductions of more than 20% and 50% by FY2008 and FY2010, respectively, in the amount of VOCs released per unit of manufacturing value compared to the FY2005 level	Establish a control system for chemical substances and reduce the amount of released chemical substances	Accomplished a 52.4% reduction in the amount of VOCs re- leased per unit of manufacturing value over the FY2005 level	Achieve the reduction target by FY2010	P.48
Undertake soil and groundwater remediation at the Komatsu Group manufacturing facilities in Japan	Continue the cleanup	Cleanup at the Oyama Plant was completed	Complete the cleanup work	P.20
Implement the permanent measures necessary to renovate underground tanks that have been in operation for 20 years or more by the end of FY2001 at the Komatsu Group manufacturing facilities in Japan	One tank requires renovation	In FY2008, discontinued use of one of the underground tanks at Komatsu Cabtec scheduled for shutdown in FY2009	Sequentially address each under- ground tank that has been in opera- tion for 20 years or more	P.20

#### **Procurement and Logistics**

Procurement and Logistics				
Implementation policies	Objectives for FY2009	Results for FY2009	Medium- and long-term objectives	Future information
Green procurement     Promote improvements at suppliers through the establishment of environmental management systems and by specifying matters that require environmental consideration	Provide guidance and support to member companies of the Ko- matsu "Midori-kai" for acquiring integrated certification of their environmental management sys- tems (EMSs)	Nine out of ten member companies acquired certification by mid FY2009	Reinforce linkages with supplier EMSs	P.12
Environmental conservation in logistics     Shift to means of shipping with low environmental impact     To save resources, aim at reducing procurement of new packaging materials to zero and make all shipping containers returnable     Promote reduction in shipping distances and improvements in shipping efficiency	Promote modal shifts in ship- ping from trucks to inland ferries or rail	Oyama and Koriyama Plants increasingly shifting to Japan Railway containers and domestic vessels to ship containers, resulting in a 4.5% increase in the ratio of modal shift to total shipping across the entire company	Continue to promote modal shifts	P.16
	Increase the packaging return ratio	Increased the packaging return ratio by 7.7% by making improvements in cardboard containers and large-sized boxes for shipping containers	Aim at reducing procurement of new packaging material to zero	P.19
	Encourage use of nearby ports to shorten shipping distances, and increase the size of shipped units to large lots	Awazu Plant is making increased use of Kanazawa Port to ship construction equipment and freight containers. Shipping through Kanazawa Port has risen by 13.8% and freight con- tainer shipping has increased by 32.6%.     Ibaraki Plant is making increased use of Hitachinaka Port. Shipping of construction equipment recorded a 31.0% in- crease	Advance measures, such as increasing the size of shipped units to large lots	P.16
	Transfer component production to the body manufacturing facility to eliminate transport distances	Axle production at the Mooka Plant was moved to construction machinery production at the Awazu Plant. This eliminated the need to ship axles and return empty pallets, resulting in a reduction of CO₂ emissions equivalent to 97 tons per year		_

#### Sales and After-sales Services

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Implementation policies	Objectives for FY2009	Results for FY2009	Medium- and long-term objectives	Future information		
Encourage Komatsu Group sales agencies and rental companies in Japan to reduce their environmental impact	Enhance awareness of the envi- ronment through education and training based on the Group's environmental guidelines	Carried out activities for improvement through guidance provided during onsite visits to 105 sites     Regularly issued the Safety and Environment Newsletter (reached its 100th edition, with 24 editions published yearly)	Support environmental conservation activities by Komatsu Group sales agencies and rental companies in Japan based on the Group's envi- ronmental guidelines	P.12		

#### **Environmental Management Structure** Organizational Chart of the Environmental **Management Structure Board of Directors** The highest executive body to discuss and deliberate top-priority matters and make decisions on management policies of the Komatsu Group. President and CEO Research and development divisions Manufacturing divisions Corporate level control division (Environmental Affairs Department) Strategy Review Committee Sales and after-sales services divisions The executive body to study and review basic policies, plans, and strategies, hold deliberations involved Affiliated companies in top-priority corporate affairs, and put these before the Board of Manufacturing facilities outside Japan Person in charge Directors. This committee consists of of environmental management the standing executive directors. Research **Earth Environment Committee Environmental Committee Environment Management Groups** This committee has ultimate authority Development for approving Komatsu's environmental conservation measures. Its meetings **Development Meeting** Environment Technology Working Groups are held biannually. Its mission includes formulating specific environmental action plans based on the Guidelines Manufacturing for Corporate Activity of the Komatsu Manufacturing Technology Meeting Environment Management Personnel Liaison Council Earth Environment Charter and determining Komatsu Group's overall direction in environmental conservation. Environmental and Energy Saving Working Groups Chaired by an executive officer in charge of environmental management. Logistics Planning Meeting Logistics Manager Liaison Council it consists of executive officers responsible for individual divisions Manufacturing Facility Environment Management Committee **Environment Promotion Team** Global Safety and Environmental Affairs Meeting Procurement Division Chaired by an executive officer in charge of environmental management, this meeting consists of officers Procurement Meeting Procurement Control Manager Meeting

Sales and after-sales service

Komatsu Japanese Dealer Meeting

Affiliated Companies' Environmental Management Conference

Environmental Management Conference for Manufacturing Facilities outside Japan

#### **Acquiring ISO14001**

responsible for safety and environmental management in Komatsu manufacturing

policies and measures formulated by the

facilities both in and outside Japan. Meeting every two years as a rule, it

Earth Environment Committee and to exchange information related to

environmental conservation worldwide

provides a platform to implement

Komatsu has been engaged in a Group-wide initiative to acquire ISO14001 certification, an international standard for environmental management systems, with a view to enhancing management quality through strengthening systematic steps towards environmental conservation.

Since 1997 the Oyama Plant and other manufacturing facilities both inside and outside Japan have been certified individually. In FY2005, Komatsu Ltd.'s (the parent company's) four plants (the Awazu, Osaka, Mooka, and Oyama Plants) acquired integrated certification managed by the General Manager of manufacturing division. This represented the first step towards integrated certification for the entire Group. As the second step, in FY2007 Komatsu added its major affiliates in Japan and non-manufacturing facilities not previously certified—notably the Head office and others—to the above four plants, with integrated certification attained by the Group in Japan in May 2008.

Upon completing the April 2010 surveillance audit, Komatsu NTC

Ltd. (Toyama and Fukuno Plant) was included in the integrated certification. The Group seeks to further expand the scope of its integrated certification in the future to cover its affiliates in Japan.

Liaison Council (Rental division in Japan)

Liaison Council (After-sales service division in Japan)

Meanwhile manufacturing facilities outside Japan that have not

obtained certification are being encouraged to do so by FY2011, but BKI (Bangkok Komatsu Industries Co., Ltd.), KUI (PT Komatsu Undercarriage Indonesia), Hensley (Hensley Industries, Inc.), and KIPL (Komatsu India Pvt.Ltd.) acquired certification already in 2009.



ISO14001 Integrated Certification

#### **Environmental Education and Training**

The Komatsu Group's basic education system shares the responsibility for education between the parent company and individual divisions. The parent company develops educational materials and provides educational services on commonly relevant academic issues for use by Komatsu Group companies. Individual divisions, on the other hand, conduct instruction on more hands-on matters, including unique features and points particular to individual divisions.

Education and training tailored to different occupational content also includes lectures on the environment. The FY2009 curriculum for environmental education was essentially the same as for FY2008. Among these offerings, the environmental training program for manufacturing engineers was further expanded.

Additionally, the company organized an experience-oriented session that gave employees an opportunity to participate in environmental volunteering\*. Komatsu encourages employees to obtain a suitable environment-related certificate that is recognized by public institutions.

\* For example, about 375 employees from all plants joined the Satoyama (Natural Woodlands) Preservation Volunteers and Nature Cleaning Volunteers to help clean up around local rivers and beaches.

# Environmental Inspections of Southeast Asian Subsidiaries

Komatsu has established environmental protection guidelines based on the Komatsu Earth Environment Charter in an effort to improve the level of environmental conservation and reduce environmental risks in developing countries. After visiting subsidiaries in China in FY2007, Komatsu representatives visited seven subsidiaries in Thailand and Indonesia in January 2010 to inspect environment-related facilities and exchange views on environmental matters in line with the guidelines. The inspections also included the premises of the local waste disposal companies that the subsidiaries deal with. Each of the business units was found to be practicing energy savings, carrying out air and water quality measurements and waste separation, and there were no indications of serious environmental risks.

Komatsu plans to continue environmental inspections in developing countries into the future and has established medium- and long-term targets for  $CO_2$  emissions and waste recycling rates for overseas subsidiaries, to raise the level of environmental protection for the Komatsu Group as a whole.



Guidance in maintenance of a separation tank (Bangkok Komatsu Industries)

# Supporting Environmental Activities at Komatsu Group Sales Agencies and Rental Companies

Komatsu supports the environmental activities at Group sales agencies and rental companies through education and guidance on ways to enhance their environmental management.

The Environmental Guidelines distributed in April 2005 compiles points and standards to be observed concerning environmental issues directly relevant to operations at sales agencies and rental companies. These include waste treatment, waste oil treatment, oil and grease management, and treatment of wastewater from vehicle washing.

Komatsu provides assistance in meeting the provisions of the Environmental Guidelines. The company also assists in reviewing the environmental aspects of the operations, conditions, and equipment at the relevant business sites of agencies and companies, gives on-site guidance and proposes remedial actions tailored to each site. This is done through joint visits to each of the sites by persons in charge of environmental management at Komatsu and at the sales agencies and rental companies. (In FY2009, 105 sites received this assistance.) As a result, awareness of the environment has risen at agen-



Inspecting the oil-water separator at a vehicle washing station (Komatsu Rental, Koriyama)

cies and companies and various improvements are underway.

Additionally, the Safety and Environment Newsletter (first published in November 2005), which serves as a means for providing

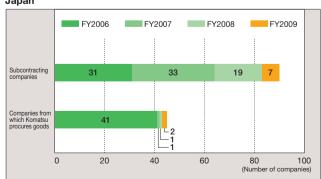
serves as a means for providing agencies and companies with environment-related and safety-related information, has reached 100 editions.

# Supporting Suppliers in Introducing Environmental Management Systems

To reinforce environmental management at our suppliers, Komatsu required the Komatsu "Midori-kai" group, which accounts for 75% of the value of supplier orders, to acquire EMS certification for all group companies. By FY2008, all 126 business associates in Japan had acquired EMS certification.

By FY2009, nine out of the ten companies that newly joined the group had acquired EMS. The remaining company is planning to complete certification in the first half of 2010.

# Acquisition of EMS Certification for Major Business Associates in Japan



# **Mitigating Climate Change**

Komatsu works to reduce CO<sub>2</sub> emissions generated through its business activities while also delivering fuel-efficient products that help customers promote their environmental activities.



#### Mitigating Climate Change through Products and Services

# Full Model Change for the D375A Large-size Bulldozer

With its new SAA6D170E-5 engine, the D375A large-sized bulldozer features enhanced rated power output. In addition the high engine output, it boasts clean exhaust emissions at world-class levels and lowest fuel consumption.

During the most frequent operations, from traveling to dozing, an automatic locking function routes the engine power directly to the transmission, bypassing the torque converter, to prevent power loss. To reduce fuel consumption, the automatic transmission, which eliminates the shocks associated with gear shifting, selects the appropriate transmission speed for the work being undertaken, allowing the dozer to run at its highest efficiency at all times.

Thanks to the Komatsu-developed new shape of the blade, the dozing capacity has increased, boosting the work capacity by 10% compared to earlier models and raising the overall productivity of the machine. The machine's digging capability has been also been boosted through the use of a new end bit.

#### **New Type of End Bit for Deeper Cutting**



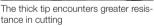


Improved cutting thanks to sharpened tip

Low-resistance shape adopted

#### **Conventional End Bit**







The shape offers more resistance to the flow of soil



D375A large-size bulldozer

# Full Model Change for the PC78UU Hydraulic Excavator

The ultra-small turning radius PC78UU hydraulic excavator is equipped with an engine that meets Tier 3 (Stage 3A) emission standards. Using the latest "ecot3" (ecology & economy - technology 3) engine technology has brought about a drastic reduction in NOx emissions.

For better fuel efficiency, the operator can choose between two operating modes on the monitor touch screen: P-mode, designed for work where capacity counts and the emphasis is on working speed and power, and E-mode, designed for fuel savings, where fuel consumption is optimized for the operation being performed.

An "eco gauge" is displayed on the multi-monitor screen to help operate the machine in an environmentally aware and energy saving way, with low  $CO_2$  emissions and fuel efficiency improved by 5 to 10%.

To improve fuel efficiency and reduce operating noise, an idling caution is displayed on the monitor screen whenever the machine is left idling for more than 5 minutes. A few seconds after placing the operation lever in neutral, the automatic deceleration control decreases the engine rpm to prevent unnecessary fuel consumption.

The built-in silencer reduces the noise burden on the surroundings – the machine meets the noise regulation standards for lownoise construction equipment set by of the Ministry of Land, Infrastructure, Transport and Tourism.



PC78UU hydraulic excavator with ultra-small turning radius

# Eco gauge The indication level changes with the engine horsepower (= torque x rpm) Fuel consumption is reduced while operating in the green range Hydraulic oil temperature gauge Engine water temperature gauge Fuel gauge

Function buttons
Multi-monitor

#### **PC05 Micro Shovel**

The PC05 Micro Shovel is equipped with an engine that meets the self-regulatory emission standards set by the Japan Land Engine Manufacturers Association. (In Japan, the engine is classified as a small engine to which the regulations do not apply, but European and U.S. regulations cover engines with equivalent performance.)

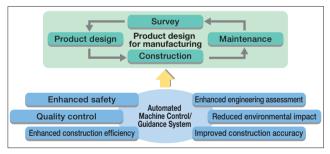
The micro shovel is an environment-friendly low-noise construction machine. It was designated by the Ministry of Land, Infrastructure, Transport and Tourism as a low-noise construction machine (93dB: measured at a point 4m from the center of the machine body) generating 6dB less noise than conventional machines.



PC05 Micro Shovel

#### **Automated Machine Control/Guidance System**

Komatsu uses Information and Communication Technology (ICT) to collect electronic data in the course of manufacturing processes related to construction work such as surveys, design, construction, supervision, inspection and maintenance, and feeds this data back into these processes to make them more efficient and more accurate. The system provides for applying the electronic data obtained to other processes as well to improve the productivity of manufacturing processes as a whole and control product quality.



Within these processes, IT-based design of construction machinery makes it possible to localize a machine by comparing its position information with three-dimensional design data, and allows it to perform automatic operations to facilitate the work of the machine operators.

Incorporating ICT greatly reduces the need for the traditionally used guides and surveying work during construction and making subsequent corrections, thereby reducing costs and shortening the construction period. Increased productivity and higher operation rates of construction machinery as a result of shortened construction periods lead to a reduction of CO<sub>2</sub> emissions.

Internal test results have shown that the use of one D65PX-16 will reduce  $CO_2$  emissions by 7.7 tons per year compared with previous Komatsu models.

#### **Biodiesel Fuel Project in Full Swing**

In November 2009, the Komatsu Group together with their customer, the mining company Adaro Energy Tbk, and their sales agent United Tractors Tbk (UT), reached a basic agreement on promoting a biodiesel fuel (BDF) project in Indonesia. The Adaro Mine in Kalimantan (Indonesian part of Borneo) plans to produce BDFs from jatropha and other plants and use them to run the Komatsu dump trucks in operation at the mine.

Substituting BDFs for light oil is considered not to increase the amount of CO<sub>2</sub> in the atmosphere, because BDFs are produced from plants that absorb CO<sub>2</sub> during their growing stage. The targeted plant, jatropha, is a nonfood plant and grows even in poor soil.

At the Adaro Mine, Komatsu is building a BDF production plant and a laboratory where the produced BDFs will be analyzed to maintain quality. Komatsu, as the manufacturer, will guarantee the quality of the dump trucks running on BDFs at the Adaro Mine

As its part of the project, Adaro Energy Tbk will cultivate the jatropha and other plants for BDF production, produce BDFs from the harvested seeds and other plant parts, and use the fuels to run the dump trucks in their mining operation.

As Komatsu's sales and service agent in Indonesia, UT will offer product support for the dump trucks.

Cultivation of plants that will become sources of BDFs is already underway at the Adaro Mine, and work to construct the BDF plant has also begun. The objective of the project is to shift 100 dump trucks to BDF operation starting in 2012, with the goal of achieving a reduction in CO<sub>2</sub> emissions of approximately 20,000 tons, roughly the equivalent of 10% of the CO<sub>2</sub> emitted by Komatsu manufacturing facilities in Japan in the course of one year. The project also aims at making the mining operations more eco-friendly.



Project members in the jatropha plantation at the Adaro mine

#### **Developing Leading-edge Engine Technology**

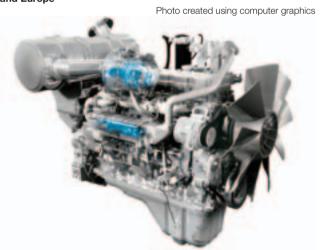
Under the current emission standards for Japan, the U.S.A. and Europe, emissions of nitrogen oxides (NOx) and particulate matter (PM) are subject to strict regulation. However, with the next emission standards to be phased in from 2011, with the last phase in 2014 limiting NOx and PM emissions to approximately one-tenth of current levels, clearing these standards is expected to require advanced technology.

To reduce NOx emissions, the combustion temperature must be lowered. But reducing the combustion temperature generally leads to an increase in PM emissions and deterioration in fuel efficiency. Engine developers are therefore expected to find a way to lower both NOx and PM emissions while reducing fuel consumption at the same time. In addition, engines for construction equipment that is used in the most challenging operating environments must demonstrate their full capabilities, even when operated continuously at maximum output and maximum torque.

Komatsu's design process for construction equipment engines covers the entire range, from development to production. We design our engines\* for displacement classes from 3.3 liters, used on the PC120 medium-sized hydraulic excavator, for example, to 46 liters for large-sized dump trucks. By designing the engine and the body as a complete package, and leveraging Komatsu's in-house development and production of engines, hydraulic units, control systems and major components, the company has attained exceptional performance under a variety of operating conditions. Komatsu will continue to complement its proprietary engine technology, developed over many years, with the latest advances in engine technology, while striving to strike a balance between increasing economic efficiency and, at the same time, lightening the burden on the environment.

\* Includes some products developed jointly with Cummins Inc.

# New Engine Meeting the Next Emission Standards in Japan, U.S.A. and Europe



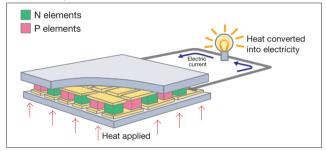
#### Developing the World's Most Efficient Thermoelectric Module

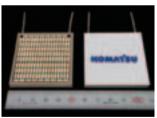
Thermoelectric modules are devices that take advantage of the Seebeck effect, where two dissimilar metals are connected and a temperature difference is created at the connection point, causing a current to flow between the two metals. Marketing of these devices has started through KELK Ltd., a Komatsu Group company.

Thermoelectricity has attracted a great deal of attention as a next generation renewable energy source. Using this technology, the enormous amount of waste heat given off by factories, power generation stations, furnaces, and other facilities can be recovered as low-cost electrical energy. In particular, it may be possible to use the waste heat continuously generated by factories as renewable energy, a cheaper alternative than solar power.

Since October 2009, Komatsu has been conducting verification tests with the heat-treating furnace at the Awazu Plant, and is using the recovered energy for plant lighting. A wide adoption of waste heat recovery from plants (50% adoption rate) in the future is estimated to bring about a reduction in CO<sub>2</sub> emissions in the order of 1 million tons (Electric conversion :  $2.9\times10^9 kWh$ ) annually in Japan alone.

#### **Basic Principle of Thermoelectric Modules**









Verification test of the heat-treating furnace at the Awazu Plant

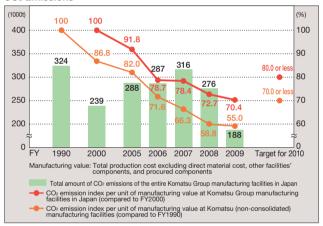
#### **Mitigating Climate Change in Business Operations**

# Reducing CO<sub>2</sub> Emissions in Manufacturing Operations

As part of our efforts to mitigate climate change, Komatsu has adopted an indicator of  $CO_2$  emissions per unit of manufacturing value with respect to the electricity, fuel gas, fuel oil, and any other type of energy used in our manufacturing operations. From 2007, the company has established even more stringent medium- and long-term targets, setting a target of 20% or more reduction in  $CO_2$  emissions by FY2010, compared to the FY2000 level.

In FY2009, Komatsu implemented improvements throughout the company, guided primarily by the All Komatsu Energy Saving Working Group. These included starting up of new high-efficiency production lines to cope with production increases, and dismantling of old lines to improve production efficiency. As a result,  $CO_2$  emissions per unit of manufacturing value have decreased by 29.6%, compared to the FY2000 level. For the fourth year in a row, Komatsu achieved its medium-term targets ahead of schedule.

#### CO<sub>2</sub> Emissions



#### Main Initiatives in the Manufacturing Division

Demand side	Upgrading from old production lines to high-efficiency production lines Strict enforcement of cutting power to equipment not in operation Refining drying processes (shift to low-pressure air blowers) Introducing inverter-controlled pumps and motors Adopting high-efficiency lighting to a greater extent				
Supply side	Using high-efficiency heat pumps in air conditioning systems Renewing transformers to amorphous transformers Using power saving control of engine-generators, etc. (Minimum CO <sub>2</sub> Operation)				

#### Reducing CO<sub>2</sub> Emissions in Logistics

#### Improving Shipping for Plants Adjacent to Ports and Promoting Modal Shift

In 2007, Komatsu completed the construction of its Ibaraki Plant adjacent to the port of Hitachinaka in Ibaraki Prefecture, and Kanazawa Plant No. 1 adjacent to the port of Kanazawa in Ishikawa. In 2008 the company expanded the Rokko Plant and adapted more barges for inland shipping to transport products shipped from Osaka port, and in 2009 Kanazawa Plant No. 2 was completed, thereby reducing CO<sub>2</sub> emissions through the shortening of shipping distances within Japan. At the same time, Komatsu has raised its modal shift ratio to achieve lower energy consumption per transportation unit. As a result, the amount of CO<sub>2</sub> emissions per unit of net sales generated

through shipping decreased by 30% compared to the 2006 reduction target base year under the revised Law concerning the Rational Use of Energy of Japan.

# Targeted and Actual CO<sub>2</sub> Emissions per Unit of Net Sales Generated though Shipping



#### Using Nearby Ports to Shorten Shipping Distances

Komatsu has been encouraging the use of nearby ports to shorten shipping distances, and has also increased the size of shipped units to large lots.

Use of Kanazawa Port by the Awazu Plant for shipping of construction equipment has risen by 13.8% ( $11.6\% \Rightarrow 25.4\%$ ), and for shipping of freight containers by 32.6% ( $48.3\% \Rightarrow 80.9\%$ ).

The Ibaraki Plant has stepped up use of the port of Hitachinaka, resulting in a 31.0% increase in shipments of construction equipment (57.3% → 88.3%).

These efforts resulted in a reduction of  $CO_2$  emissions of 620 tons per year.

#### Self-propelled Off-road Dump Truck on a Harbor Road





# Reducing CO<sub>2</sub> Emissions in Non-manufacturing Divisions

With the revision of the Act on the Rational Use of Energy, all Komatsu business units are assessing the FY2009 CO<sub>2</sub> emissions in an effort to achieve reductions. The energy consumption of non-manufacturing divisions, including the Head Office building, the Research Division, two business locations conducting tests and demonstrations, four offices and five recreational facilities, is shown in the table below. Komatsu is proactively moving ahead with assessing and reducing CO<sub>2</sub> emissions, not limiting these efforts to Komatsu alone, but expanding them to include the entire supply chain, from partner companies, sales agencies and rental companies to business associates.

#### **Energy Consumption of Non-manufacturing Divisions (FY2009)**

	Komatsu		- Main partner	Main sales and after-sales services divisions	
	Production (for reference)	Non- manufacturing	companies*	Sales of construction equipment	Rental
CO <sub>2</sub> (1,000 tons)	131.1	6.8	77.2	5.2	3.2
Crude oil equivalent (1,000 kl)	74.8	3.8	38.2	3.1	2.0

<sup>12</sup> companies in Main partner companies, which use the energy more than 1500kl as the crude oil equivalent, as a result of a survey of partner companies

# **Creating a Resource Recycling Society**

Komatsu contributes to the creation of a resource recycling society by promoting on-site recycling through mobile crushers/recyclers/tub grinders, recovering and remanufacturing used components (parts), and effectively utilizing waste derived from manufacturing operations.



#### **Providing Solutions for Customers**

#### **Promoting On-site Recycling**

Komatsu offers high-quality efficient solutions that harmonize with the nature to address environmental concerns facing society.

#### Promoting On-site Recycling through Mobile Crushers/ Recyclers/Tub Grinders

Komatsu's mobile crushers/recyclers/tub grinders process lumps of concrete, exhumed earth, discarded wood, and other residuals generated at construction sites there onsite. Reusing these processed residuals within the construction site has multiple merits. The volume of waste generated can be reduced, cutting costs for transport and disposal; fewer new materials need to be purchased, saving costs in resources and materials; and wastes are crushed and reduced in volume, curbing  $CO_2$  emission and costs during transport.

Komatsu's mobile crushers/recyclers/tub grinders are now in operation at a large number of construction sites, helping solve the environmental and cost challenges facing customers at one stroke.



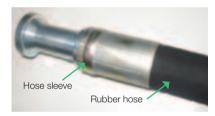
#### Effective Utilization of Resources in the Development of Products

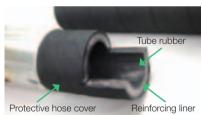
# Adoption of Chlorine-free Hoses to Improve the Recyclability Rate

The driven section of a hydraulic construction machine is operated on hydraulic oil supplied to it through rubber hoses. Rubber hoses account for 0.5 to 1% of the total mass ratio of a construction machine. A problem encountered especially with hydraulic hoses with sleeve is that it is difficult to separate the sleeve from the rubber hose, and with the protective cover of the rubber hose being made of conventional chlorine rubber, the entire hose is treated as being unsuitable for recycling. These hoses therefore represented a bottleneck in Komatsu's efforts to raise its recyclability rate from 97% to 99.5% (2010 target). (The Japan Construction Equipment Manufacturers Association set the target at 97%, Komatsu's own target is 99.5%).

After carrying out continual fundamental research on chlorine-free materials for hydraulic hoses from the beginning of 2000, and with practical application of the results finally in sight, Komatsu has started to change over to chlorine-free hydraulic hoses in preparation for mass production of vehicles meeting the next tier of emission regulations. To bring chlorine-free hoses to a practical level, Komatsu selected a protective hose cover that is resistant to both cold and grease. Using its proprietary quality verification technology, the company conducted numerous tests, including long-term outdoor exposure tests and composite impulse tests, followed by long-term onboard tests to identify and overcome any problems. As long as no chlorine gets mixed in from other sources during the incineration process of chlorine-free hoses, no dioxin is generated, regardless of the incineration conditions. This means that the hoses can be recycled in the same way as similar rubber products and metal compounds, using established recycling routes for ordinary tires, and are suitable for material recycling or thermal recycling by the same methods. (Chlorine-free hoses will be identified on the hose surface with the marking "CLF" (Chlorine-free).)

#### Structure of a Chlorine-free Hose





#### **Reuse and Recycling Activities**

#### **Promoting the Reman Business**

In its "Reman" business, the Komatsu Group remakes used engines, transmissions, and other key components of construction and mining equipment into "remanned" components (parts) having the same quality as newly manufactured ones and provides them back to the market. The Group is promoting the "Reman" business at seven Reman Centers around the world, with those in Indonesia and Chile serving as global centers.



"Reman," an abbreviation of "remanufacturing," offers customers the following benefits.

- Quality and performance guaranteed to be the same as those of new components
- Lower cost for "remanned" components than new ones
- Reduced construction equipment idle time through proper inventory levels of "remanned" components
- Resource conservation and waste reduction through the reuse and recycling of components

PT Komatsu Reman Indonesia Tbk (KRI), established in 2007 in Jakarta, Indonesia, has begun to provide "remanned" components globally, further bolstering the Group's reuse and recycling activities.

# PT Komatsu Reman Indonesia, Reman Process established in Jakarta, Indonesia





High-pressure cleaning
Disassembly
Component inspection
Component cleaning
Component remanufacturing
Assembly set-up
Assembly
Performance test

Inspection upon receipt

Painting
Final performance inspection
Factory shipment

The supply of "remanned" components has begun on a global level, further bolstering the Group's reuse and recycling activities. In 2009, a "Reman" plant for hydraulic excavators was established in Jakarta, Indonesia, where remanufacturing of cylinders for electric dump trucks and other components is underway. In Shuozhou, China, a "Reman" plant for components used on large-size mining equipment was established in the same year to supply the needs of large mining companies.

#### Providing Reman-related Information

The Komatsu Group has set up "Reman-Net," networking Komatsu Reman Centers around the world. The Group is actively using this network to develop Reman operations for reusing and recycling components at the global level. IC tags and two-dimensional codes are employed to manage items' remanufacturing history and track their quality and durability information. This important information is provided as feedback to the Group for developing components with appropriate life spans.

#### Acquiring ISO14001 Certification for Reman Centers

The seven Komatsu "Reman" Centers around the world have been pursuing ISO14001 certification to further their environmental conservation efforts. Three of the centers have been certified and the remaining centers in South Africa, Indonesia (two centers) and China are working to attain it. "Reman" centers are advancing environmental conservation through daily operations and inspections for maintaining and renewing their certification.

#### Future Steps

To further increase the reuse rate of used components (parts), the Komatsu Group is reducing the number of disposed parts by:

- expanding the range of items covered under its "Reman" operations (to include engine sub-components, etc.)
- developing parts made in suitable sizes and designed exclusively for future remanufacturing
- developing recycling-related technologies, such as thermal spraying technologies
- setting up an ICT-based tracking system for remanufactured parts and promoting efficient logistics to reduce energy consumption.
   The Group is also undertaking the "Reman" business in China, Russia, India, and other emerging countries and regions, to further advance recycling and reuse.



#### **Effective Utilization of Resources in Business Operations**

#### Effective Utilization of Resources in Manufacturing Operations

#### Waste

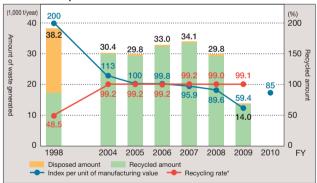
In tandem with reducing the amount of waste generated during manufacturing operations, Komatsu conducts zero emissions\*1 activities to use waste materials as resources. The company continued to achieve zero emissions in FY2009 through strict waste separation and utilization of waste materials as valuables\*2, boasting a recycling rate of 99.1%. Komatsu achieved a substantial reduction of 40.6% of the amount of waste generated per unit of manufacturing value compared with FY2005 (a 33.7% reduction compared with the preceding fiscal year), attaining its mid-term target.

This dramatic reduction was due to the fact that the Komatsu Castex Ltd., Himi Plant sold nearly the same quantity of recycled products made from waste molding sand as in the preceding fiscal year, and succeeded in reducing the amount of dust treatment required, with a broad-based reduction in waste material disposal (decreased by approximately 6,000 tons from the preceding fiscal year).

This fiscal year, as well, Komatsu will encourage its Group companies to practice thorough waste separation, with the aim of continuing to achieve the company's medium-term target.

- \*1 Komatsu defines"zero emissions"as a waste material recycling rate of 99% or more.
- \*2 "Valuables"in this report refers to materials that can be sold to external companies.

# Amount of Waste Generated by the Komatsu Group Manufacturing Facilities in Japan



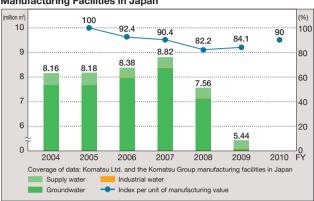
\* Recycling rate is calculated by dividing the amount recycled (including valuables) by the amount generated (including valuables).

#### Water Resources

Since FY2006, Komatsu has taken up a new medium-term target of achieving by FY2010 a 10% or more reduction in the amount of water used per unit of manufacturing value, compared with the FY2005 level. The company has attained this medium-term target for the second year in a row by reducing the amount of water used per unit of manufacturing value by 15.9%, through the reuse of water during processing and the elimination of wasteful day-to-day practices.

In particular, Komatsu NTC Ltd. cut back on its groundwater consumption through measures such as implementing water recirculation and reducing the number of air conditioner chillers. As a consequence they were able to trim water usage by 6% per unit of manufacturing value compared with the previous fiscal year. In the years to come, Komatsu will make further efforts to reduce the amount of water resources used and to continue to achieve its medium-term target.

# Amount of Water Resources Used by the Komatsu Group Manufacturing Facilities in Japan



#### **Effective Utilization of Resources in Logistics**

#### Packaging

Komatsu is keeping up its efforts to make returnable containers for components and returnable cardboard containers for replacement parts destined for plants outside of Japan, and has improved its packaging return ratio by 7.7% (38.3 % →46.0%).

The company will continue to aim for a higher return ratio of returnable packaging in its operations and forge ahead with measures to save resources.

# **Environmental Risk Management**

To minimize environmental risks accompanying manufacturing activities, Komatsu is committed to thoroughly implementing pollution mitigation and prevention measures in strict compliance with the legal requirements of national and local authorities.

# Promoting Compliance and Pollution Mitigation and Prevention

Komatsu Group companies are responsible for reporting environmental measurement results periodically and archiving them in strict compliance with applicable laws and regulations of national and local authorities. In FY2009, the Komatsu Group experienced two minor environmental infractions in Japan and for all cases corrective measures have been completed. The Group had no major accidents in which the environment was polluted in Japan.

#### Managing PCB Waste

Komatsu conducts appropriate storage and management of PCB waste, such as transformers in accordance with Japan's Law Concerning Special Measures Against PCB Waste and its Waste Disposal and Public Cleansing Law.

With the Japan Environmental Safety Corporation (JESCO) starting PCB waste treatment in Japan in FY2008, Komatsu entrusted treatment of its 79 drums of condensers containing PCBs to JESCO. In FY2009, 16 drums from KCX were submitted for treatment.

The company will arrange for early treatment of the remaining PCB waste in FY2010 and thereafter at various JESCO locations.

As of March 2010, the Komatsu Group as a whole owned 583 drums of PCB waste, including in-use PCBs and PCBs in low concentrations.

#### Addressing Soil and Groundwater Contamination

The Earth Environment Committee has established guidelines in Japan for investigating the state of the soil and groundwater at Komatsu business units.

Komatsu performs investigations in accordance with applicable laws and regulations at business units that are to be sold, closed, or demolished and, if necessary, takes suitable measures under the supervision of the local authorities concerned. Komatsu also performed voluntary investigations at currently operating business units to check for contamination by organic chlorine-based chemical compounds (VOCs), which had in previous years been used in cleaning solvents and in other applications.

Since 2005, Komatsu has surveyed VOC contamination of soil and groundwater in Japan at Group manufacturing facilities, as well as at its Research Division and other non-manufacturing facilities. All business units where contamination was detected began remediation work. The company usually chooses remedial methods that can clean up the sites in as short a timeframe as possible. Remedial work at the Oyama Plant was completed in FY2009. With the closing of the plant facilities of a former affiliate in the Shonan Plant, an investigation according to the Soil Contamination Countermeasures Act was carried out and the result was reported to public authorities. The site was declared a so-called "designated lot," because fluorine levels exceeded standard values in some areas, and has been placed under environmental management, as prescribed by the law.

Komatsu will execute reliable cleanup measures and maintain its monitoring of site boundaries to ensure that groundwater that does not meet environmental standards is contained within the premises.

#### Status of Soil and Groundwater Cleanup in Japan

Business unit		Presence of contamination	Cleanup method	Cleanup status
			Excavation and removal, soil vapor extraction	
A	Awazu Plant	Yes	Groundwater withdrawal and aeration, bioremediation	In process
	Komatsu Plant  Komatsu Ltd.  Osaka Plant	Yes	Excavation and removal, groundwater withdrawal and aeration	In process
			Bioremediation	
Komatsu Ltd.		Yes	Soil vapor extraction, air sparging	
			Groundwater withdrawal and aeration, bioremediation	In process
	Oyama Plant	Yes	Excavation and removal, bioremediation	Completion in FY2009
Shonan Plant Yes	Yes	Excavation and removal, groundwater withdrawal and aeration	In process	
Komatsu Utility	Tochigi Plant	Yes	Excavation and removal, bioremediation	In process

Surveys revealed no contamination for the Komatsu Mooka Plant, Koriyama Plant, Research Division in Hiratsuka, Techno Center in Izu, and Field Testing Department in Notsu.

#### Renovating Underground Tanks

Komatsu is systematically replacing underground tanks that have been in operation for more than 20 years with double-walled above-ground tanks and eliminating them or consolidating them in Japan. The underground tank at Komatsu Cabtech Co., Ltd. scheduled to be decommissioned in FY2009 was actually decommissioned and removed in FY2008 after a kerosene boiler was converted to a gasfired type. Komatsu will continue to address underground tanks that pass the 20-year operation mark as new cases come up.



# **Energy Conservation Grand Prize in the "Awards for Personnel" Category**

Sadao Nozawa, in charge of promoting energy conservation in all Komatsu companies, was awarded the newly-created Energy Conservation Grand Prize in the "Awards for Personnel" category by the Minister of Economy, Trade and Industry at the 2009 Energy Conservation Monthly Awards Ceremony.

The prize was awarded in recognition of his contribution to energy conservation in the industry. In addition to the numerous improvements he made at various business units, he proactively participates in an expert capacity in energy con-

servation activities outside the company, acts as adviser at JICA and as a member of energy conservation groups, is involved in more than 100 activities, including seeking out business units of excellence and carrying out screenings, guidance and lectures.





#### Reducing the Use of Substances of Environmental Concern and Complying with the EU REACH Regulation

Responding to the increase in environmental conservation awareness around the world, Komatsu has been making efforts from an early stage to reduce the use of asbestos, lead, and other substances of environmental concern.

In FY1999, Komatsu stipulated its own list of banned substances and substances approved for use only in limited circumstances (see chart left), using as its base the chemical substances banned under Japan's Law Concerning the Examination and Regulation of Manufacture of Chemical Substances Control, as well as other regulations in individual countries. At the same time, Komatsu began comprehensive control of substances of environmental concern. The com-

#### Substances of Environmental Concern Banned or to Be Reduced for Use in Products

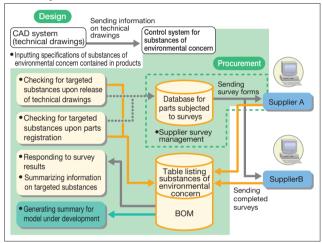
Designation	Number of substances	Name of substance
Banned	10	PCBs • Asbestos • Specified chlorofluorocarbons/ hydro chlorofluorocarbons (HCFCs) • Trichloroethylene • Triethanolamine • Chromium (VI) *2 • Cadmium *2 • Polybrominated biphenyl (PBB)/ polybrominated diphenyl ether (PBDE) *1
To be reduced (subject to limited use)	16	Lead • Mercury • Arsenic • Selenium  Hydrofluorocarbons (HFCS)  Methanol • Hexachlorobenzene  Specified phthalate ester (DEHP/DBP/BBP **, DIBP *3 *6)  Hexabromocyclododecane (HBCDD) *1  Specified polycyclic aromatic hydrocarbons  Perfluorocatnesulfonic acid (PFOS)  Organotin compounds  Short chain chlorinated paraffins
Substances of Very High Con- cern (SVHC) under the EU REACH regula- tion	(30)	Komatsu is currently examining whether to designate the following substances, which might be used in Komatsu products, as substances to be reduced.  Lead arsenate/ diarsenic pentaoxide/ diarsenic trioxide  Triethyl arsenate  DEHP/ DBP/BBP *1, DIBP *3 *5  Short chain chlorinated paraffins  Bis (tributyltin) oxide

- \*1: Specified brominated fire retardants
- 2: Substances completely banned starting January 2010
- \*3: Substances newly banned or to be reduced
- \*4: Diethylhexyl phthalate, dibutyl phthalate, benzyl butyl phthalate

pany has already reduced its dependence on substances approved for limited use, in keeping with its medium- and long-term targets for developing environmental technology.

In response to the enactment of the EU regulation addressing Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) in 2007, Komatsu reviewed the list of substances approved for limited use and revised the designation of certain substances to "reduced" or "banned," as appropriate. Through cooperation with suppliers, the company has initiated a system to strengthen control of substances of environmental concern in products. The system came into effect in Japan in FY2009.

#### Control System for Substances of Environmental Concern



#### **New Medium- and Long-term Targets** Set to Reduce CO<sub>2</sub> Emissions of **Manufacturing Facilities** Striving for Still Greater Reductions -

Komatsu had initially adopted the energy consumption per unit of manufacturing value (converted to calorie equivalent) as an indicator in its activities to save energy in its manufacturing facilities, working toward its own self-imposed target of a 25% reduction from the 1990 level by 2010\*.

In FY2005, the indicator was changed to CO<sub>2</sub> emissions per unit of manufacturing value in an effort to mitigate climate change, and the 2010 target of a 25% reduction compared with the 1990 level was reached ahead of time, namely in 2006.

From FY2007, the company established still more stringent medium- and long-term targets, setting a target of a 20% reduction from the FY2000 level by FY 2010\* (equivalent to a 30% reduction compared to 1990), and adopted this target for all manufacturing facilities in Japan. This target has already been reached. and future results are also expected to fall within the target range.

To bring about improvements, Komatsu has promoted activities such as search, evaluation and adoption of new proposals for improvement, horizontal development of valid proposals, and

standardization of proposed improvements at the All Komatsu Energy Saving Working Group, mainly through the energy administrator in each plant, and at the same time has proactively pursued the exchange of views on technologies with other companies.

This year, Komatsu has established new medium- and longterm targets (see chart below) to contribute to climate control in anticipation of the post-Kvoto Protocol global framework. The new target is to reduce CO<sub>2</sub> emissions in the medium-term (FY2015) and in the long-term (FY2020) not only in Japan but in Komatsu manufacturing facilities worldwide. The long-term targets for 2020, providing for a reduction of CO<sub>2</sub> emissions of 43% compared to the FY1990 level in Japan and a reduction of 44% compared to the FY2005 level outside Japan, were set at very ambitious levels.

To achieve these targets, the All Komatsu Energy Saving Working Group will step up its activities, and the results achieved and the know-how gained at the working group meetings will

manufacturing facilities outside Japan.

\*: FY 2010 target Average for FT2008 to FY2012

also be passed on to New Medium- and Long-term Targets (CO2 **Emissions per Unit of Manufacturing Value)** 

	Medium-term plan FY2015	Long-term plan FY2020
Domestic Group companies as compared to FY1990	<b>▲</b> 40%	<b>▲</b> 43%
Overseas Group companies as compared to FY2005	<b>▲</b> 41%	<b>▲</b> 44%

# **Biodiversity**

Komatsu's will maintain its commitment to protecting biodiversity in its business activities, recognizing their impact on the ecosystem.



#### **Initiatives of Business Sites to Promote Biodiversity**

On the earth, there are the forests, grasslands, mountains and rivers forming the habitat for a large variety of creatures, each one forming part of ecosystems specific to their geographic location and climate.

Human well-being depends to a large extent on ecosystem services based on biodiversity. It is said that unless effective measures are taken to stop the continuing loss of biodiversity, the future of mankind will be in danger.

While Komatsu had until recently left activities in this field up to individual business sites, amidst calls for protecting biodiversity, the issue came to be perceived as another pressing management issue, leading to a Guideline being drawn up in FY2010 which to serve as the basis for measures to be taken by all business sites.

# The Oyama Plant's Activities to Protect the Ecosystem

Several decades ago, the Oyama Plant built an unlined pond to serve as rainwater reservoir. While the site was managed to prevent accidents due to unauthorized access, it became a haven for fish and birds

By now the 10,000-ton natural pond has become the home of various fish species, wild ducks, kingfishers, blue herons and, seasonally, cormorants.

In summer, wild hawks have been seen at the site.

The surroundings of the site are inhabited by Japanese pheasants that are raised at the plant, and people come to enjoy the 47-year old weeping cherry tree in bloom.



February 2010: Swans pay their first visit



Wild ducks swimming in the pond that has been left to revert to nature



Japanese pheasant raised at the plant



The 47-year old weeping cherry tree, which is as old as the Oyama Plant

#### **Planting Trees in Indonesia**

Joint research since 1991 between Komatsu and Indonesia's Forest Research and Development Agency (FORDA) has yielded the world's first successful mass-production of Dipterocarpaceae tree saplings from cuttings.





Cultivating saplings

Current state

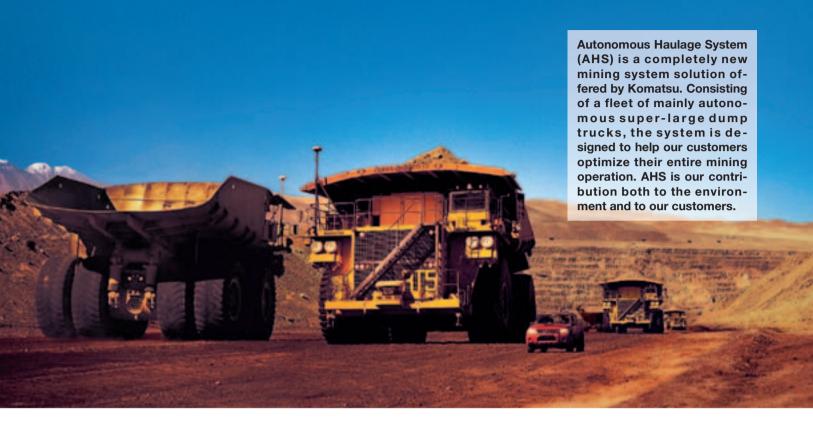
#### Planned Use of Vacant Lot at the Komatsu Plant

Plans for a vacant lot at the Komatsu Plant include using it to cultivate plants typically grown in the region, making the site available for local people to relax and for environmental education of local school students, and installing equipment for scientific experiments.



Vacant lot at the Komatsu Plant

# Corporate Social Responsibility and Unmanned Dump Truck Operation System



#### **Social Mission and Contribution to Customers**

Automation has been a long-time dream for the mining industry, and AHS will help realize this dream.

AHS allows unmanned operation of multiple super-large dump trucks at mining sites, enabling customers to manage their fleets with fewer drivers. This helps protect employees from hostile working conditions and, at the same time, reduces operating costs.

It also helps improve safety, by significantly reducing accidents caused by driver error. AHS also optimizes driving performance, which improves productivity and reduces fuel and tire costs.

A large portion of the digging costs come from the running and hauling of the dump truck fleet. Not only does AHS optimize this part of the operation, by coordinating the fleet with other manned vehicles, it optimizes the entire mining operation and makes it more visible.

The demand for mining companies to develop mineral resources is increasing year on year. New mines must be developed, but up to now, developing new mines in remote and unfavorable locations was not economical, because of the harsh working conditions, high labor cost, and large expenses for transportation and suitable worker accommodations. Automation helps mining customers operate with a minimum number of workers, whose main duty is to monitor dump trucks from a fleet control center. This system not only reduc-

es running costs, it also increases productivity and creates jobs in remote areas.

AHS also helps our customers realize their social mission, by helping to protect the environment, conserve energy and promote efficiency. With AHS, the dump trucks run at a specified speed; there is no unnecessary acceleration or deceleration, which leads to better fuel efficiency and lower CO<sub>2</sub> emissions.

# **Enhancing Joint Development Efforts with Customers and Distributors**

We pursue the development of AHS together with our customers and distributors as one integrated effort. We listen to the needs of customers directly at the job site, and use this knowledge for creating real solutions that meet our customer's needs. For this purpose, Komatsu and our distributors have established offices at the mining sites, so that we are able to work side-by-side with our customers and immediately respond to any requests.

Komatsu is committed to partnering with our customers through close collaboration on AHS, and form a strong relationship through ongoing dialogue.

#### **AHS Contribution to Customer's Mining**

#### Efficiency

- · Optimal operation through autonomous running
- · Decrease in overall costs
- · Facilitation of new mine development

#### **Environment**

#### · Lower CO<sub>2</sub> emissions (Greater fuel efficiency and longer tire life)

#### Safety

 Eliminates driving accidents caused by human error

# VOICE

#### [ From the Distributor ]

#### **Jeffrey Dawes**

President, Komatsu Cummins Chile Ltda.



The main focus of the Chilean mining industry is on sustainability.

Within this broad goal, Komatsu is striving to develop and

Within this broad goal, Komatsu is striving to develop and apply state-of-the-art technology to help our mining clients meet and exceed safety and environmental standards. The Komatsu Autonomous Haulage System (AHS) trucks are an important step in this direction.

Our customers want their suppliers to add value by being part of their value chain. Offering products and services that support sustainable mining is considered strategic for reducing the "social and environmental accident rate" that is connected with mining activities. For this reason, the Komatsu AHS is considered ultimate innovative transportation and loading alternatives in Chile. In terms of safety, the AHS truck does not require an on-board operator, so complex or potentially hazardous tasks can be carried out without placing personnel at risk. The computer system that controls the autonomous truck can run continuously, without get stressed or tired, like its human counterparts. Day or night, good weather of bad, the AHS truck works in exactly the same way, all the time. That's the AHS.

In December 2005, 5 unmanned dump truck fleet was commissioned on trial at Codelco Norte's Radomiro Tomic mine in Northern Chile. Codelco subsequently deployed a full fleet of 11 units at the start-up of the Gabriela Mistral Mine (formerly the Gaby Mine), approximately 120 km south from Calama in the north.

There are numerous advantages to using the Komatsu AHS: a continuous load transport process (every miner's dream), higher productivity, lower transportation costs, reduced accident risk, and lower overhead – all of which result in less impact on the environment.

#### **AHS System Configuration**

AHS consists of unmanned dump trucks, manned non-truck vehicles, and an operation management system that manages the entire mining operation.

#### **Unmanned Dump Trucks**

The 930E super-large dump trucks are used as the base model, and are equipped with various devices that make unmanned operation possible. This onboard equipment helps realize safe and precise unmanned dump truck operation.



#### Manned Vehicles

Various manned vehicles operate together with the unmanned dump trucks. The operation management control room is equipped with GPS to monitor the location of the manned vehicles. It also has an AHS control panel, equipped with an emergency stop button for the unmanned dump trucks, for the rare case where the trucks may need to be suddenly stopped.





(1) Loader

(2) Patrol vehicle





(3) Motor grader

(4) Bulldozer

#### **Operation Management System**

The operation management system is operated out of the operation management control room. It comprehensively controls the unmanned dump trucks and the manned vehicles through a network. The system provides the latest course data and running condition settings for the unmanned dump trucks and position information on all vehicles. Together with movement control, the system helps support mining production and work efficiency.





Operation management control room (external view)

Operation management control room (internal view)

# Landmine Removal and Regional Reconstruction in Angola

A 2008 project for regional reconstruction that Komatsu jointly commenced with the Japan Mine Action Service (JMAS), a non-profit organization registered in Japan, is making steady progress in the African country of Angola.

The civil war that followed Angola's independence from Portugal in 1975, and that continued until 2002, is said to have left 6 to 15 millions of landmines still buried throughout the country. Following similar activities in Cambodia, a Komatsu-JMAS landmine removal and regional reconstruction project is now underway on Angolan soil, taking the form of a government-private sector joint project supported by the Japanese and Angolan governments with Sumitomo Corporation and Toyota Tsusho Corporation also participating in the project.

#### Regional Reconstruction Combined with Human Resource Development through Technology Transfer

The project site in Angola is located 70 kilometers northeast of the capital of Luanda, in the Mabubas district of Bengo Province. The objective of the project is to demine 100 hectares of minefields around rural communities and to improve

the living environment. Measures such as developing vegetable plots and securing water resources for domestic use are being taken to help the local villagers become self-reliant.

An opening ceremony held on April 20, 2009 signaled the official start of the project. As in Cambodia, Komatsu provided a demining machine for anti-personnel mines, together with other related equipment, such as a hydraulic excavator and a bulldozer for work on the site. The staff of JMAS and the Angola National Institute for Demining (INAD) are playing a key role in the demining work, which is being performed in extreme 50-degree Celsius summer heat and under scarce water conditions.

The machines are subject to intense wear on the slopes of the wooded, stony minefields, making the job of replacing consumable parts and resolving technical breakdowns a critical one. That is why it is very important to transfer the technology that the INAD staff needs to handle this job on their own. In the meantime, steady efforts are underway to overcome the language barrier and to motivate and inspire people with the will to work.

# VOICE

#### Yoshinao Doi

Angola Site Representative, Mine Disposal Expert Japan Mine Action Service (JMAS) NPO registered in Japan



One thing that has concerned me during the year that I have spent at the Angola site is that there is land, but hardly any farmers, and that there are people, but no human resources.

We are currently working on transferring technology that will enable the local population to use machines in their agricultural operations. We are also helping with community reconstruction, while at the same time stepping up efforts to make the local people feel more self-confident.

I think the country has been largely prevented from developing its human resources. Together with its historical and cultural background, Angola has undergone a 27-year civil war that has made it difficult for people to get a proper education.

We JMAS members enjoy the sweat and hard work that this severe environment demands of us, forgetting our age and using the skills we learned when we were young. And, we also remember the poverty we experienced ourselves as youngsters. I am grateful for the opportunity to be here.

#### Luis de Assuncao Pombal Filho

Mechanical Demining Squad Leader, INAD/JMAS Joint Project Angola National Institute for Demining (INAD)



Mine disposal work started in April of last year. During the one year since then, I was able to learn a lot – from JMAS-style and Komatsu-style operation and maintenance technology, to safety management and operating a PC.

Komatsu machines can handle demining even on the most

difficult terrain, or when confronted with rocks, large trees, and sloping land. I think the job they do is superior to what can be achieved with the methods that the squad members use or with the machines INAD has. We have been selected as the skilled squad members using this high-performance machine.

I hope that Komatsu will continue to lend its full support to this mine disposal activity. In the future, I would like to apply for additional training in electrical engineering related to these machines

Thanks to everyone at Komatsu. When I get my salary every month, I turn to the Japanese flag and greet it with "Obrigado" (Thank you).

# **Developing Together with Employees**

Komatsu endeavors to foster a safe and comfortable work environment by implementing measures to reduce workplace risks and administering a personnel system that accurately reflects the abilities and achievements of employees, an extremely important corporate asset.

#### Komatsu's Relationship with Employees

#### Enhancing the Quality and Reliability of Employees

For a business, it is said that people, goods, money, information, and time are valuable assets and resources. Even if the other elements remain constant, if "people" change, the results will be different.

Thus, people—the employees of Komatsu Group companies— are an irreplaceable asset for the Group. Komatsu recognizes the role of the personnel system in enhancing the quality and reliability of the company's human resources. It therefore endeavors to foster a work environment with opportunities for challenges and creativity. The company works to maximize the sum of trust given to it by its employees.

#### **Basic Policy on Global Human Resources**

Personnel systems reflect the history and culture of each particular region. It is therefore important to recognize and correctly understand those differences. At the Komatsu Group, the basic policies for personnel systems common to all Group companies around the world are found in *Komatsu's Code of Worldwide Business Conduct* as stated below. Each region uses these policies to formulate a personnel system that has a competitive edge over other companies.

#### Chapter 5 of Komatsu's Code of Worldwide Business Conduct

- (1) The uniqueness, character and privacy of individual employees shall be respected.
- (2) Employees shall be fairly appraised and treated. They will not be unjustly discriminated against for reason of national origin, race, religion, age, sex, disability or other factors. Should any form of violation be discovered, such as sexual harassment or any other unlawful employment practices, it will be investigated and appropriate actions will be taken.
- (3) In developing and implementing personnel policies, accordance with the understanding of employees must be ensured. Human resource policies and procedures shall be disclosed to the employees as appropriately and fully as possible.
- (4) In each region, the Komatsu Group will comply with the ordinances concerning the rights of employees.

In addition to these policies, the Group also prohibits the use of child labor, which is a problem in certain regions around the world.

Komatsu has set forth Komatsu's Five Principles for Hiring, namely: (1) the company does not consider age or gender in hiring decisions; (2) the company does not consider national or regional origins in hiring decisions; (3) the company does not consider religious affiliation or beliefs in hiring decisions; (4) the company does not consider the existence of disabilities that are not job performance related in hiring decisions; and (5) the company gives significant consideration to work experience at other companies or in other industries in hiring decisions. Komatsu conducts its hiring practices based on these five principles, which are disclosed on its website.

#### Komatsu's Initiatives

#### Personnel System that Accurately Reflects Employee Abilities and Achievements

Personnel systems in Japan are typically based on the assumption that employees will work for a single company for many years. Therefore, when designing a system, a company must keep in mind the degree to which continuous employment should be considered. Komatsu believes that personnel systems emphasizing length of service do not necessarily reflect employees' abilities and achievements fairly. Instead, Komatsu has always strived to accurately evaluate the performance of employees as individuals, incorporating employees' achievements and abilities into its personnel system as the basis for fair evaluations.

#### Developing Human Resources Globally

The development of global human resources is an ongoing theme for the Komatsu Group. To maximize corporate value, while growing together with its employees, Komatsu is setting the following policy in an effort toward further developing its human resources.

#### **Basic Policy on Education and Training**

- Each employee should set high goals, be self-reliant and self-motivated in acquiring knowledge and skills.
- The Company should support employee career development through the implementation of necessary education for both the company and employees in a focused manner.
- The objective of the education policy is "education", facilitating the ongoing growth of the company and its employees.

While fulfilling basic and specialized education in fields such as research and development, production, and sales and after-sales service, the Company is also supporting the acquisition of the necessary attitudes that go with knowledge and skills, at every level in the company, from new hires to management. Furthermore, we intend to promote human resource development on a global, Group-wide basis, including the training of employees outside Japan, as well as the employees of our business associates.

# Formulating the KOMATSU Way and Extending TQM Training Company-wide

In Komatsu's history of growth and development, there has emerged a clear sense of the corporate strengths that are "quintessentially Komatsu." The basic attitudes, values and convictions that support those strengths and the style by which the company puts them into practice were set down in writing in 2006 as The KOMATSU Way. Komatsu wants all Group companies, including those outside Japan, to share these guiding principles. The KOMATSU Way highlights the continuous reforms towards greater Quality and Reliability, the importance of the individual workplace (Genba), and the ability of employees at each level to swiftly implement management policies and transfer them into practice. Komatsu has long utilized Total Quality Management (TQM) training to support employees in improving these capacities. While sharing The KOMATSU Way, the company will extend TQM training to all employees globally, with the aim of stimulating continual improvement and increasing the vitality of the organization.

#### Efforts toward Nurturing the Next Generation of Leaders

Since 1996, Komatsu has a system in place for selecting and nurturing business leaders, to train the next-generation leaders who will take an active role on the global scene. Every year we continue this process of nurturing leaders that not only possess knowledge, but are also an embodiment of The KOMATSU Way. Komatsu's president as well as many other directors have participated as lecturers in this program, for the purpose of developing their successors.

We have been holding Global Management Seminars since 2006 to increase the management capabilities of employees in our overseas subsidiaries. The purpose of the seminars is to deepen the understanding of Komatsu's corporate strategy, The KOMATSU Way, and of leadership in general, and provide opportunities to engage in group discussions. On the last day of training, participants are given the opportunity to submit proposals to top management.

In 2009, seminars to train middle level managers from overseas were inaugrated, with the first seminar being held in Shanghai, China.



In December 2009, 21 people from 9 Komatsu Group companies in China took part, discussing the meaning and practice of The KOMATSU Way and the development of human resources.

#### Efforts to Strengthen Manufacturing (Monozukuri), and Workplace (Genba) Capabilities

Globalization of Komatsu's production organization is progressing, and the manufacturing workplace is requiring a high level of technical capability. We designated the third Saturday of every October as "Technical Capability Day" and hold all-Komatsu technical competitions on this day. Participants include employees from overseas subsidiaries and business associates; whose aim is to maintain and improve Komatsu Group's technical capabilities by mutually dedicating themselves to their studies. In FY2009, 37 participants from 10 countries overseas attended.



Komatsu established the Meister system for passing down technical capabilities from the production site in FY2006. Techniques and skills that merit handing down are divided into 9 fields of 15 capabilities, and a First Meister is certified for each capability. Certified Meisters (there are 37 as of April 2010, and are authorized by each factory), who are certified for their high-level of proficiency for a particular technical capability, dedicate all of their time to guiding and nurturing young employees.

#### **Creating a Comfortable Work Environment**

For a company to create a safe and comfortable work environment, it must treat employees fairly. Komatsu has already changed its personnel system to the kind described earlier that better incorporates abilities and achievements. To ensure fair and appropriate evaluations for each individual employee, in April 2004 the company organized refresher training for all managers on how to conduct evaluations. Since then, evaluation training has been given to newly appointed managers, backed by e-Learning based follow-up education. An evaluation committee has been established jointly with the labor union at each business unit to confirm that evaluations are conducted properly. Komatsu has provided individual feedback on evaluations to managers since 1998 and to non-managerial employees since 2001. The company has also set up a consultation office through which employees can express complaints and concerns.

# OPICS

## Sharing the Joys of "Business Trip Work"

Currently (as of April 2010) there are 13 mentally disabled persons working at Komatsu's Human Resources Business Creation Center. Their work includes sorting mail in the mailroom at the head office, collecting and delivering mail to each department, as well as "business trip work", going to various departments and supporting their work activities according to the department's needs.

In addition to helping improve the efficiency of the work activities in the particular departments, the employees also enjoy the benefit of a wider variety of places to work and types of work to do, making their job more worthwhile and rewarding. Komatsu is striving to increase not only the proportion of such employees, but also the quality of their work experience.



Mr. Yoshiyuki Ishii (right) of the Business Creation Center works three days a week, outside of his daily routine activities at the corporate communications department. He organizes newspapers and inputs data on PCs, and handles any work that comes up unexpectedly.

#### **Further Enhancing Diversity in the Workplace**

#### Gender-equal Opportunity

Currently, the number of women in managerial positions is low compared with the number of men, and Komatsu recognizes this as an issue to be addressed. Childcare leave and shorter working hours are among the working conditions that would contribute to an environment that facilitates productive careers, particularly for women. In 2007, Komatsu acquired the Japanese Ministry of Health, Labour and Welfare mark designating companies that assist in the growth of the next generation. Since then, the company has advanced discussions on working conditions through the appointment of seven female employees to a newly launched Panel on Fostering Future Generations. The four major recommendations from the Panel were incorporated into labor agreement revisions for FY2007, further improving the company's approach in this area. These recommendations were: (1) allocating five days of special leave for cases of employee pregnancy, delivery by the employee's wife, and childcare by the employee (such as to take care of a sick baby or toddler); (2) extending the eligibility period for shorter working hours from March 31 after the child turns age four to the child's completion of the third grade at elementary school; (3) providing monetary allowances for childcare leave beyond the amount required under the law; and (4) providing financial support to offset the costs of nursery schools and babysitters.

The number of female managers increased from 20 in March 2010 to 23 as of April 2010, and the number of employees taking advantage of the system for childcare leave increased from 31 in FY2008 to 34 (including one male) in FY2009. Komatsu will continue its efforst to establish working conditions that take into account the needs of working parents.

#### Enhancing Work-Life Balance

Reducing the total number of actual working hours is one of the key aspects in achieving a healthy work-life balance for employees. Komatsu has worked in coordination with labor unions on this issue to formulate numerical targets, which are now set at 2,100 or less working hours per year, and at least 15 days of paid vacation taken per year. The company has brought down to an average level the workload of divisions that are chronically shouldering intense levels of operations by hiring more employees, both newly graduated and experienced, and investing in necessary facilities and equipment. Komatsu has each workplace formulate concrete Action Plan for seriously addressing working hours management. These plans enforce appropriate numbers of working hours by reducing overtime and encouraging employees to take more paid annual leave.

#### Employing Persons with Disabilities

As of April 2010, 1.9% of employees at Komatsu were persons with disabilities. Recognizing the need to enhance its hiring rate of persons with disabilities, in April 2008 Komatsu established the Business Creation Center within the Human Resources Department. The Center is designed exclusively for increasing the hiring of persons with mental disabilities. As of April 2010, 13 people with such disabilities were employed by Komatsu, raising the rate of employment for persons with disabilities compared to the previous year. In the same month, we also established a branch office of the Center in Ishikawa. Komatsu is determined to make an effort to employ more disabled persons in the years to come.

#### Eco-commuting Allowance System Trial

The Eco-commuting Allowance System was introduced on a trial basis in April 2010. Eco-commuting means environmentally friendly commuting, where employees leave their car at home and walk, ride a bicycle or use public transport, such as the bus or train, to com-

mute to work, in an effort to reduce CO<sub>2</sub> emissions. Every person that uses eco-commuting can reduce CO<sub>2</sub> emissions by 1.4 tons a year, equivalent to the amount absorbed by 100 cedar trees (of 50-year-old).

This activity is also endorsed by the labor union, as part of an initiative for contributing to society through activities that are "close to home" for our employees.



# Collaborating with Educational Institutions

#### Industry-Academia Collaboration

Komatsu has concluded industry-academia collaboration agreements to pursue leading-edge technologies collaboratively with four universities in China and Japan, namely Shandong University in China and Yokohama National University, The Graduate School of Engineering of Osaka University, and Kanazawa University Graduate School of Natural Science & Technology in Japan. The company also held the Osaka University-Komatsu Joint Research Symposium in cooperation with The Graduate School of Engineering of Osaka University and a series called Lectures in Cooperation with Society jointly with the School of Engineering of The University of Tokyo. In convening these fora, Komatsu aims to research technologies for an increasingly diverse society, while also nurturing human resources who will advance academic and societal developments.

#### Scholarship Program for China

Komatsu's Chinese subsidiaries, Komatsu (China) Ltd. and Komatsu (Shantui) Construction Machinery Co, Ltd. have established the Komatsu China/Japan Scholarship Fund scholarship program for students of Shandong University. The objective of this program is to contribute to the development of talented individuals in China, primarily in the area of technological development. Komatsu (China) Ltd. contributes 60,000 yuan (approx. 800,000 yen) per year to the fund, with a long-term collaboration to developing skilled individuals, whom they are employing locally.

The scholarship award ceremony was held in Shandong on November 19, 2009, in conjunction with the Komatsu Group company briefing.



Commemorative photo of the recipients of the Komatsu China/Japan Scholarship Fund scholarships

# TOPICS

#### **Accelerating Pace of Global Human Resource Development**

Komatsu is focusing on developing after-sales service personnel of distributors in emerging nations and our strategic markets. This contributes to local community development as well as job creation.

# Developing After-sales Service Personnel Leaders at Service Support Centers

It is imperative that Komatsu provide adequate product support that is fully embedded in the region, to ensure that customers world-wide can use Komatsu construction and mining equipment with confidence and peace of mind.

By developing leaders from among our distributor's service personnel, we strive to raise the level of product support. We have established Service Support Centers at our distributors worldwide and have permanently stationed one service employee from Japan to provide one-on-one guidance to the distributor's service employees. In the future, these local service employees will become leaders, thereby raising the overall level of the distributor. Since this initiative started in 2006, to date, we have established Service Support Centers in 18 locations, with another 15 locations already planned.



A Service Support Center has been established in Tanzania, where new gold mining development is actively underway. Staff from Japan are onsite, guiding the service personnel of the local distributor, Panafrican Ltd.

#### Service Support Centers Expanding Worldwide



- Service Support Centers for Mining Equipment (11 sites)
   Service Support Centers for Construction Equipment (7 sites)
- ★ Local Distributors

#### Developing Human Resources in the Emerging African Market

In recent years, with increasing demand in West Africa due to improvements in infrastructure and mining development, the allocation of equipment is dramatically increasing. Because there is limited local industry, securing personnel with technical service skills is difficult, so the hiring and training of high-quality service personnel is an urgent matter.

With this in mind, Komatsu established the Komatsu Dakar Training Center in May 2009 at its West Africa regional distributor BiA in the Republic of Senegal, to concentrate efforts on training personnel on basic service technology. We are taking service employees from distributors within the region and grouping them into six-person teams, providing them with a nine month training curriculum -- three rounds of one month of group training together plus two months of training in their local area.

With aid from the Japanese Government, the Vocational and Technical Center of Senegal/Japan was established in 1984. Many of the graduates of this center are now working at Komatsu distributors. The possibility of holding specialized training for the Vocational and Technical Center at the Komatsu Dakar Training Center is being considered, as well as interaction in the area of equipment and instructors.



View of the Dakar Training Center. There is one class of six people per term. The structure of a hydraulic valve is explained using a cutaway model

# Health and Safety

# Message from the Komatsu President Regarding Health and Safety

Komatsu has been disseminating the Message from the Komatsu President regarding Health and Safety throughout the entire Komatsu Group.

President and CEO Kunio Noji delivered the message that, for the Komatsu Group to foster companies and workplaces with no safety incidents or illness, all employees must cooperate, managing health and safety proactively and responding to relevant issues in a prioritized and timely fashion. The major points of his address were as follows.

- (1) The Komatsu Group shall, first of all, strive to "ensure a safe and comfortable work environment" and "maintain and promote employees' health."
- (2) The Komatsu Group shall promote "proactive occupational safety and health activities" in order for all employees to achieve the above conditions by working together as one team.
- (3) Each and every person in a senior management position of the Komatsu Group shall acknowledge as top priority tasks the above two matters and shall take the initiative in demonstrating the execution of daily duties accordingly.

#### **Overview of Health and Safety System**

The Komatsu Group strives to thoroughly implement health and safety using the following system.

#### Overview of Health and Safety System

	Komatsu Head Office	Group companies and Komatsu divisions	
Organization	Safety and Health Administration Department     Health Promotion Center     Human Resources Department	Business unit managers, division heads, managers in charge of general affairs and human resources, industrial health medical advisers, industrial health care staff, managers/staff in charge of health and safety, employees	
Meetings	Group Health and Safety Committee     Group Safety Supervisor Meeting     Group Safety and Health Conference	Health and Safety Committee	

#### **Occupational Safety**

#### Efforts on Health and Safety Management by Manufacturing Subsidiaries

In FY2009 the Oyama and Ibaraki Plants acquired Occupational Safety & Health Management System (OSHMS) certification, which followed the certification of the Awazu and Osaka Plants. The Komatsu Group has carried out assessments to anticipate risks mainly through small-group workplace activities on safety aiming at "zero accidents"

In FY2010, the Group will steadily implement OSHMS at already certified plants, and promote acquisition of OSHMS certification at other Komatsu plants. At the same time the Group will foster occupational safety mainly through small-group "zero accidents" activities and by upgrading safety-related education and training using the disaster simulators installed at the main plants, which allow employees to experience a simulated disaster.

#### Health and Safety Management at Komatsu Group Sales Agencies and Rental Companies in Japan

Komatsu supports the safety activities at Group sales agencies and rental companies in Japan through training and guidance on ways to enhance their safety management. Persons overseeing occupational

health and safety at Komatsu, and at its agencies and companies, provide guidance on areas for improvement through visits to relevant offices, factories, and rental business shops (a total of 105 sites visited in 2009) to verify firsthand the state of safety management at the site.

At agencies and companies where occupational accidents had occurred, Komatsu gave assistance in determining the causes and formulating countermeasures, and applied these measures to other agencies and companies across Japan.

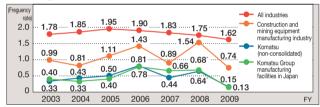
The Komatsu Group further strives to reduce occupational accidents by promoting risk anticipation.

#### Group Activities

The Group as a whole has been conducting compliance and risk audits on safety to confirm the state of compliance with relevant laws and regulations.

Efforts to eradicate occupational accidents throughout the entire Group will continue based on intensified management-labor cooperation.

# Incidence Rate of Occupational Accidents (Frequency Rate of Lost Worktime)



\*Changes in the frequency rate of Komatsu (non-consolidated) and Komatsu Group manufacturing facilities in FY2008

One person involved in an accident not accompanied by lost worktime that occurred in FY2008 was certified for a disability in FY2009, and therefore was retroactively included in accidents not accompanied by lost worktime.

#### **Health Care**

#### Physical Health Care

In addition to the health checks for lifestyle-related diseases the company has been providing up to now, Komatsu has been taking additional steps since FY2007 to prevent these diseases by launching computer-based diagnostic interviews and expanding the range of health checks.

Since FY2008, Komatsu has been working to improve the health of employees in cooperation with its health insurance association to deliver health-related guidance and awareness education, and through the use of external specialized institutions.

#### Mental Health Care

Over the years, the Komatsu Group has introduced mental health education and awareness-raising programs, while also providing counseling from mental health professionals and the Employee Assistance Program (EAP). The EAP makes use of external specialized institutions to advise employees and their families throughout the Group on matters of mental health. Since FY2009, Komatsu has been revamping the EAP system, launching the Komatsu Health Consultation Hotline to provide all-encompassing support by unifying physical and mental health care services. The company has continued its stress diagnoses and stress awareness education for self-recognition, which began in FY2007. In FY2009 Komatsu intends to utilize the results of stress diagnoses to further improve the work environment and promote mental health.

#### Communication with Stakeholders

Komatsu takes advantage of various opportunities to communicate with stakeholders. As a responsible corporate citizen, the company has undertaken social contribution programs to help bring about an enriched society.

#### Communication with Stakeholders

#### Communication with Shareholders

Along with striving for high managerial transparency, Komatsu discloses information in a proper and timely manner through constructive approaches to investor relations (IR) around the world. On the same day that quarterly business results are announced, the company holds explanatory sessions in Japan for institutional investors and securities analysts and also releases this information on its website. Corporate representatives visit institutional investors outside Japan, primarily in the U.S. and Europe, to explain recent business performance and other critical information.

#### **Shareholders' Meetings**

To furnish an opportunity to communicate with individual shareholders, Komatsu convenes shareholders' meetings in major cities in Japan two to three times annually, with top management explaining the company's performance and management strategy. In 2009, shareholders' meetings were held in November in Hitachinaka City in Ibaraki Prefecture and in December in Takamatsu City in Kagawa Prefecture, with a combined total of some 300 shareholders attending. A wide range of questions was answered, covering such topics as the business environment surrounding Komatsu and the company's business performance and social contribution activities. Since their launch in 1997, these meetings have been convened 29 times, with over 9,300 shareholders participating to date.



Shareholders' meeting convened in Takamatsu in December 2009

#### **Plant Tours for Shareholders**

Komatsu held plant tours in Japan for individual shareholders at the Ibaraki Plant (Ibaraki Prefecture) in November 2009 and the Osaka Plant in Osaka Prefecture in March 2010, drawing about 70 and 90 participants, respectively. Attendees deepened their understanding of Komatsu by touring assembly plants for dump trucks, wheel loaders, hydraulic excavators, and other types of equipment and watching demonstrations at the testing areas.



Plant tour for shareholders held in Osaka in March 2010

#### Communication with the Local Community

Each of the business units of Komatsu tries to harmonize its interests with the local community and make itself open to society as a responsible corporate citizen. They host regular opportunities to interact with representatives of residents' associations from the surrounding community. For the community to gain a better understanding of their business activities, business units welcome representatives from the city and prefecture to plant tours and meetings.

#### Communication with Employees

Two or three times a year, the President and CEO convenes a "Meeting with the President" at each business unit in Japan. Komatsu top management explains the state of the company to all employees at the unit, employing an active question and answer format. These meetings are opportunities for top management and employees to interact with each other directly. The content of these meetings held at the Head Office in Tokyo is simultaneously transmitted by TV broadcast to other business units in Japan and later published on the company Intranet in English to share it with Komatsu Group employees around the world.



Meeting with the President held at the Head Office in April 2010 on the day after the announcement of term-end business results

#### **Social Contributions**

#### Basic Stance on Social Contributions

Komatsu holds the firm conviction that contributing to society leads to raising its corporate value over the long term and the Group as a whole proactively engages in social contribution activities on a continuing basis to fulfill one part of its corporate social responsibilities.

Komatsu's basic stance on social contributions (the purpose and the five basic principles concerning social contributions) is as follows.

#### **Purpose**

The Komatsu Group and its employees will contribute to society as members of the local community.

#### **Basic Principles**

Contributions shall be:

- Consistent
- In the public interest
- Voluntary
- Acceptable by employees
- Not aimed at advertisement

#### **Major Areas of Activity**

Komatsu's main activities for social contributions are in the following areas.

- Supporting the Flower Association of Japan (Public Interest Incorporated Foundation)
- Promoting culture and education and local community development
- Promoting sports
- Providing humanitarian assistance and recovery from disasters

# Contributing to Local Communities Making Business Units Open to the Public

In addition to opening up its gymnasium, field, tennis courts, and various other recreational facilities, Komatsu hosts various events so as to foster harmony and a spirit of coexistence with local communities.

#### Holding "Open House" Day

Komatsu convenes "open house" days at its business units on a regular basis, taking advantage of various events to enhance the local community's understanding of its business operations.

# Running Kids' Tour of Working Vehicles at the Komatsu Techno Center

Twice a year, the Komatsu Techno Center in the city of Izu in Shizuoka Prefecture, Japan runs a Kids' Tour of Working Vehicles, which allows the children to come into direct contact with large construction equipment.

Kids' Tour of Working Vehicles at the Komatsu Techno Center

Through this tour Komatsu hopes to foster children's dreams and furnish an opportunity for parents and children to play together, thereby encouraging deeper understanding towards construction equipment and Komatsu's corporate ideal.

#### Promoting Sports

The Komatsu Women's Judo Club was founded in April 1991 to commemorate the company's 70th anniversary. The club has won four consecutive championships of the All Japan Company Judo Club Competition eight times to date. Members of the club have also demonstrated a record of excellence in individual competitions, both in and outside of Japan. The club gladly offers non-Japanese teams opportunities to practice with its members, thereby contributing to the spread and development of judo around the world.

In April 2009, Mina Watanabe (70 kg class), Tomomi Okamura (78 kg class), Mika Sugimoto (78 kg class) all won their respective classes at the All Japan Selected Judo Championships. Mina Watanabe went on to win a Bronze medal at the World Judo Championships in Rotterdam, Holland.

In addition to regular training, we hold children's judo classes every Wednesday and Friday, to help raise the next generation of Judo champions.



The Komatsu Women's Judo Club

#### Supporting the Flower Association of Japan

As one of its contributions to society, Komatsu has been supporting the Flower Association of Japan\* since it was established in 1962, an organization that develops venues for viewing cherry blossoms and cultivates local environments rich in flowers, to thereby foster areas of beauty and abundant greenery. The activities of the Flower Association of Japan center on supporting both its members throughout Japan, as well as local residents associations, to create spaces filled with flowers and greenery.

\* Designated as an organization serving the public good by approval of the Prime Minister as of December 2009.

# Creating Venues Renowned for Cherry Blossoms and Revitalizing Famous Sites

The Association supports those entrusted with developing venues for viewing cherry blossoms and including them in urban planning, and supplies them with free cherry saplings. It provides advice on how to plant and raise the saplings and offers follow-up care after the saplings are delivered. The Association is also active in preserving and revitalizing existing cherry blossom viewing venues. When trees at old noted sites become diseased or weakened due to environmental changes, the organization uses its accumulated expertise to provide advice on how to restore the trees to vigor.



Cherry trees blooming around Kameyama Castle in the City of Ono in Fukui Prefecture. The Fukui chapter of the Flower Association of Japan succeeded in revitalizing diseased cherry trees at this site.

#### The Yuki Farm, a Major Venue for Cherry Blossom Viewing

The Yuki Farm in the city of Yuki in Ibaraki Prefecture, Japan is a base for tree doctors and experts in tissue culturing who support the activities of members and local residents of various regions. This is a major location for fostering the creation of venues for cherry blossom viewing. The farm produces some 30,000 cherry saplings annually and boasts one of the largest cherry tree collections in the world, with 1,000 trees of 350 varieties under cultivation in its onsite exhibition garden. Research is also underway to produce cherry saplings from tissue cultures.

#### Cities in Bloom

The National Competition of Japan in Bloom was initially proposed by Japan's Ministry of Agriculture, Forestry and Fisheries and the Ministry of Land, Infrastructure, Transport and Tourism as a way to establish a nationwide civic movement to develop local environments in bloom. It was inaugurated in 1991. The competition will be held for the 20th time in 2010, providing ample proof that it has spread nationwide. The Flower Association of Japan, in its capacity as secretariat for the competition, is fostering familiar flowers and greenery, and is encouraging the creation of spaces that are rich in flowers and greenery, while supporting residents associations and local authorities in these activities.



#### Global CSR Activities

Komatsu's CSR activities are taking to the global stage as the company's business expands throughout the world.

Komatsu will work to be of assistance to society in ways practicable for the company in communities around the world by reflecting local circumstances and listening to voices of our stakeholders.



#### PT Komatsu Indonesia (Jakarta, Indonesia)

#### Local Human Resource Development Through the Welding Vocational Training Program

Indonesia is rich in coal resources, and coal mining, together with public works projects, forestry, and agriculture, as prospering industries. It is the largest market in Southeast Asia for construction and mining equipment, and is therefore a very important region for Komatsu.

Since establishing PT Komatsu Indonesia (KI) in 1982, Komatsu has set up numerous production bases in Indonesia. As we have localized our operations over the years, we have also devoted efforts to activities as a good corporate citizen.

A special fund for KI's social contribution activities was established in 2006, and is actively serving the local communities of the region. One recent initiative is the Welding Vocational Training Program, which benefits both the company and the local community.

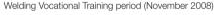
Started in 2006, this program offers a place where members of communities in the surrounding region can obtain welding certification. The objective of this program is to provide an opportunity for as many residents as possible to get employment in the local industrial area.

#### Win-Win Initiative Through Apprenticeship Opportunities

The first group to graduate the vocational training program which took place in 2006 had 13 members. An additional 10 have graduated from the second program offered in 2008. Participants were able to acquire necessary skills by going through the welding training and then an apprenticeship program. The global economic downturn forced KI to temporarily suspend the training in 2008, but by mid 2009 the situation improved and the apprenticeship program for the second training was revived and is underway in this first half of 2010.

This initiative is a win-win situation for both Komatsu and its stakeholders. The company not only fulfills its social responsibility through this program which is open to the general public, but it also secures the potential for new human resources to fulfill the company's manpower needs. From the perspective of local residents, they benefit from the opportunity to receive training in the factory, which broadens their future chances of employment. We hope to continue this win-win initiative into the future.









Apprenticeship training at the KI plant (January 2010)

#### Komatsu Manufacturing Rus. LLC (Yaroslavl, Russia)

# Developing People in a City of History and Technology

Komatsu completed the Komatsu Manufacturing Rus. LLC (KMR) plant in June 2010, its first assembly plant in Russia. The location of the plant, the city of Yaroslavl, has a population of approximately 600,000, is a city of culture, with a long history and is located 280 km northeast of Moscow on the banks of the Volga River.



The factory is located in Yaroslavl, a city of history and culture, as well as one of Russia's preeminent industrial cities.

#### Training Center Opened at the Local Technical University

KMR established a Training Center inside the Yaroslavl State Technical University. In addition to providing manufacturing equipment (welding robot) and construction machinery (mini excavator), Komatsu established two courses, one on assembly technology and one on welding technology.

These courses consist of two classes, one general class intended for students of Yaroslavl State Technical University, and one special class for Komatsu in-house technology. The contents of the general class can be applicable to a broad range of areas, with students having an opportunity to train on the latest manufacturing equipment. With the already high level of education at the university, the opportunity to learn not only theory, but also practical skills, is helping to develop highly talented graduates.

Already many of the top-level graduates of the Technical Center are being employed at KMR, putting their skills into practice in the workplace.

Komatsu, having become a new corporate citizen of this city that is deeply rooted in history and technology, would like to continue to contribute to the region.



Students and mini excavator supplied to the Yaroslavl State Technical University



Top-level graduates of the Training Center starting work at KMR

# Komatsu Cummins Chile Ltda. (Santiago, Chile)

#### Helping with Disaster Relief in the Region

In February 2010, an 8.8-magnitude earthquake and subsequent tsunamis devastated the south central region of Chile, making this the worst domestic natural disaster of the last half-century. Even now people are still living in tents and require basic assistance, as relief efforts that united the country in solidarity of action are continuing.

Immediately following the quake, top management of Komatsu Cummins Chile Ltda. (KCC), Komatsu's Chilean subsidiary and distributor, visited Concepcion and confirmed the extensive damage sustained by the area. They immediately decided to offer aid as quickly as possible.

First, during the "Chile helps Chile" fund raising telethon\* held immediately after the disaster, KCC employees donated US\$50,000, which was matched by the company, for a total of a US\$100,000 donation.

#### Concentrated Relief Efforts for Pelluhue on the Southern Coast

Komatsu Cummins Chile concentrated its relief efforts on Pelluhue, a town on the southern coast, where the earthquake and tsunami damage was particularly severe. Together with a local customer, the company provided excavators and dump trucks along with operators for the equipment, to be used to help clear rubble and build a heliport, worth an estimated US\$150,000 dollars.

In addition, the company donated five fishing boats (estimated at US\$110,000) to local fishing industry officials in an effort to help reestablish the fishing industry, a primary industry for the region.

\*Telethon: Long-duration television program for raising donations



Loading rubble into a dump truck



Excavator demolishing a damaged building in Concepcion

# The Basic Stance of Management

As the cornerstone of its management, the Komatsu Group has been committed to enhancing Quality and Reliability through strengthening corporate governance and *Monozukuri*, or manufacturing competitiveness, in order to maximize corporate value.

#### The Basic Stance of Management

As the cornerstone of its management, the Komatsu Group is committed to enhancing Quality and Reliability in order to maximize corporate value. Komatsu considers corporate value to be the total sum of trust given to it by society and all corporate stakeholders.

This principle of Quality and Reliability not only applies to the Komatsu Group's products and services that bring satisfaction to customers, but also extends to all other aspects of the Group, including organizations, businesses, employees, and management.

#### **Enhancing Quality and Reliability**

In particular, the Komatsu Group has been working to strengthen corporate governance and *Monozukuri* to enhance Reliability, a source of Komatsu's strength.

#### Strengthening Corporate Governance

To increase its corporate value to the greatest possible extent, it is important for the Komatsu Group to design a framework in which the Group can enhance its corporate value in a steadfast manner. This task calls for maximizing the total market value of Komatsu shares and working to expand sales and profits as the company strives to fully satisfy a broad range of stakeholders, especially customers.

Top managers of Komatsu Group companies are expected to provide, through full awareness of corporate social responsibility (CSR), solid management that avoids risk while continuously ensuring Quality and Reliability in management. Moreover, managers are stepping up the revitalization of the Board of Directors—the core body for corporate governance—and the establishment of an internal control system while enhancing the transparency and soundness of management.

All employees of Komatsu Group companies are expected not to postpone but to promptly work on solutions and corrections when they discover issues and/or problems related to the rules in all business areas and domains.

#### Strengthening Monozukuri

It is critical for Komatsu as a manufacturer to promote reform based on the *Monozukuri* concept in order to enhance its competitiveness.

Monozukuri means that the Komatsu Group has to rise to every challenge in creating safe and innovative products in the spirit of unified teamwork. This teamwork incorporates every division and partner related to the value chain—the chain of entities through which added value emerges—spanning from research, development, procurement, manufacturing, sales, and after-sales service divisions to the management division as well as to business associates and sales agents. The Group also emphasizes environmental friendliness in all activities throughout the product lifecycle.

#### The KOMATSU Way

The KOMATSU Way is a statement of values that all workers in the Komatsu Group, including those at every level of management, should pass down in a lasting way at their workplaces and worksites. By holding these values in common, the Group can build global teamwork that transcends nationalities and generations to amass and fortify the Komatsu Group's "workplace (genba) capabilities"—the dynamism of all workers and the entire organization, plus the ability to improve their own workplaces and worksites. This in turn further enhances Quality and Reliability, heightening the trust given to the Group by society and all stakeholders.

#### Disseminating The KOMATSU Way and Developing Human Resources

The Komatsu Group has been disseminating The KOMATSU Way and incorporating it into human resources development in each Group company around the world, with The KOMATSU Way Division spearheading these activities.

To deepen employee consideration and cultivate a better understanding of The KOMATSU Way at each level of the company hierarchy, regular sessions are convened at Group companies for deployment, guidance and group debate on the topic. Through explanations of this way of thinking and having employees relate stories of their own experiences, communication is stimulated with the younger generation to hand down this knowledge and make it part of them. In addition, this information is made available on-line for Group employees around the world to view.

The KOMATSU Way is based on the corporate strengths that Komatsu Ltd., a Japanese company, has cultivated over time. To promote The KOMATSU Way at Group companies outside Japan and help this foundation take root, Komatsu makes The KOMATSU Way easy to understand and relevant to local conditions, while being mindful of the differences among customs and cultures. Our plan is to incorporate the established values and way of thinking of each country's affiliate into The KOMATSU Way, as well as to include Komatsu's "Brand Management".

To strengthen the ability of employees worldwide to improve their performance, the Komatsu Group uses Total Quality Management (TQM), cultivated within the Group over the years, along with education and training to raise the level of professional capabilities, such as specific technological or specialist skills and managerial ability. Debriefing sessions are held at each employee rank, with participants reporting on the skills they have improved and receiving practical guidance. Such sessions help employees more fully acquire knowledge and skills from their education and training and help them utilize these newly acquired skills during operations. In this way, the Group continues to promote the enhancement of the individual abilities of the employee, as well as their ability to organize and integrate through teamwork. This results in a corporate structure capable of responding rapidly to changes in the operational environment.

### A Sound Management Framework

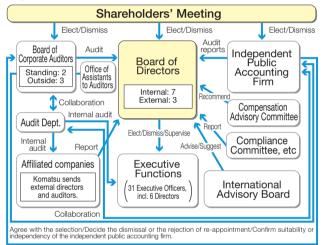
Komatsu is strengthening corporate governance Group-wide to become a company that enjoys even greater trust from all its stakeholders. Under the principle of "compliance comes first," the company has established a framework to ensure thorough compliance with best practices in business.

#### **Corporate Governance**

#### **Organizational Profile**

In 1999 Komatsu Ltd. introduced the Executive Officer System and has been working to separate management decision-making and supervisory functions from executive functions within the confines of the law. At the same time, the Company has maintained the Board of Directors with a small number of members and appointed outside directors and auditors. To improve the effectiveness of discussions in Board meetings, we have promoted reforms in the operational aspect of Board meetings to ensure fulfilling discussions of important management agendas and quick decision-making.

#### Corporate Governance of Komatsu



Report audit results

#### Board of Directors

The Board of Directors meets every month. (The Board met 15 times in the fiscal year ending March 31, 2010.) In Board meetings, directors make decisions on management policies of the Komatsu Group, review and resolve important management matters, and strictly control and supervise the execution of management duties by all executive management personnel, including the representative directors. At present, of the 10 directors on the Board, there are 3 outside directors. When performing their duties, outside directors offer opinions and suggestions from an independent position, based on their insight and rich experience helping to ensure that management is transparent and sound through their active participation in discussions.

#### Board of Corporate Auditors

The Board of Corporate Auditors makes decisions concerning audit policies, duty assignments and other relevant matters. Each corporate auditor attends Board of Directors meetings and other important meetings, and audits the execution of duties by directors. The Board meets every month, hears the conditions of execution of management duties from the directors, and conducts appropriate audits. (The Board of Corporate Auditors met 15 times in the fiscal year ending March 31, 2010.) We have also established the Office of Auditors' Staff to exclusively assist auditors.

#### Remuneration for Directors and Corporate Auditors

In an effort to maintain an objective and transparent remuneration system, the policy and levels of remuneration for Directors and Corporate Auditors are deliberated by the Compensation Council, which consists of four external members and one internal member. Taking the Council's recommendations into consideration, the remuneration for Directors is determined by the Board of Directors, and the remuneration for Corporate Auditors is determined by the Corporate Auditors. Both levels must be within the range resolved by the General Shareholders Meeting.

The remuneration for Directors is composed of a fixed, monthly remuneration and a variable remuneration linked to Komatsu's consolidated performance and stock price fluctuations. The variable remuneration is made up of the annual bonus, which reflects business results, and stock options, granted to give Directors the same perspective on earnings as shareholders, both of which have the purpose of motivating them to manage with the aim of enhancing corporate value. When business results are good, the performance-based component makes up approximately 60% of the remuneration. The remuneration for Corporate Auditors only consists of a fixed, monthly remuneration, designed to support their independent position of authority to audit the execution of duties by the Directors without being fettered by the movements of the corporate performance of the Company.

#### International Advisory Board

Komatsu established the International Advisory Board (IAB) in 1995 as a means to supplement executive functions and receive objective advice and suggestions through exchange of opinions and discussions with a group of domestic and overseas experts on what Komatsu should work for as a global company.

#### International Advisory Board (IAB)



Members of the fifth session IAB (front row)

#### Outside Advisors for the Fifth Session of the IAB

Name	Title
Mr. Yukio Okamoto	Specialist in international affairs, and President, Okamoto Associates, Inc.
Dr. Lawrence J. Lau	Vice Chancellor and President, and Ralph and Claire Landau Professor of Economics, The Chinese University of Hong Kong
Dr. Juergen M. Geissinger	President and CEO, INA-Holding Schaeffler KG
Mr. Travis Engen	Former President and CEO, Alcan Inc.

### A Sound Management Framework

#### **Improvement of Internal Controls**

#### System for Ensuring Directors' Execution of Duties

To ensure that Directors efficiently execute their duties, we have implemented the following system:

- ① The Board of Directors meets every month and more often as needed. The Board strives to maintain transparency and soundness of management through the participation of outside directors. We have also established the Regulations for the Board of Directors and the Standards for the Board Meeting Agenda to clarify the matters upon which the Board of Directors should make decisions.
- ② Together with the introduction of the Executive Officer System, we have defined the separation of duties for directors, executive officers and senior managers, and set up internal rules, including the Regulations on Decision-Making Authority, to ensure appropriate and effective execution of duties.
- ③ To promote efficient management by the Board of Directors, we established the Strategy Review Committee, consisting of senior executive officers and senior managers. Based on the reviews of the Committee, executive officers and senior managers execute their duties within the authority delegated by the Board of Directors.

#### Framework for Ensuring Appropriateness of Business Operations of the Komatsu Group

- ① We have established the Regulations for Affiliated Companies and relevant rules to contribute to proper and efficient operation of Group management, while respecting the independence of the management of affiliated companies. Each affiliated company is assigned to a division at Komatsu that is in charge of managing and supporting the affiliate. We have also positioned the Komatsu Code of Worldwide Business Conduct as the code applicable to all companies affiliated with the Company. Based on these regulations and the Code, each company of the Komatsu Group stipulates various regulations for the proper promotion of duties.
- ② To strengthen governance of the Group as a whole and monitor management, the Company will dispatch a Director or Corporate Auditor, as needed, to Komatsu's main affiliated companies.

- ③ Important committees of the Company, including the Compliance Committee, Risk Management Committee and Export Control Committee, take actions with the entire Group in view, and allow representatives of affiliated companies to take part in their meetings, as needed.
- ④ Particularly important affiliated companies are required to regularly report to the Board of Directors of the Company on the status of their business, including risks and compliance.
- (5) The Internal Audit Department of the Company audits each division of the Company and implements or supervises auditing of major affiliated companies that belong to the Komatsu Group. It also monitors and instructs each affiliated company, so that the affiliate will build its structure in conformity with the Company's internal controls and operate it correctly. In addition, the Department will report to the Board of Corporate Auditors regarding internal controls, as needed.

### Basic Policy Pertaining to the Elimination of Antisocial Forces

It is the basic policy of the Company to prohibit the Komatsu Group from having any relationship whatsoever with antisocial movements or groups that threaten the order and security of civil society from the perspectives of social justice and corporate social responsibility.

- ① This policy is provided in the Komatsu Code of Worldwide Business Conduct and disseminated throughout the Company, as well as throughout each company of the Komatsu Group.
- ② In keeping with the basic policy, the Company-primarily the General Affairs Departments of the Head Office, main business operations, and Group companies-works with police and other relevant external organizations to prevent the involvement of antisocial movements or groups in its management and quell any harmful effects they may bring about.
- ③ The Company is doing its utmost to collect information and receive education/training from the above external organizations, and share the information throughout the Komatsu Group.

#### **Compliance and Risk Management**

#### **Promoting Compliance**

#### Frameworks for Promoting Compliance

To make certain that the entire Komatsu Group complies with the rules of the business community, Komatsu has appointed at the Head Office an executive officer in charge of compliance and established the Compliance Department to handle this issue exclusively. The Compliance Committee, chaired by the President and CEO, deliberates the Group's action policies and important issues, while regularly reporting the state of compliance related activities to the Board of Directors.

#### Komatsu's Code of Worldwide Business Conduct

The company has formulated *Komatsu's Code of Worldwide Business Conduct* (established in 1998 and revised six times to date) as a compilation of best business practices to be observed by officers and employees of Komatsu Group companies all around the globe. The code addresses fair business practices, non-discriminatory personnel systems, endeavors for the global environment, appropriate information

management, internal control structure, and other topics. The text of the code has been released to the public in its entirety.

#### Upholding Thorough Compliance

In order to achieve continual awareness among employees about compliance, the Group is working to raise their consciousness of best business practices by displaying in every Komatsu Group business unit posters listing The Five Principles of Compliance, a condensed version of Komatsu's Code of Worldwide Business Conduct. The Group fully engages in awareness- raising initiatives through a permanent web page dedicated to compliance on its intranet along with well-developed compliance-related education and training tailored to employees' ranks and the types of operations for which they are responsible. The Group pursues early detection of risks and reforms at Komatsu business units and Group companies through monitoring during the course of financial audits and compliance and risk audits. This monitoring covers areas ranging from compliance with best practices in business to safety and environmental practices.

#### Internal Reporting System

Komatsu has established consultation offices both internally at Komatsu Group companies and externally at law firms, collectively known as the Business Rule Consultation Offices, to respond to consultations or reporting from Group company employees pertaining to best business practices or questionable actions. The Group fosters active consultations and reporting by clearly stating in *Komatsu's Code of Worldwide Business Conduct* and Group companies' workplace rules that employees using the reporting system will not be penalized

#### The State of Compliance in FY2009

During FY2009, the Komatsu Group experienced no substantial compliance-related infractions or incidents.

#### Implementing Risk Management

#### Basic Principles and Structure for Risk Management

As Komatsu continues to make efforts to increase its corporate value, it recognizes as major risks those risk factors that could threaten the company's sustained growth, particularly compliance issues, environmental issues, product quality concerns, accidents, and information security problems.

The company has adopted the following measures to counter these risks.

- Komatsu has established Risk Management Rules to correctly recognize and manage risks. The company has appointed personnel to oversee individual risks, further promoting the build-up of a solid foundation for risk management.
- Komatsu has established a Risk Management Committee to devise relevant policies for the entire Komatsu Group, evaluate and improve upon risk measures in place, and take control of risks when they arise. The Risk Management Committee regularly reports on its deliberations and activities to the Board of Directors.
- Komatsu will establish an emergency headquarters when serious risks occur and implement appropriate measures to minimize damage.

#### Implementing a Business Continuity Plan for Komatsu

Komatsu has formulated a Business Continuity Plan (BCP) to carry out major operations without suspension, or restore them after only a short suspension, should a disaster or accident occur. The company conducted training drills at the Head Office, assuming an earthquake occurring directly beneath the Greater Tokyo Metropolitan area. These drills aimed to empower employees to take appropriate actions in the event of an actual emergency. Komatsu's manufacturing plants have used their BCPs to strengthen the ability of buildings and equipment to withstand earthquakes and step up measures to cope with concentrated torrential rain falls. Komatsu has established a committee to respond to the incidence and spread of pandemic influenza. To help employees cope with the disease, an action manual has been developed covering prevention and outbreak periods, with education and training also underway to ensure more thorough understanding.

#### Promoting Risk Management throughout the Group

To reinforce the risk management structure across the Group, Komatsu is establishing a route for risk reporting, creating a risk management manual, as well as refining the level of risk management at each Group company through explanatory meetings and study sessions on risk management and BCPs. Additionally, Komatsu is strengthening its Group-wide system for communications in times of emergency by introducing emergency contact and safety confirmation systems, broad-area wireless devices, and other useful tools.

#### Consolidating Information Security

With the Information Security Committee established in 2005 at the core, Komatsu is developing a structure for information security for the entire Group and implementing various control measures. The company distributes an Information Security Guidebook to all employees with a view to raising their consciousness of thorough compliance with rules. The company has also inaugurated explanatory sessions, education and training (e-Learning), and similar awareness-raising activities at its business units. Komatsu revised its policy for personal information protection in February 2008, reinforcing its appropriate handling of such information.

# **T**OPICS

# Global Expansion of Komatsu's Code of Worldwide Business Conduct

Komatsu's Code of Worldwide Business Conduct is expanding globally together with the businesses Komatsu operates worldwide. We operate in accordance with the spirit and the basic way of thinking of this Code through our local subsidiaries, while at the same time recognizing the differences in the laws and regulations of each country and region.

#### The Komatsu (China) Ltd. Initiative as an Example

At Komatsu (China) Ltd., the company has posted guidelines on compliance inside the company and established a suggestion box to give employees an opportunity to report on compliance issues. In particular, the company is publishing the Compliance Quarterly magazine directed toward employees, where a variety of case examples relating to compliance are presented. Regarding dealings with business associates, Komatsu instructs employees on which companies adhere to compliance requirements and are appropriate to have business dealings with, as well as which companies not to have business dealings with because of compliance issues.



Guidelines on Compliance in Chinese



Compliance Quarterly magazine distributed to all Group companies in China. The magazine presents a variety of case examples relating to compliance

### **Growing with the Value Chain**

Komatsu believes that growth with the value chain, which includes our customers, as well as our sales and service distributors and business associates (suppliers), is essential to increasing corporate value.

### Working Together with Customers and Distributors

At Komatsu, our aim is to increase corporate value by providing products and after-sales service that satisfy our customers and becoming an indispensable business partner for our customers. One concrete measure to this aim is the KOMTRAX (vehicle management system).

#### Adding Value to the Customer Through KOMTRAX

KOMTRAX is a remote management system that uses on-board Global Positioning System (GPS) and wireless communications technology to monitor the operational state and "health" of Komatsu construction equipment operating anywhere in the world. The system can collect information on the equipment, such as how many hours the machine operates in a day and the amount of fuel it consumes, regardless of the equipment model or its location. By utilizing this information, Komatsu aims to increase the quality of the service it offers to its customers.

### **VOICE**

#### From the Customer Sites in China



#### Zhou Chuan Yu

General Manager, KOMTRAX IT Promotion Division, Komatsu (China) Ltd.

In China, individual owners make up a large percentage of construction equipment purchasers. Many cases involve hiring operators to perform the construction work, so the main concern for these customers is to know how they can operate their equipment efficiently and how they can make management of the equipment easier. The service Komatsu offers based on KOMTRAX is ideally suited to meet this kind of customer's needs. And, there are also customers for whom KOMTRAX offers a new kind of lifestyle.

### KOMTRAX Widens the Scope of Business Opportunities for Customers

The following case is about Mr. Li, a customer from Tianjin. Mr. Li had been successful in various businesses, and when a coal shortage for thermal power generation occurred in 2009, he recognized a new business opportunity. Mr. Li purchased two PC360 Hydraulic Excavators and contracted to mine coal in an Inner Mongolian coal mine. From among the many equipment makers in the market, he chose Komatsu because he was impressed with the KOMTRAX system. With this extremely convenient system, he is able to see at a glance the operating condition and "health" of his equipment without having to travel the 500 or more kilometers from Tianjin to Inner Mongolia. And, for the most part, he can deal with any issues with one phone call.

Komatsu (China) is also developing and offering a variety of convenient ICT tools to meet the various needs of its customers. A fleet management system that manages multiple vehicles at one time is one such system. This convenient service allows the user to simultaneously check and compare the condition of multiple vehicles through a mobile phone-based platform, which uses WAP, and SMS to notify the user of vehicle information.

Mr. Wongfu, a customer from Guangxi, jointly invested in a mini excavator with an acquaintance. Although he leaves the management of the equipment up to his friend, the monthly KOMTRAX reports he receives help put his mind at ease. These monthly reports provide him with a clear indication of the data, such as the operating hours, and working days and off-days, and he is very satisfied with this service.

With the spread of mobile phone and 3G networks, it is very easy to access the system through the Internet from a mobile phone. The KOMTRAX-WAP system, also developed by Komatsu (China), adds to the large selection of ICT tools available to our customers. When I visited Xian, I introduced this system to a person in charge of a mid-range state-owned enterprise. He showed great interest and immediately instructed his people in charge of equipment management to learn about how to use the system. According to this customer, the company has been computerizing its management, and a feature that quickly provides vehicle information to the equipment manager is extremely useful.

#### Improving Service by Distributors

Komatsu (China) distributors are also using KOMTRAX to manage the vehicles they sell. By using KOMTRAX data, they are able to offer more proactive service as compared to the past, and have thus greatly improved the trust that their customers put in them. And, by riding on the large wave of the computerization age, Komatsu (China) has developed application of KOMTRAX data even further, by combining the accumulated vehicle data with the location data of the distributor's service vehicle, and is using this in its service activities. This lets service personnel quickly receive information on which of the customer's vehicles need service. Currently all distributors are making use of this new feature to improve their service activities (which we call SOK (Service Operation Kaizen)).

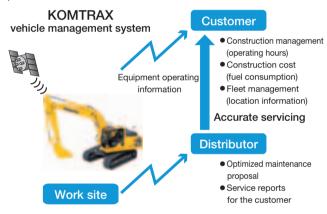
At Komatsu (China), a major revolution is being brought about by computerization, albeit quietly, but with certainty. And the source of this revolution is, quite simply, KOMTRAX.



In the same way that automobiles require regular engine oil and oil filter replacement, construction equipment also require periodic maintenance. However, because construction equipment operates under much harsher conditions, maintenance must be extremely efficient, to ensure that the productivity of the equipment is stable. Ideally, inspections and part replacements should happen according to the number of operating hours logged on the equipment. However, because conventional equipment servicing has required service personnel to travel to the customer's site to confirm the number of operating hours, parts are often replaced too early, or sometimes too late, resulting in higher maintenance costs.

KOMTRAX makes equipment information, such as the operating hours, the last date a part was replaced, and the next replacement period, available in real time. This allows service personnel to plan timely inspections and part replacements, as well as to take preventative maintenance measures. As a result, maintenance-related waste is for the customer steadily reduced, together with the maintenance costs that are associated with this waste.

It is also possible to use the information obtained from KOMTRAX to propose more efficient ways of using the equipment based on the characteristics of the customer's worksite. Selecting more appropriate equipment models and using the equipment more efficiently leads to a decrease in fuel consumption and less environmental impact for the customer.



#### Development and Expansion to China

There are now over 160,000 KOMTRAX-equipped machines worldwide, with more than 55,000 operating in China (as the end of March 2010). With the strong growth of the Chinese economy from 2002 to 2003, the Chinese government introduced monetary tightening measures to prevent the economy from overheating. KOMTRAX has an anti-theft locking feature that can remotely prevent the engine of a machine from being started. At the time, many of the banks in China were trying to implement credit controls, and were not providing financing for construction equipment unless a device such as KOMTRAX was installed. It was because of this that KOMTRAX began drawing attention in China, and then became standard equipment on Komatsu's main construction equipment models sold in China.

In the face of the continuing world economic recession, the construction equipment market in China was one of the first to recover, due to the effect of the government's economic stimulus policy. Currently, construction of roads, railways and other construction projects are proceeding at a furious pace. Starting with China, Komatsu intends to contribute to the efficient development of infrastructure through the application of ICT technology and the advancement of the services it provides its customers.

#### **Working Together with Business Associates**

#### Partnerships with Business Associates

Relationships of trust with business associates (suppliers) form the foundation of the Komatsu Group's manufacturing operations. Komatsu considers its business associates to be equal partners. Throughout a long history of collaboration, the company and its business associates have overcome various difficulties by jointly addressing issues to realize solutions.

#### Organizations Facilitating Collaboration

The Komatsu"Midori-kai"group, an association of the company's business associates in Japan, has 162 member companies, which supply roughly 70% of Komatsu's total procurement in Japan.

Komatsu holds various events to foster communication with Midori-kai group members, convening general conferences, roundtable discussions for managers, and informal New Year's business functions. These three annual meetings are attended by representatives from each Midori-kai group company, as well as Komatsu's top management, providing a forum for interaction and exchanges of opinions. In addition to the Komatsu Shantui Midori-kai group in China that is already active, European and North American Midori-kai groups have been launched, bringing total participation to more than 115 companies outside Japan. Komatsu intends to establish an association of business associates in Asia (other than Japan and China) and strengthen global partnerships with business associates.

\*The Komatsu "Midori-kai" is divided into a global and a Japanese chapter. Because the activities of local Midori-kai members are hard to keep track of and were therefore excluded from the count, total membership is lower than last year.

#### Supporting Suppliers in Introducing Environmental Management Systems

Komatsu's support for suppliers in introducing environmental management systems is covered in detail on P. 12.



Representatives of the European and North American Midori-kai groups participated in the round-table discussions for managers held in November 2009.

#### Compliance, Health, and Safety

Komatsu's commitment to thorough implementation of CSR procurement throughout the supply chain leads the company to ask all business associates to comply with *Komatsu's Code of Worldwide Business Conduct*. Komatsu is continually working to assess the state of safety and quality at business associates through visits and other means for careful fact-finding and close communication, and providing recommendations as necessary.

#### Nurturing Business Associates

Komatsu holds goals in common with its business associates, together aiming to achieve ever-higher levels of quality, cost, and delivery (QCD) through tireless endeavors for improvement. The company provides education and training in quality control (QC) activities and manufacturing technologies. It also allows employees of Midorikai group companies to participate in the technical training provided to Komatsu's own employees, assisting these companies in fostering future management. In taking a long-term perspective rather than seeking temporary results, Komatsu takes an "agricultural" approach to procurement, nurturing companies of excellence much the way that farmers raise crops. Ultimately, this will give rise to stability in product quality at Komatsu.

### **Quality and Reliability**

To enhance Quality and Reliability, Komatsu has established a structure for providing high-quality products and services that are innovative and safe, taking to heart the opinions of customers.

#### **Enhancing Quality and Reliability**

The fundamental principle of *Monozukuri* (manufacturing competitiveness) lies in Komatsu's commitment to Quality and Reliability in order to provide products—both hardware and software—that customers are happy to own. To achieve this, Komatsu puts the customer first as one of its Basic Managerial Policies, with the pursuit of maximum customer satisfaction at the foundation. The company carries out a continuous process of reform and refinement with all divisions responsible for putting this policy into practice, whether in development, manufacturing, sales, after-sales service, or administration.

In practical implications, Komatsu includes the global environment, quality assurance, and the education and training of human resources within the scope of its quality management and uses indices to promote such management.

#### Komatsu's Principles Governing Quality Assurance

Komatsu has established the following principles on quality in its products and services, which all subsidiaries and employees are responsible for putting into practice.

#### **Principles that Increase Quality and Reliability**

Provide products, services, and systems that are environment friendly, safe, and innovative from the perspective of the customer.

#### **Definition of Quality Assurance**

The company has a responsibility to take actions that will ensure it is able to provide products and services that the customer can purchase and use with a sense of assurance and satisfaction and use for many years to come.

#### **Principles Governing Quality Assurance**

- (1) Putting customers first, being receptive to the views of the customer, and responding appropriately to the customer, thereby earning the customer's satisfaction, are fundamental to the job of every employee and constitute the responsibility of every employee.
- (2) Complying with international standards and the legal requirements particular to individual countries as a matter of course, and providing products and services that, from the perspective of the customer, have incorporated proper regard for safety and a sense of assurance and that do not easily malfunction, are fundamental to the job of every employee and constitute the responsibility of every employee.
- (3) Providing products and services that incorporate proper regard for global environmental conservation is fundamental to the job of every employee and constitute the responsibility of every employee.
- (4) Providing products and services that are creative and provide benefits to the customer is fundamental to the job of every employee and constitute the responsibility of every employee.
- (5) Giving the customer a sense of safety, assurance, satisfaction, and the ability to use the product for many years to come is a source of happiness for every employee.

#### Mechanisms for Quality Assurance

At Komatsu, all employees in each division, from product planning to development, manufacturing, sales, and after-sales service, share a sense of working as a single unit to continually develop products that are safe, innovative, and of high quality. Through a strengthening of Komatsu's unique *Monozukuri* system, the company is able to introduce competitive DANTOTSU products to the market and provide services and systems with substantial features.

At each step of the development and manufacturing system, meetings are held to consider and evaluate the product. The prod-

uct's suitability is then assessed and enhanced until the ultimate goal is attained. In this way, the company conducts quality assurance activities that firmly ensure Quality and Reliability.

Through such approaches the company is able to strengthen safety assurance and satisfaction for customers while simultaneously providing products and services that take the global environment into account and comply with both international specifications and the regulatory requirements of individual countries.

### Structure for Quality Assurance

The majority of Komatsu's products - construction and mining equipment, presses, and forklifts - are used as manufacturing equipment at customers' sites of operation. These products are expected to contribute to customers through a higher rate of operation and productivity over long hours every day. In reflection of these product characteristics. sales and after-sales service personnel at Komatsu visit customers to give detailed recommendations on products and their usage and conduct maintenance activities. They then provide feedback to relevant divisions regarding the views and

requirements that the customers have for these products. The company has created a system to increase customer satisfaction through rapid responses to such information.

Moreover, Komatsu maintains a database on product quality in the market so that the company can respond rapidly upon discovering a quality-related problem and have all the company's sales and after sales service divisions able to access the information they need to help remedy the issue.

#### Komatsu's Mechanisms for Quality Assurance

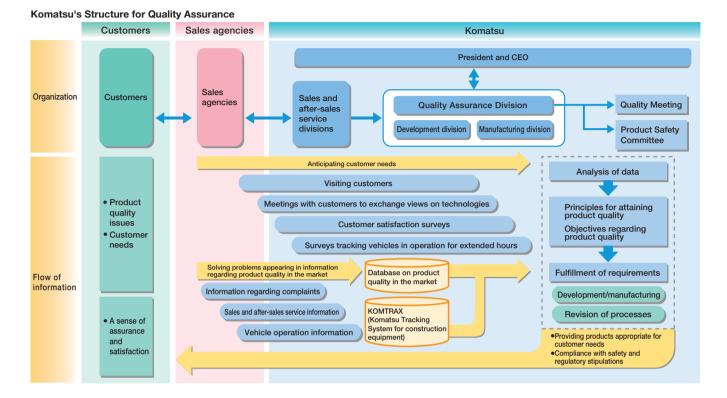


#### Increasing the Degree of Customer Satisfaction

Based on its Principles Governing Quality Assurance, Komatsu has piloted a variety of initiatives to increase customer satisfaction.

First, Komatsu believes it is extremely important to give serious consideration to customers' views and examine them on a continuous basis. Consequently the company conducts regular customer satisfaction surveys, including post-launch field surveys. Komatsu uses the results to improve both the products themselves and the structure promoting quality assurance. The surveys help furnish new value to customers as the company develops DANTOTSU products that anticipate customer needs in advance and delivers services with distinct features.

Komatsu is able to raise the level of customer satisfaction through these approaches.



#### Post-launch Field Surveys and Feedback of Results

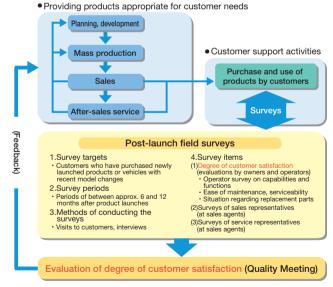
Komatsu's post-launch field survey is part of its system for comprehensively assessing customers' degree of satisfaction, with company personnel visiting purchasers of newly launched products to request product evaluations.

In concrete terms, these personnel listen to customers' feedback on a day-to-day basis regarding the degree of satisfaction towards the quality and reliability of its products. The company pays careful attention to the evaluations, views, and requests concerning its sales and after-sales service and replacement parts. Komatsu processes and analyzes the gathered data to decide upon objectives for improvement. The resulting information is shared across the company, notably with top management, and provided as feedback to divisions at every step in the process, including development, manufacturing, and sales and after-sales service. With the means to improve upon problems and revise the quality assurance system, the company can deliver products and services that satisfy customers.

### Surveys Tracking Vehicles in Operation for Extended Hours\*

Komatsu pursues improvements in product durability and reliability through a system of surveys tracking vehicles in operation for extended hours. This allows the company to provide products satisfying the customer and consuming fewer resources. Most recently, confirmation of equipment operating conditions is made possible by the utilization of a ICT remote management system called KOMTRAX Plus. Based on the information provided by KOMTRAX Plus, we are able to confirm and analyze the status of the machine in terms of durability, efficiency and functionality. The company assesses whether or not the results satisfy customers' expectations and the degree to which their demands match product quality objectives at Komatsu. The company designs proposals to rectify areas not achieving desired quality levels, later integrating these proposals into product revisions or the development of new products. This process increases product durability and reliability and thus extends product lifecycles,

#### System for Assessing the Degree of Customer Satisfaction



leading to greater customer satisfaction and less resource consumption and waste.

\*Defined as vehicles with an operating history of 5,000 hours or more

#### Using ICT to Support Customers throughout the Product Life Cycle

Komatsu uses ICT-based remote vehicle management systems known as the Komatsu Tracking System (KOMTRAX) for conventional construction equipment and KOMTRAX Plus for large mining equipment to indicate the current state of the vehicle's "health," its operating status, and other key information.

Using this information to improve vehicle quality or assess customer needs for after-sales services, Komatsu provides customers support throughout the product lifecycle by increasing vehicles' rates of operation while decreasing their maintenance costs.

#### Quality Assurance Activities at the Global Level

Komatsu provides products of the highest quality at every location throughout the world by fully implementing quality assurance activities globally. For this purpose, the company aims for uniform technical drawings, manufacturing systems, inspection methods, information collection, and quality management across the globe.

Komatsu labels as "mother plants" certain global manufacturing locations with product development capabilities. These plants serve at the center of worldwide development and manufacturing activities, with their leading-edge technologies and techniques then transferred to other manufacturing locations around the world. This improves technology and enhances product quality, making them uniform throughout the company.

### Promoting Product Safety to Ensure Customer Safety and Assurance

Komatsu puts safety and assurance at the forefront in its quality assurance activities. The company has formulated Standards for Product Safety and associated Principles and has all employees comply with them in order to deliver products that are safe, provide a sense of assurance, and can be used for many years.

#### Information System for Product Safety and Services

In seeking to get information on problems with product safety as early as possible, Komatsu has established an information system for product safety and promptly deals with issues.

It continuously strives to make improvements so that the company, including top management, can respond quickly through coordinated actions, including (1) assessing the cause of the incident and procedures to be taken, (2) contacting the relevant governing authorities, (3) deciding to take remedial measures such as a recall of products still on the market.

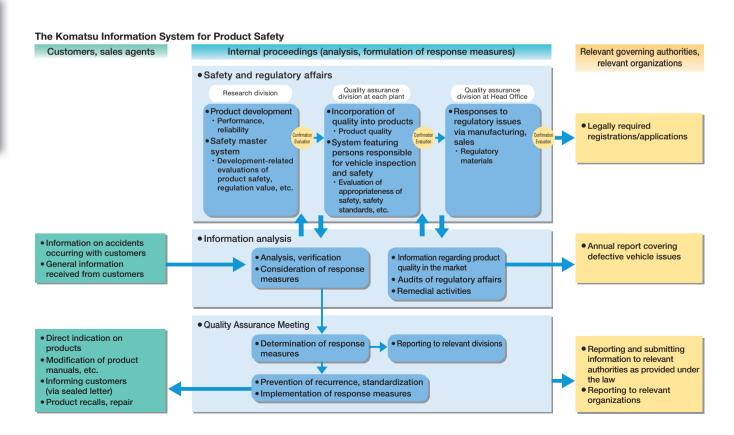
#### Standards for Product Safety

(1) Compliance

The provision of products and services that comply with international standards and the legal requirements particular to individual countries is fundamental to the job of every employee and constitutes the responsibility of every employee.

(2) Safety via prevention

The provision of products and services that are safe and provide a sense of assurance, and do no harm to the customer is fundamental to the job of every employee and constitutes the responsibility of every employee.



#### (3) Security regarding accidents

The provision of products and services that minimize any injury that might occur to a customer who has an accident is fundamental to the job of every employee and constitutes the responsibility of every employee.

#### (4) Transparency

The ongoing provision of advance safety warnings after receiving information from the customer and, in the case of a defect arising in a product or service, prompt response measures and the provision of information, are fundamental to the job of every employee and constitute the responsibility of every employee.

#### (5) Improvement of organizational climate

In order to create a corporate climate in which product safety is emphasized, the standardization of the safety management system and safety techniques as well as ongoing efforts to improve them are at all times fundamental to the job of every employee and constitute the responsibility of every employee.

#### Providing Product Safety Information to Customers

Komatsu meets legal requirements for providing safety information to customers through (1) direct indication on products or in user's manuals, (2) direct explanations by sales and after-sales service personnel, and (3) telephone consultations with sales and after-sales service divisions at plants. The company seeks to address each particular situation, with, for example, engineers or top management visiting customers as the situation might require.

#### System for Dealing with Recalls

In recent years, customers have become more concerned about product safety in general and product recalls in particular. To help ensure product safety in the market, Komatsu is reinforcing its recall related organizational strength, comprehensive response capabilities, procedures for prompt corrective measures, and proactive information disclosure while employing increasingly rigorous monitoring.

#### **Procedure Governing Recalls**

- (1) Proposal for rectification of the situation based on information regarding the defect; decision regarding what measures the company will take towards the market
- (2) File notice with relevant authorities as provided under the law
- (3) Inform customers by appropriate means
- (4) Take appropriate corrective measures, including, for example, repair, replacement, or refund

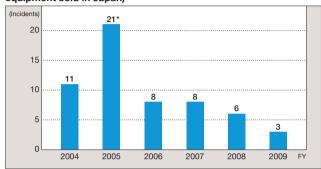
#### **Means for Preventing Recalls**

- Strengthening of system for collecting information on product quality in the market
- (2) Promotion of technical verification of the problem involved in the recall and timely decision-making
- (3) Strengthening of check system that features persons responsible for vehicle inspection and safety
- (4) Regular auditing of recall-related operations

#### Number of Incidents with Recall Notices Filed

Komatsu strictly oversees compliance with legal requirements. Should a defect somehow be found in its products or services, the company initiates prompt correction measures and moves forward with proactive information disclosure. The graph below indicates the number of incidents in which recall notices were filed. The company will continue to pursue safety to the greatest extent possible in the years to come.

### Number of Incidents with Recall Notices Filed(for construction equipment sold in Japan)



<sup>\*</sup> The number of incidents shows an increase in FY2005, when Komatsu thoroughly investigated product quality information from the previous five years and decided voluntarily to file notices and take remedial action for ensuring the safety of vehicles for transporting goods by road.

#### Relationship between Business Activities and the Environment

The Komatsu Group procures various parts and materials and, through the manufacturing process, utilizes the earth's resources, including raw materials, water, energy, and chemical substances, among others, to provide products to customers. Such business activities impact the environment at each stage in the process.

The Komatsu Group will continue to provide more highly valueadded products and services while assessing the environmental impacts resulting from its business activities, formulating mediumand long-term objectives, and introducing measures to reduce such impacts.

(sewerage)

#### Environmental Impact Resulting from Business Activities of Komatsu Group Companies, including Facilities outside Japan (FY2009) Energy 514GWh Electricity Heavy oil A 8,000kl Input 4,000kℓ Kerosene Direct Materials 7.000kℓ Liaht oil 487.135t Steel Natural gas 16 million Nm<sup>3</sup> Water Resources **LPG** 4.000t Indirect Materials Gasoline 400kℓ Groundwater 5.2 million m<sup>3</sup> 751t<sup>\*1</sup> Paints 300t Industrial water 0.3 million m<sup>3</sup> Coke 6,907kl\*1 4MWh Lubricants Other Supply water 0.7 million m<sup>3</sup> **Development Procurement of Materials** Manufacturing (27 Komatsu Group Manufacturing Facilities in and outside Japan) Ecology & Economy Green procurement • Mitigation of climate change (energy conservation) **Product** LCA design • Effective utilization of resources (zero emissions) Product weight Medium-term targets for • Environmental risk management (construction, mining development of and Industrial equipment) Elimination of hazardous chemical substances<sup>\*1</sup> environmental technology 950kt Termination of use of organic chlorinated cleaning solvents<sup>2</sup> Number of products (construction, mining **Environmental Risks** and Industrial equipment) (Air, soil, and groundwater pollution) 43,284vehicles Measures for underground oil tanks Completed Storage for PCB transformers 583units<sup>2</sup> Groundwater observation wells Company on-site landfills Output Waste Atmospheric Discharges Noise and CO<sub>2</sub> 328kt-CO<sub>2</sub> vibration 80kt Total amount generated Substances under the Pollutant Release and SOx 38t Transfer Register (PRTR) Law 44 3t<sup>2</sup> 185t<sup>2</sup> (Waste furnaces Completed) Substances under the PRTR Law 403.3t<sup>-2</sup> Waste Recycling Water-based Discharges Recycling amount 69kt Wastewater 6.0 million m3"2 13t"<sup>2</sup> **BOD** emissions Hazardous waste manifests COD emissions 16t<sup>2</sup> Use in other Substances under the PRTR Law industrial sectors (public water areas) Ot"2 Waste materials disposed by subcontractor 11kt Substances under the PRTR Law (Company on-site landfill of waste materials 0kt) Ot\*2

Coverage of Data

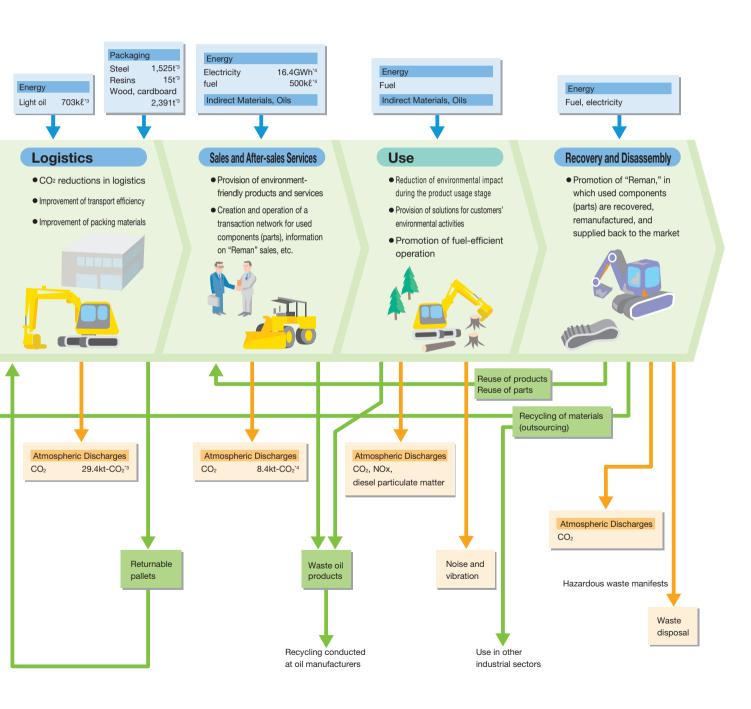
- \*1 8 Komatsu manufacturing facilities in Japan
- \*2 13 Komatsu Group manufacturing facilities in Japan
- \*3 Logistics from procurement to sales related to construction equipment in Japan
- \*4 From 2009 sales agencies and rental companies in Japan (Komatsu Construction Machinery Sales, Komatsu Rental) were added

CO<sub>2</sub> emissions: Calculated by multiplying the electric power, heavy oil, etc. consumed (see Energy section of Input column) by the CO<sub>2</sub> emission coefficient (according to the calculation guidelines of the Ministry of the Environment (FY1999) based on the Act on Promotion of Global Warming Countermeasures)

SOx emissions: Calculated by multiplying the "S content by percentage" (based on element tables of suppliers) by the amounts of heavy oil, kerosene, light oil, and coke used.

NOx emissions: Calculated by multiplying the "nitrogen oxide emissions units" (obtained at each Komatsu facility) by the amounts of heavy oil, kerosene, light oil, natural gas, and LPG used.

Emissions and transfer of substances covered by the PRTR Law: Calculated by the "content ratio of specific chemical substances" contained in indirect materials multiplied by the "discharge or transfer rate." This calculation is based on the PRTR Law, which was designed to mandate the disclosure of the amount of specific chemical substances released into the environment to promote the management of such substances.



### **Environmental Management**



### **Environmental Education and Training**

#### Courses in Environmental Education and Training in Japan (excluding general environmental courses)

Organizer	No.	Course name	Target	Participants			
				FY2006	FY2007	FY2008	FY2009
Head Office	1	Advanced environmental education (held every two years)	Environmental specialists (Komatsu and affiliates)	_	19	_	16
	2	Overview of the ISO14000 series	Administrators (Komatsu, affiliates, and business associates)	29	36	32	55
	3	Training of internal auditors / Refresher courses	Environmental auditors (Komatsu, affiliates, and business associates)	60	51	41	40
	4	Development and manufacturing (introductory)	Development and manufacturing staff (for second-year employees)	73	97	139	182
	5	Environmental training for manufacturing engineers	Assistant foremen/ foremen/ manufacturing engineers/ students of Komatsu Institute of Technology	50	50	66	91
	6	Training new employees	New Employees (Komatsu and affiliates)	125	186	227	115
	7	Lectures on the environment, experience-oriented education	Komatsu Group managers and employees	468	308	1,329	398
	8	Education for enhanced environmental understanding (e-Learning)	Komatsu Group managers	767	_	_	_
	9	Education to refresh environmental understanding (e-Learning)	Komatsu Group managers and employees	4,675	191	164	237
Divisions	1	Education in the basics of auditing	Managers and employees	241	371	153	98
overseeing environmen-	2	Overview of the ISO14000 series	Managers and employees	0	2,138	302	836
tal manage- m e n t a t	3	Training of internal auditors	Environmental auditors	76	30	59	7
plants	4	Training new employees	New Employees	418	666	675	1,116
	5	Regulatory education and personnel exchange	Employees	1,084	788	1,276	517
	6	Specialist training	Environmental conservation practitioners (persons involved in regulatory affairs, etc.)	277	113	1,776	2,466

In addition to the education and training courses listed above, Komatsu also held courses dealing with environmental issues intended for sales agents

#### **Number of Persons Having Environment-related Certificate**

Certificate name	Number of perso	ns with certificate*		
	FY2006	FY2007	FY2008	FY2009
Pollution control administrators	209 (53)	192 (51)	195 (49)	177 (39)
Energy administrators	42 (14)	39 (14)	40 (13)	48 (13)
Environmental management system auditors	7	8	8	7

<sup>\*</sup>Figures in parentheses indicate the number of officers required.



### **Chemical Substance Control and Pollution Mitigation and Prevention**

Under the PRTR Law\*1, companies are required to disclose and file notices every year regarding Class I Designated Chemical Substances and the amounts released and transferred (when handling one ton or more). Komatsu has made it a policy to also include chemical substances handled in amounts of less than one ton and control them accordingly. The company also has faithfully complied with the changes that occurred to the designations of controlled chemical substances when the law was revised in 2008.

#### Reduction of Substances under the PRTR Law

Three substances under the PRTR Law, xylene, ethyl benzene and toluene, account for approximately 99% of the chemicals released by the manufacturing facilities of Komatsu and the Komatsu Group. Of the total amount, most is released into the air. Komatsu is making efforts to reduce the amounts of such substances, by shifting to indirect materials that contain chemicals that have less impact on humans, animals and plants. Two companies that joined the Group in 2009 were included in the initiative, and have begun managing their chemical use. This fiscal year, the amount of chemicals released dropped to approximately one-half of the level of the preceding year, partially by curtailing the production and use of High Solid Paint. Komatsu will continue its endeavor to reduce its impact on the environment with appropriate measures that emphasize a reduction in the release of chemicals.

#### Komatsu Guidelines for the Control of Chemical Substances

Komatsu has a comprehensive management system in place based on the Komatsu Guidelines for the Control of Chemical Substances that aims at developing environment-friendly products and reducing environmental risks. In other words, to manage the amounts of controlled chemical substances that are released and transferred, these substances were stratified, based on risk assessment and selection criteria, into banned substances (1,809), substances to be reduced (2,364) and substances to be properly controlled (other than those banned or to be reduced). The Komatsu Group introduced a comprehensive management system for chemical substances in 2003, and since then has made constant efforts to improve the level of its preventive management of environmental pollution, by conducting advance environmental impact assessments.

#### Reducing the Amount of VOCs Released

In the current fiscal year, Komatsu succeeded in achieving its goal of reducing the use of VOCs\*2 contained in paint, which account for more than 90% of the chemical substances released by Komatsu, by measures such as shifting to paints with fewer volatile compounds and improving the Paint-adherance efficiency. With the target of achieving a more than 50% reduction in VOCs released per unit manufacturing value in 2005 by 2010, the company was able to meet this target one year ahead of schedule through the above measures. Efforts to achieve further reductions will continue in the future.

- \*1 PRTR Law designed to mandate the disclosure of the amount of specific chemical substances released into the environment to promote the management of such substances
- \*2 VOC (Volatile Organic Compounds) Organic chemical compounds, referring mainly to paint solvents.

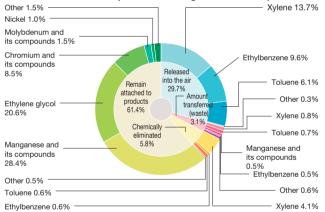
### Names of Class I Designated Chemical Substances and the Amounts Released and Transferred by Group Manufacturing Facilities in Japan (handling 1 ton or more, or 0.5 ton or more for Class I Specified Chemical Substances)

(Unit: tons)

Number under the	Name	Amount handled	Amount releas	ed			Amount transf	erred	Chemically transformed	Amount contained in	
PRTR Law		nanuleu	Air	Water	Soil	Buried	Sewerage	Disposed	or eliminated	products	
311	Manganese and its compounds	393.4	0.6	_	_	_	_	7.3	0.0	385.5	
43	Ethylene glycol	283.7	0.1	_	_	_	_	4.1	_	279.6	
63	Xylene	253.3	185.7	_	_	_	_	10.3	55.7	1.7	
40	Ethylbenzene	145.3	129.6	_	_	_	_	6.7	8.7	0.3	
68	Chromium and chromium (III) compounds	116.1	0.0	_	_	_	_	1.0	_	115.1	
227	Toluene	103.3	83.3	_	_	_	_	9.7	7.6	2.7	
346	Molybdenum and its compounds	20.3	0.0	_	_	_	_	0.0	_	20.3	
231	Nickel	13.4	_	_	_	_	_	0.4	_	13.1	
224	1,3,5-trimethylbenzene	9.2	2.9	_	_	_	_	0.3	2.2	3.7	
266	Phenol	6.7	0.0	_	_	_	_	0.0	3.9	2.9	
69	Chromium (VI) compounds*1 *2	6.6	0.0	_	_	_	_	1.6	_	_	
243	Barium and its water-soluble compounds	4.2	_	_	_	_	_	0.3	_	3.9	
100	Cobalt and its compounds	2.9	_	_	_	_	_	0.3	_	2.6	
30	Bisphenol A type epoxy resin (liquid)	2.4	_	_	_	_	_	0.6	_	1.8	
299	Benzene*2	0.96	0.02	_	_	_	_	_	0.42	0.52	

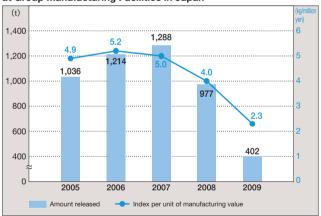
<sup>\*1</sup> During chrome plating, chromium (VI) compounds become chromium (III) compounds. Therefore, the amount transferred and the amount contained in products are entered under "chromium and chromium (III) compounds."

### Breakdown of the Amount of PRTR-related Substances Released and Transferred at Group Manufacturing Facilities in Japan



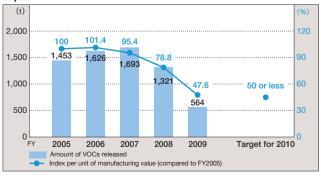
Note: Substances handled in quantities of 1 ton or more

### Changes in the Amounts of PRTR-related Substances Released\* at Group Manufacturing Facilities in Japan

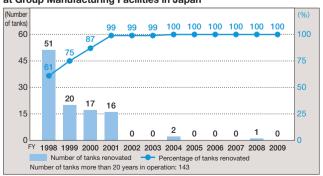


\*Substances handled in quantities of 1 ton or more

### Amount of VOCs Released by Group Manufacturing Facilities in Japan



## Renovation of Underground Tanks in Operation More Than 20 Years at Group Manufacturing Facilities in Japan



<sup>\*2</sup> PRTR Class I Specified Chemical Substances

### **Environmental Data by Manufacturing Facility in Japan**

Ove	Manufacturing facility	Awazu Plant (established in 1921)	Osaka Plant (established in 1952)	Ibaraki Plant (established in 2007)
ervie	Location	Komatsu, Ishikawa Prefecture	Hirakata, Osaka Prefecture	Hitachinaka, Ibaraki Prefecture
N	Main products	Small and medium-sized bulldozers, small hydraulic ex- cavators, small and medium-sized wheel loaders, motor graders, large presses, armored vehicles, etc.	Large bulldozers, medium-sized and large hydraulic excavators, mobile crushers/recyclers/tub grinders (crushers, soil stabilizers, tub grinders, etc.)	Large wheel loaders, dump trucks,axle
	Site/building area (1,000 m²)	1,027/231	545/121	553/46
	Number of employees	3,764	2,212	707
	Date of ISO14001 certification acquisition	September 1997	July 1997	May 2007

<sup>\*</sup>The number of employees includes those working for Komatsu affiliates on the premises. \*Number of employees as of end of March 2010.

Ma		Ite	em		Actual value	Ite	em		Actual value	Ite	em	Actual value	
jor P	Environmental impact	Total CO <sub>2</sub> em	issions		34,744 t-CO <sub>2</sub>	Total CO <sub>2</sub> em	issions		24,683 t-CO <sub>2</sub>	Total CO <sub>2</sub> em	issions	8,703 t-CO <sub>2</sub>	
erfor	*Refer to the Data on Environmental Impact Re- sulting from Business Activities for details on the	NOx total am	ount		15,066 kg	NOx total am	ount		1,839 kg	NOx total am	ount	73,709 kç	
Major Performance	methods used to calculate amounts. *Total emissions of waste are expressed as a	SOx total am	ount		2,833 kg	SOx total am	ount		0 kg	SOx total am	ount		637 kg
Э	composite of the amount recycled (excluding	Total emission	ns of waste		1,415 t	Total emissions of waste		1,387 t		Total emission	ns of waste		563 t
	valuables) and the amount disposed. *Recycling rate is calculated by dividing the	Amount recy	cled		1,406 t	Amount recycled		1,386 t		Amount recy	cled		563 t
	amount recycled (including valuables) by the amount generated (including valuables).	Recycling rate	е	99.5 %		Recycling rate	В	100 %		Recycling rat	е		100 %
	Total emissions of BOD and COD are calculated by multiplying the average concentration by the amount of wastewater.	BOD emissio	ns		4,354 kg	BOD emissio	ns		123 kg	BOD emissio	ns		62 kg
		COD emissions		7,077 kg		COD emissions		498 kg		COD emissio	ns		163 kg
		Wastewater		3,160,270 m³/year		Wastewater			130,098 m³/year	Wastewater			24,524 m³/year
		Item	Actual consun	nption	Converted to calorie equivalents (GJ)	Item	Actual consun	nption	Converted to calorie equivalents (GJ)	Item	Actual consun	nption	Converted to calorie equivalents (GJ)
	Energy consumption	Electricity	62,848	MWh	611,859	Electricity	48,484	MWh	471,526	Electricity	16,961	MWh	165,286
	*The heat energy conversion factor is calculated in keeping with the guidelines for calculation	Heavy oil A	2,476	kℓ	96,812	Heavy oil A	125	kℓ	4,888	Heavy oil A	308	kℓ	12,043
	stipulated by the Ministry of the Environment of Japan in FY1999, which are based on the Act	Kerosene	14	kℓ	502	Kerosene	49	kℓ	1,798	Kerosene 10		10 kl 367	
	on Promotion of Global Warming Countermea- sures.	Light oil	228	kℓ	8,692	Light oil	223	kℓ	8,519	Light oil	460	kℓ	17,572
	Sures.	LPG, et al.			54,448	LPG, et al.			104,553	LPG, et al.			2,068
		Total			772,313	Total		59		Total			197,336

Complian	Air	Item	Unit	Facility	Regulated value	Actual value	Facility	Regulated value	Actual value	Facility	Regulated value	Actual value
		Nitrogen oxides (NOx)	ppm	Boiler	180	97	Boiler	150	14.7	Boiler	180	57
ce Con			ppm	Diesel engine	950	560	Metal furnace	180	40	Diesel engine	950	460
ndition			ppm				Paint drying furnace	230	8			
S			ppm									
to Ma		Sulfur oxides (SOx)		K-value regulation	17.5	0.81	Regulation of total emissions (Nm³/h)	1.573	0.002	K-value regulation	8.0	1.85
Major F		Soot and dust	g/m³N	Boiler	0.3	0.002	Boiler	0.03	0.001 or less	Boiler	0.3	0.008
Regu			g/m³N	Diesel engine	0.1	0.018	Metal furnace	0.1	0.018	Diesel engine	0.1	0.044
Regulations			g/m³N				Paint drying furnace	0.1	0.018			
SI		g/m³N										

\*Regulated values are in accordance with the Air Pollution Control Law and local regulations.

Wa		Regulated value	Regulated		Actual value		Regulated		Actual value		Regulated		Actual value	
Wastewater	Item	according to the Water Pollution Control Law Unit	value	Maximum	Minimum	Average	value	Maximum	Minimum	Average	value	Maximum	Minimum	Average
ater	pH	5.8-8.6	5.8-8.6	7.6	6.5	7.1	5.8–8.6	7.7	7.0	7.5	5.8-8.6	7.4	6.5	7.1
	BOD (Biochemical oxygen demand)	160mg/ℓ	80	2.1	ND	1.0	25	1.9	0.4	0.9	25	7.6	ND	2.5
	COD (Chemical Oxygen Demand)	160mg/ℓ	80	5.6	ND	2.5	25	5.2	2.3	3.8	120	11.0	2.3	6.7
	Suspended solids (SS)	200mg/ℓ	120	4.4	ND	1.5	80	3.6	0.8	2.0	50	ND	ND	ND
	Mineral oils	5mg/ℓ	5	0.8	ND	0.5	3	2.5	ND	0.5	5	ND	ND	ND
	Copper	3mg/ℓ	3	ND	ND	ND	3	0.04	ND	0.025	3	ND	ND	ND
	Zinc	2mg/ℓ	2	ND	ND	ND	2	0.05	ND	0.05	2	0.2	ND	0.1
	Nitrogen	120mg/ℓ	120	5.0	1.1	3.0	120	2.4	2.4	_	120	22.0	5.4	13.7
	Phosphorus	16mg/ℓ	16	0.23	0.03	0.11	16	0.06	0.06		16	3.9	2.7	3.3
	Cadmium	0.1mg/ℓ	0.1	ND	ND	ND	0.01	ND	ND	ND	0.1	ND	ND	ND
	Lead	0.1mg/ℓ	0.1	ND	ND	ND	0.01	ND	ND	ND	0.1	ND	ND	ND
	Chromium (VI)	0.5mg/ℓ	0.5	ND	ND	ND	0.05	ND	ND	ND	0.1	ND	ND	ND
	Trichloroethylene	0.3mg/ℓ	0.3	0.005	ND	0.003	0.03	ND	ND	ND	0.3	ND	ND	ND
	Tetrachloroethylene	0.1mg/ℓ	0.1	ND	ND	ND	0.01	0.0016	0.0006	0.0011	0.1	ND	ND	ND
	Dichloromethane	0.2mg/ℓ	0.2	ND	ND	ND	0.02	ND	ND	ND	0.2	ND	ND	ND
	1,1,1-trichloroethane	3mg/ℓ	3	ND	ND	ND	1	ND	ND	ND	3	ND	ND	ND
*Reg	ulated values are in accor	dance with the	*Data for the A	Awazu Plant ind	clude data for	the Komatsu	*Data for the	Osaka Plant ir	nclude data fo	or the Rokko	Data for the Ibaraki Plant include data for the M			r the Mooka

\*ND ("not detected") indicates a value below the

lower limit of detection.
\*ND is considered to be the lower limit of detec-

tion when calculating the average.

\*Other items are confirmed to be below the regulated value.

Water Pollution Control Law and local regula- and Kanazawa Plants and Komatsu Engineering Corp. Plant. (Awazu).

Oyama Plant (established in 1962)	Koriyama Plant (established in 1995)	Shonan Plant (established in 1966)	Research Division (established in 1985)
Oyama, Tochigi Prefecture	Koriyama, Fukushima Prefecture	Hiratsuka, Kanagawa Prefecture	Hiratsuka, Kanagawa Prefecture
Engines for construction/industrial machinery, diesel generators, hydraulic equipment,axle,excimer lasers, etc.		Control equipment for construction and mining equipment, hybrid components Thermoelectric modules, temperature control equipment, etc.	R&D on business fields of the Komatsu Group
585/143	297/19	40/2	195/0
2,800	348	703	211
May 1997	July 2002	March 2000	May 2008

Ite	em		Actual value	Ite	m		Actual value	Ite	em		Actual value	Ite	em		Actual value						
Total CO2 em	nissions		55,184 t-CO <sub>2</sub>	Total CO2 em	issions		8,013 t-CO <sub>2</sub>	Total CO2 em	issions		2,139 t-CO <sub>2</sub>	Total CO2 em	issions		2,067 t-CO <sub>2</sub>						
NOx total am	nount		27,684 kg	NOx total am	ount		52,522 kg	NOx total am	iount		0 kg	NOx total am	ount		409 kg						
SOx total am	nount		67 kg	SOx total am	ount		2,859 kg	SOx total amount 0 kg		SOx total am	ount		29 kg								
Total emissio	ns of waste		3,745 t	Total emission	ns of waste		742 t	Total emissions of waste 121 t		121 t	Total emissio	ns of waste		171 t							
Amount recy	cled		3,745 t	Amount recyc	eled		742 t	Amount recy	cled		121 t	Amount recy	cled		165 t						
Recycling rat	te		100 %	Recycling rate	€		100 %	Recycling rat	е		100 %	Recycling rat	е		96.6 %						
BOD emissio	ons		4,176 kg	BOD emission	ns		28 kg	BOD emissio	ns		2,467 kg	BOD emissio	ns		10 kg						
COD emissio	ons		5,949 kg	COD emission	ns		124 kg	COD emissio	ins		_	COD emissions		COD emissions		COD emissions			16 kg		
Wastewater			540,000 m³/year	Wastewater			11,745 m³/year	Wastewater			28,888 m³/year	Wastewater			4,188 m³/year						
Item	Actual consun	nption	Converted to calorie equivalents (GJ)	Item	Actual consur	nption	Converted to calorie equivalents (GJ)	Item	Actual consun	nption	Converted to calorie equivalents (GJ)	Item	Actual consun	nption	Converted to calorie equivalents (GJ)						
Electricity	73,448	MWh	715,471	Electricity	7,072	MWh	70,508	Electricity	5,499	MWh 54,825		Electricity	4,454	MWh	43,023						
Heavy oil A	198	kℓ	7,742	Heavy oil A	1,708	kℓ	66,783	Heavy oil A	0	kℓ	0	Heavy oil A	20	kℓ	798						
Kerosene	2,946	kℓ	108,118	Kerosene	0	kℓ	0	Kerosene	Kerosene 0 ki		Kerosene 0 kl		Kerosene 0 kl		Kerosene 0 kl		0	Kerosene	76	kℓ	2,789
Light oil	2,530	kℓ	96,646	Light oil	0	kℓ	0	Light oil	0	kℓ	0	Light oil	36	kℓ	1,375						
LPG, et al.			259,012	LPG, et al.			11,194	LPG, et al.			578	LPG, et al.			299						
Total			1,186,989	Total			148,485	Total			55,403	Total			48,284						

Facility	Regulated value	Actual value	Facility	Regulated value	Actual value	Facility	Regulated value	Actual value	Facility	Regulated value	Actual value
Diesel engine	950	800	Cogeneration engine	760	730	N/A	_	_	Service generator	303	180
Gas turbine	70	17							Cold/hot water generator	390	46
Boiler	180	85									
Annealing furnace	200	40									
K-value regulation	7.0	3.13	K-value regulation	11.5	0.17				K-value regulation	11.5	0.1
Diesel engine	0.1	0.017	Tempering (electric) furnace	0.2	less than 0.003	N/A	_	_	Service generator	0.1	0.015
Boiler	0.3	0.003	Baking (electric) furnace	0.2	less than 0.003				Cold/hot water generator	0.2	0.003
Annealing furnace	0.25	0.001	Cogeneration engine	0.2	0.046						
Electric furnace	0.2	0.003									

Regulated		Actual value		Regulated		Actual value		Regulated		Actual value		Regulated		Actual value	
value	Maximum	Minimum	Average												
5.8-8.6	7.3	6.9	7.2	5.8-8.6	7.4	6.7	7.0	5–9	8.3	6.2	7.5	5.8-8.6	7.6	7.0	7.4
25	14.6	4.0	7.7	25	6.5	0.7	2.4	600	160	ND	53.0	10	3.0	2.0	2.5
25	19.9	6.2	11.0	40	14.0	8.5	10.6	_	_	_	_	25	6.0	2.0	4.3
50	19.6	3.2	12.9	50	6.2	1.3	3.4	600	200	ND	27.0	65	14.0	ND	5.0
5	0.7	ND	0.5	1	ND	ND	ND	5	2.0	ND	1.0	5	1.0	1.0	1.0
3	ND	ND	ND	2	ND	ND	_	3	ND	ND	ND	1	ND	ND	ND
2	0.11	ND	0.06	2	ND	ND	_	2	0.06	0.02	0.04	1	ND	ND	ND
20	7.3	2.0	3.6	120	21.0	21.0	_	_	_	_	_	120	_	_	_
2	0.4	0.1	0.2	16	2.6	2.6	_	_	_	_	_	16	_	_	_
0.1	ND	ND	ND	0.1	ND	ND	_	0.1	ND	ND	ND	0.1	0.01	ND	0.01
0.1	ND	ND	ND	0.1	ND	ND	ND	0.1	ND	ND	ND	0.1	0.05	0.05	0.05
0.1	ND	ND	ND	0.1	ND	ND	ND	0.5	ND	ND	ND	0.5	0.05	0.05	0.05
0.3	ND	ND	ND	0.3	ND	ND	_	0.3	ND	ND	ND	0.3	ND	ND	ND
0.1	ND	ND	ND	0.1	ND	ND	_	0.1	ND	ND	ND	0.1	0.002	0.002	0.002
_	_	_	_	0.2	ND	ND	_	0.2	0.002	ND	0.002	0.2	ND	ND	ND
3	ND	ND	ND	3	ND	ND	_	3	ND	ND	ND	3	0.002	0.002	0.002

\*Data for the Shonan Plant include data for KELK Ltd.

### Environmental Data by Manufacturing Facility in Japan

Ove	Manufacturing facility	Komatsu Utility Co., Ltd. Tochigi Plant (established in 1968)	Komatsu Castex Ltd. Himi Plant (established in 1952)	Komatsu NTC Ltd. (established in 1945)		
ervie	Location	Oyama, Tochigi Prefecture	Himi, Toyama Prefecture	Nanto, Toyama Prefecture		
V	Main products	Forklift trucks, mini wheel loaders	Iron castings, steel castings, molds for casting, etc.	Machine tools, sheet-metal machines, semiconductor manufacturing equipment		
	Site/building area (1,000 m²)	245/48	428/71	182/89		
	Number of employees	1,089	799	663		
	Date of ISO14001 certification acquisition	February 1998	January 2000	June 1999		

<sup>\*</sup>The number of employees includes those working for Komatsu affiliates on the premises.

\*Komatsu Castex Ltd. is the successor company of the former Komatsu Ltd. Himi Plant established in 1952.

Ma	Ite	em		Actual value	Ite	em		Actual value	Ite	em		Actual value
Environmental impact	Total CO <sub>2</sub> em	issions		4,494 t-CO <sub>2</sub>	Total CO2 em	issions		39,598 t-CO <sub>2</sub>	Total CO <sub>2</sub> em	issions		6,724 t-CO <sub>2</sub>
Environmental impact Pefer to the Data on Environmental Impact Resulting from Business Activities for details on the methods used to calculate amounts. Total emissions of waste are expressed as a	NOx total am	NOx total amount		1,588 kg	NOx total am	ount		12,324 kg	NOx total amount		— kg	
methods used to calculate amounts. *Total emissions of waste are expressed as a	SOx total am	SOx total amount		1,164 kg	SOx total am	ount		1,270 kg	SOx total am	ount		0 kg
composite of the amount recycled (excluding valuables) and the amount disposed. *Recycling rate is calculated by dividing the	Total emissio	ns of waste		668 t	Total emissio	ns of waste		4,029 t	Total emissio	ns of waste		998 t
	Amount recy	cled		667 t	Amount recy	cled		3,884 t	Amount recy	cled		927 t
amount recycled (including valuables) by the amount generated (including valuables).	Recycling rat	е		99.9 %	Recycling rat	В		99.3 %	Recycling rat	е		95.1 %
*Total emissions of BOD and COD are calculated by multiplying the average concentration by the	BOD emissio	BOD emissions		504 kg	BOD emissio	ns	649 kg		BOD emissions			665 kg
amount of wastewater.	COD emissio	ins		637 kg	COD emissio	ns		1,222 kg	COD emissio	ns		— kg
	Wastewater			97,906 m³/year	Wastewater			393,605 m³/year	Wastewater			1,437,941 m³/year
	Item	Actual consun	nption	Converted to calorie equivalents (GJ)	Item	Actual consun	nption	Converted to calorie equivalents (GJ)	Item	Actual consum	ption	Converted to calorie equivalents (GJ)
Energy consumption	Electricity	7,176	MWh	69,927	Electricity	74,347	MWh	725,118	Electricity	16,890 N	VIWh	166,043
*The heat energy conversion factor is calculated in keeping with the guidelines for calculation	Heavy oil A	464	kℓ	18,142	Heavy oil A	1,552	kℓ	60,683	Heavy oil A	0 H	<l< td=""><td>0</td></l<>	0
stipulated by the Ministry of the Environment of Japan in FY1999, which are based on the Act	Kerosene	2	kℓ	73	Kerosene	817	kℓ	29,984	Kerosene	61	<l< td=""><td>213</td></l<>	213
on Promotion of Global Warming Countermea- sures.	Light oil	38	kℓ	1,452	Light oil	170	kℓ	6,494	Light oil	39 k	<l< td=""><td>1,497</td></l<>	1,497
Suicos.	LPG, et al.			6,243	LPG, et al.			72,810	LPG, et al.			2,012
	Total			95,837	Total			895,089	Total			169,765

Compliance	Air	Item	Unit	Facility	Regulated value	Actual value	Facility	Regulated value	Actual value	Facility	Regulated value	Actual value
lianc		Nitrogen oxides (NOx)	ppm	Small boilers*	(260)	56	Annealing furnace	200	48	N/A	_	
Conditions			ppm				Annealing furnace (small)	180	37			
			ppm				Calciners	220	14			
			ppm									
to Ma		Sulfur oxides (SOx)	_	K-value regulation	7.0	0.10	K-value regulation	17.5	0.19			
Major F		Soot and dust	g/m³N	Small boilers*	(0.5)	0.004	Annealing furnace	0.25	0.01	N/A	_	
Regulations			g/m³N				Annealing furnace (small)	0.2	0.01 or less			
lation			g/m³N				Calciners	0.15	0.01 or less			
SI			g/m³N				Arch furnace	0.1	0.01 or less			

\*Regulated values are in accordance with the Air \*Regulated values of NOx, soot and dust are in Pollution Control Law and local regulations.

accordance with self-regulatory measures, because

Wa		Regulated value according to the Water	Regulated		Actual value		Regulated		Actual value		Regulated		Actual value	
Wastewater	Item	Pollution Control Law Unit	value	Maximum	Minimum	Average	value	Maximum	Minimum	Average	value	Maximum	Minimum	Average
ater	pH	5.8–8.6	5.8-8.6	7.3	7.0	7.1	5.8–8.6	8.4	6.9	7.6	5.8-8.6	7.3	6.4	6.8
	BOD (Biochemical oxygen demand)	160mg/ℓ	25	13.3	1.9	5.2	25	3.4	0.7	1.7	160	1.0	ND	0.5
	COD (Chemical Oxygen Demand)	160mg/ℓ	25	13.7	2.9	6.5	160	6.3	1	3.1	_	_		_
	Suspended solids (SS)	200mg/ℓ	50	10.8	2.4	6.9	90	18.0	ND	5.4	200	5.0	ND	2.1
	Mineral oils	5mg/ℓ	5	ND	ND	ND	5	0.6	ND	0.5	_	_		_
	Copper	3mg/ℓ	3	ND	ND	ND	1	ND	ND	ND	_		_	_
	Zinc	2mg/ℓ	2	0.12	ND	0.06	2	ND	ND	ND	_	_		_
	Nitrogen	120mg/ℓ	20	1.5	1.3	1.4	120	13.0	2.2	7.1	_	_	_	_
	Phosphorus	16mg/ℓ	2	0.20	0.12	0.16	16	0.58	0.05	0.20	_			_
	Cadmium	0.1mg/ℓ	0.1	ND	ND	ND	0.1	ND	ND	ND	_		_	_
	Lead	0.1mg/ℓ	0.1	ND	ND	ND	0.1	ND	ND	ND	_			_
	Chromium (VI)	0.5mg/ℓ	0.1	ND	ND	ND	0.5	ND	ND	ND	_		_	_
	Trichloroethylene	0.3mg/ℓ	0.3	ND	ND	ND	0.3	ND	ND	ND	_			_
	Tetrachloroethylene	0.1mg/ℓ	0.1	ND	ND	ND	0.1	ND	ND	ND	_	_		_
	Dichloromethane	0.2mg/ℓ	0.2	ND	ND	ND	0.2	ND	ND	ND	_	_	_	_
	1,1,1-trichloroethane	3mg/ℓ	3	ND	ND	ND	3	ND	ND	ND	_	_	_	_

<sup>\*</sup>Regulated values are in accordance with the Water Pollution Control Law and local

\*Data for Komatsu NTC Ltd. include data for the Toyama Plant, Fukuno Plant.

<sup>\*</sup>Number of employees as of end of March 2010.

regulations.
\*ND ("not detected") indicates a value below the

lower limit of detection.

<sup>\*</sup>ND is considered to be the lower limit of detection when calculating the average.

<sup>\*</sup>Other items are confirmed to be below the regulated value.

Komatsu Cabtec Co., Ltd. (established in 1918)	Komatsu House Ltd. (established in 1971)					
Ryuou-cho, Gamou, Shiga Prefecture	Shinshiro, Aichi Prefecture					
Cabs for construction equipment	Prefabricated structures for businesses					
52/22	31/10					
366	41					
December 2007	March 2002					

Ite	em		Actual value	Ite	em		Actual value		
Total CO2 em	nissions		2,781 t-CO <sub>2</sub>	Total CO <sub>2</sub> em	issions		714 t-CO <sub>2</sub>		
NOx total am	NOx total amount		— kg	NOx total am	ount	284 kg			
SOx total am	ount		0 kg	SOx total am	ount		128 kg		
Total emissio	ns of waste		265 t	Total emission	ns of waste		36 t		
Amount recy	cled		143 t	Amount recyc	cled		36 t		
Recycling rat	e		97.2 %	Recycling rate	е	100 %			
BOD emissions		409 kg		BOD emissions			58 kg		
COD emissio	COD emissions		526 kg	COD emissio	ns		58 kg		
Wastewater		122,627 m³/year		Wastewater			6,471 m³/year		
Item	Actual consun	Converted to calorie equivalents (GJ)		Item	Actual consumption		Converted to calorie equivalents (GJ)		
Electricity	5,716	MWh	56,210	Electricity	592	MWh	5,902		
Heavy oil A	0	kℓ	0	Heavy oil A	72	kℓ	2,815		
Kerosene	e 14 kê		503	Kerosene	0	kℓ	0		
Light oil 35 kl		kℓ	1,341	Light oil	5 kl		195		
LPG, et al.			7,701	LPG, et al.			4,654		
Total			65,754	Total			13,566		

Facility	Regulated value	Actual value	Facility	Regulated value	Actual value
N/A	_	_	Boiler	250	59
			K-value regulation	17.5	0.51
N/A	_	_	Boiler	0.3	0.003

Regulated		Actual value		Regulated		Actual value	
value	Maximum	Minimum	Average	value	Maximum	Minimum	Average
5.8-8.6	7.2	7.0	7.1	5.8-8.6	7.5	6.4	6.8
20	7.0	1.0	3.3	160	58.0	1.2	9.0
20	8.7	1.5	4.3	160	25.0	0.5	9.0
20	14.0	0.5	5.1	200	8.0	ND	2.5
_	_	_	_	5	1.0	ND	1.0
0.1	0.02	ND	0.01	_	_	_	_
0.5	0.18	0.02	0.06	_	_	_	_
8	5.9	1.0	3.6	120	60.0	1.7	17.0
0.6	0.5	ND	0.2	16	15.0	0.3	4.0
_	_	_	_	_	_	_	_
0.03	ND	ND	ND	_	_	_	_
_	_	_	_	_	_	_	_
_	_	_	_	_	_	_	_
_	_	_	_	_	_	_	_
_	_	_	_	_	_	_	_
_	_	_	_	_	_	_	_

Overview	Manufacturing facility	Komatsu Construction Equipment Sales and Service Japan Ltd. (established in March 1967)			
Location Sagamihara, Kanagawa Prefecture (Head office)					
	Activities	Sales and service for construction machinery			
	Number of bases	116 sites			
	Number of employees	1,958			
	Date of ISO14001 certification acquisition	_			

\*The number of bases and employees as of end of March 2010.

Ma	Environmental impact	Iter	n		Actual value	
Major Performance	*Total waste emissions are equal to the amount disposed + the	Total CO <sub>2</sub> emissions		5,163 t-CO <sub>2</sub>		
forman	amount recycled (including valuables)  *Recycling rate is calculated by dividing the amount recycled (including valuables) by the amount generated (including valuables.)	Total emissions of w	aste		2,943 t	
се		Amount recycled			2,431 t	
		Recycling rate		82.6 %		
	Energy consumption	Item	Actual consumption		Converted to calorie equivalents (GJ)	
	*The heat energy conversion	Electricity	9,662 1	MWh	96,332	
	factor is calculated in keeping with the guidelines for calcula-	Heavy oil A	45 I	<ℓ	1,760	
	tion stipulated by the Ministry	Kerosene	382	<ℓ	14,005	
	of the Environment of Japan in FY1999, which are based on	Light oil	89 1	<ℓ	3,404	
	the Act on Promotion of Global	LPG	26 1	t	1,305	
	Warming Countermeasures.	Town gas, et al.			1,263	
		Total			118,069	

Ove	Manufacturing facility	Komatsu Rental Ltd. (established in Oct. 2006)
Overview	Location	Yokohama, Kanagawa Prefecture (Head office)
N	Activities	Rentals for construction machinery, engineering works construction machine apparatuses, and vehicles
	Number of bases	177 sites
	Number of employees	1,252
	Date of ISO14001 certification acquisition	_

\*The number of bases and employees as of end of March 2010.

Ma	Environmental impact	Iter	n		Actual value
jor Per	*Total waste emissions are equal to the amount disposed + the	Total CO <sub>2</sub> emissions			3,200 t-CO <sub>2</sub>
Major Performance	amount recycled (including valuables)  *Recycling rate is calculated by dividing the amount recycled (including valuables) by the amount generated (including valuables.)	Total emissions of w	aste		2,262 t
ice		Amount recycled			1,319 t
		Recycling rate		58.3 %	
	Energy consumption	Item	Actual consumption		Converted to calorie equivalents (GJ)
	*The heat energy conversion	Electricity	6,742	ИWh	67,222
	factor is calculated in keeping with the guidelines for calcula-	Heavy oil A	01	<ℓ	0
	tion stipulated by the Ministry	Kerosene	112	<ℓ	4,114
	of the Environment of Japan in FY1999, which are based on	Light oil	107 I	<ℓ	4,080
	the Act on Promotion of Global	LPG	81	t	382
	Warming Countermeasures.	Town gas, et al.			440
		Total			76,238

### **Environmental Data by Manufacturing Facility outside Japan**

The Americas Europe

0		СМО	PEORIA	NMO	KDB	Hensley	KUK	KOHAG	
Overview	Manufacturing facilities	Komatsu America Corp.			Komatsu do Brasil Ltda.	Henslev Industries, Inc.	Komatsu UK Ltd.	Komatsu Hanomag GmbH	
		Chattanooga Manufacturing Operation	Peoria Manufacturing Operation	ria Manufacturing Operation Newberry Manufacturing Operation		Herisley industries, inc.	Komaisu ok Liu.	Kornatsu Hariomag Giriom	
	Location Tennessee, U.S.A.		Illinois, U.S.A.	South Carolina, U.S.A.	São Paulo, Brazil	Texas, U.S.A.	Birtley, United Kingdom	Hannover, Germany	
	Main products Hydraulic excavators, motor graders		Large wheel loaders, large dump trucks	Utility equipment (small construction equipment)	Hydraulic excavators, bulldozers	Buckets, teeth and edges	Hydraulic excavators	Wheel loaders, compactors	
	Number of employees	283	502	136	640	432	297	568	
Energy	Electricity (MWh)	4,760	16,190	2,495	13,660	29,892	3,445	3,453	
ergy o	Heavy oil, light oil, et al. (kℓ)	58	13	_	284	86	133	2	
onsi	Natural gas (thousand m³)	1,012	2,743	22	_	3	667	611	
consumption	LPG, et al. (t)	_	25 (LPG)	23 (LPG)	183 (LPG)	98 (LPG)	_	_	
	Total energy consumption (GJ)	88,575	249,330	26,611	85,370	302,596	57,557	55,138	
	CO <sub>2</sub> (t-CO <sub>2</sub> )	4,677	20,207	1,470	1,896	16,780	2,779	3,136	
Wate	r consumption (t)	5,977	41,614	3,875	27,091	77,070	3,932	3,918	
Total	emissions of waste (t)	233	2,641	138	3,070	30,427	279	299	
Date of	ISO14001 certification acquisition	April 1998	March 2002	March 2004	January 2002	November 2009	December 1998	September 2000	

**Europe** 

Ove	Manufacturing	KMG	KUE	KFAB	КІ	KUI	KOFI	BKC
Overview	facilities	Komatsu Mining Germany GmbH	Komatsu Utility Europe S.p.A.	Komatsu Forest AB	PT Komatsu Indonesia	PT Komatsu Undercarriage Indonesia	PT KOMATSU FORGING INDONESIA	Bangkok Komatsu Co., Ltd.
	Location Düsseldorf, Germany		Este (PD), Italy	Umeå, Sweden	Jakarta, Indonesia	West Java, Indonesia	West Java, Indonesia	Chonburi, Thailand
	Main products  Ultra-large hydraulic excavators		Utility equipment (small construction equipment)	Forestry equipment	Hydraulic excavators, bulldozers, wheel loaders	Crawler type for construction machinery, rollers	Parts for construction machinery	Hydraulic excavators
	Number of employees	433	438	284	951	126	326	450
Energy	Electricity (MWh)	6,769	2,889	2,064	19,796	4,173	19,260	6,148
rgy o	Heavy oil, light oil, et al. $(k\ell)$	9	_	_	435	134	472	400
onsi	Natural gas (thousand m³)	1,113	614	_	898	_	_	_
consumption	LPG, et al. (t)	_	_	_	102 (LPG)	91 (LPG)	_	95 (LPG)
	Total energy consumption (GJ)	105,591	41,082	10,553	248,950	49,701	203,083	86,129
	CO <sub>2</sub> (t-CO <sub>2</sub> )	6,023	2,783	216	14,043	2,894	11,739	5,892
Wate	r consumption (t)	9,784	11,843	4,611	84,676	36,824	34,429	32,635
Total	emissions of waste (t)	5,411	822	143	3,618	329	3,620	594
Date of	SO14001 certification acquisition	July 2002	November 2001	October 2003	June 2000	July 2009	October 2008	September 2001

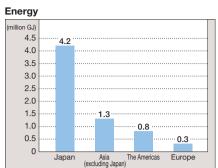
#### Asia

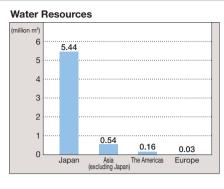
Q.	Manufacturing	BKI	LTK	KIPL	KSC	КССМ	KCF
Overview	facilities	Bangkok Komatsu Industries Co., Ltd.	L&T-Komatsu Limited	Komatsu India Pvt. Ltd.	Komatsu Shantui Construction Machinery Co., Ltd.	Komatsu (Changzhou) Construction Machinery Corp.	Komatsu (Changzhou) Foundry Corp.
	Location Chonburi. Thailand		Bangalore, India	Chennai, India	Shandong, China	Jiangsu, China	Jiangsu, China
	Main products	Forklift trucks, Castiron parts for construction machinery	Hydraulic excavators	Dump trucks	Hydraulic excavators	Wheel loaders, hydraulic excavators, motor graders	Iron castings and foundry molds for construction and mining equipment
	Number of employees	242	677	178	546	423	295
Energy	Electricity (MWh)	12,915	7,051	565	9,839	2,585	26,755
yrgy o	Heavy oil, light oil, et al. (kℓ)	34	362	34	856	1,242	60
onsi	Natural gas (thousand m³)	0	_	_	124	_	_
consumption	LPG, et al. (t)	79 (LPG)	188 (LPG)	_	_	12 (LPG)	374 (Coal, LPG)
	Total energy consumption (GJ)	143,870	89,805	6,614	88,775	70,059	328,112
	CO <sub>2</sub> (t-CO <sub>2</sub> )	9,886	4,231	304	7,001	5,069	19,239
Wate	r consumption (t)	27,124	53,371	31,032	116,755	60,369	61,540
Total	emissions of waste (t)	3,315	1,852	96	1,016	930	7,622
Date of	ISO14001 certification acquisition	December 2009	June 1999	January 2010	December 2000	September 2000	December 1999

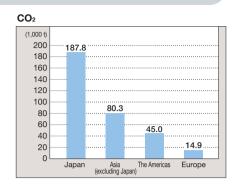
- 1. All data, except the number of employees, were derived from performances of all manufacturing facilities during FY2009. The number of employees was based on the companies' data as of March 31, 2010.
- 2. Conversion to CO<sub>2</sub> and total energy consumption were based on statistical data of each region, country, and that of IEA for 2000.

  3. Total emissions of waste are expressed as a composite of the amount recycled and the amount disposed.

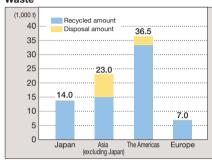
### **Environmental Impact Indicators and Environmental Accounting, Broken Down by Region**

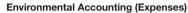


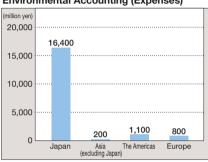






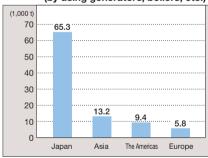




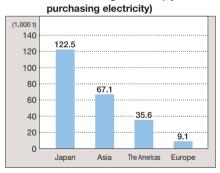


### CO<sub>2</sub> Emissions by Scope

Scope1: CO<sub>2</sub> emitted directly by manufacturing facilities (by using generators, boilers, etc.)



Scope2: CO<sub>2</sub> emitted indirectly by manufacturing facilities (by



# **Environmental Accounting**

#### **Environmental Costs (Investments and expenses)**

Top figure: Komatsu and Komatsu Group manufacturing facilities in Japan (excluding Komatsu NTC Ltd. and Komatsu Cabtec Co., Ltd.)

Bottom figure: Manufacturing facilities outside Japan (excluding KIPL, BKI, KUI, KOFI, and LTK)

						Bottom figure: Manufacturing facilities outside Japan (excluding KIPL, BKI, KUI, KUFI, and LIK)			
Category		Investment			Expenses	rpenses			
		FY2008	FY2009		FY2008	FY2009			
			Investment* (millions of yen)	Contents	Expenses* (millions of yen)	Expenses* (millions of yen)	Contents		
(1) Business are	a cost	1,793 809	1,228 295		4,158 2,004	2,671 611			
	1. Pollution prevention cost	785 333	871 226	Investment for installation and conversion of pollution mitigation/prevention facilities (installation of effluent processing facilities, conversion of painting booths, etc.)	935 540	700 277	Cost of maintaining equipment for mitigation/prevention of air and water pollution and for noise and vibration prevention (labor and depreciation costs)		
	Global environmental conservation cost	877 466	337 54	Investment for implementing energy conservation measures (installation of new ventilation systems, etc.)	1.344 688	866 83	Cost of maintaining energy conservation facilities, such as cogeneration systems (labor and depreciation costs)		
	3. Resource circulation cost	132	20 15	<ul> <li>Investment for reducing the volume of waste ma- terials (conversion of recycling facilities, introduction of equipment for separating waste, etc.)</li> </ul>	1,880 776	1,105 250	Waste material processing cost		
(2) Upstream/do	(2) Upstream/downstream cost		0 3		226 955	218	Reduction of the environmental impact of components, etc. shipped outside Japan     Reduction of the environmental impact of mass-production units		
(3) Administration	n cost	18	2 5	● Investment for beautifying manufacturing sites	630 308	702 201	Cost of maintaining environmental management systems     Cost of creating green spaces and beautifying manufacturing sites		
(4) R&D cost		349 14	295 4	Investment in research facilities for reduction of environmental impact	18,444 873	12,039 1,177	Cost of R&D activities to reduce the environmental impact of products     Cost of R&D activities to develop environmentally-friendly construction equipment		
(5) Social activity cost		0	0		8 13	11 5			
(6) Environmental remediation cost		0	0		1,722 49	746 62	Cost of conducting surveys and remedial countermeasures related to soil and groundwater contamination		
Total		2,162 840	1,526 307		25,188 4,202	16,387 2,058			

<sup>\*</sup>All figures are rounded off to the nearest million yen.

#### **Environmental Effects**

- (minus) means reduction

Top figure: Komatsu and Komatsu Group manufacturing facilities in Japan (excluding Komatsu NTC Ltd. and Komatsu Cabtec Co., Ltd.)

Bottom figure: Manufacturing facilities outside Japan (excluding KIPL, BKI, KUI, KOFI, and LTK)

- (minus) means reducti	on.		Bottom figure: Manufacturing facilities outside Japan (excluding KIPL, BKI, KUI, KOFI, and LTK)					
Environmental impac	t reduction effects	<b>.</b>	Economic benefits					
Items of	Reduction	Rate of	Tangible benefits	Tangible benefits			Contribution to profits	
environmental impact	amount (t/year)	year-on-year changes (%)	Туре	Monetary value* (millions of yen)	Major activities	environmental risks (see Note below)	(see Note below)	
CO <sub>2</sub> emissions	-89,122	-33.1	Energy	1,365	Energy conversion, etc.			
	-7,025	-5.9	conservation	48				
			Resource	0				
			conservation	27				
Water consumption	-1,105,141	-22.1	Waste materials reduction  Gain on sale of	408	Promotion of recycling through thoroughgoing	pollution in Japan during FY2009 that led to violations of the law.  No litigation costs were re-	Proceeds from mobile recycling equipment     Proceeds from value added due to reduced environmental impact of products (engines)	
	-89,686	-14.1		35	sorting			
				120	Reuse of furnace slag for roadbed materials			
			valuables	118		quired in Japan during FY2009.	Proceeds from Reman business	
Waste materials	-14,698	-53.3	Other	2				
generation	-22,064	-27.8		2				
			Total	1,895				
				230				

<sup>\*</sup>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 FY2009 are as follows:

- Mobile recycling equipment business: 1.7 billion yen
- Engine business: 66.4 billion yen (Total for intra-Group sales from the Engine Business Division)
- "Reman" business: 28.0 billion yen (Worldwide Reman business sales from April 2009 to March 2010)

#### Effects on Society during the Product Use Stage\*

Environmental impact reduction effects	Tangible benefits
Environmental impact reduction resulting from on-site recycling methods     Environmental impact reduction resulting from product operation     Waste components reduction resulting from "Reman" business	Reduction of expenses for processing waste materials     Savings in operating and maintenance costs     Reduction of repair costs

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

### **Environmental and Social Activities to Date & External Commendations**

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

2003 Began continuous support for the Flower Association of • Environmental Affairs Department established Japan since its founding Komatsu Earth Environment Charter revised 1990 2004 Annual Directors' Caravan for Inter-office Communication launched Corporate Social Responsibility Department established 1991 2005 • Earth Environment Committee established • First European Health, Safety, and Environment Meeting convened Company name changed in Japanese public relations to 2006 GALEO series environment-friendly construction equipment put on the market, "Komatsu," with new corporate brand logotype satisfying Tier 3 (Stage 3A) emission standards, which became effective that 1992 Komatsu Earth Environment Charter and Environmental Action Plan formulated All Komatsu Group manufacturing facilities in Japan attain zero emissions 1994 • First Environmental Report published • The KOMATSU Way explicitly defined and promotion activities launched Board of Corporate Auditors established 2007 Seventh edition of Komatsu's Code of Worldwide Business Conduct published 1997 Ovama Plant becomes first in Japanese construction • FB15HB-12 hybrid electric forklift truck put on the market equipment industry to acquire ISO14001 certification 2008 Agreement concluded with Japanese NPO Japan Mine Action Service (JMAS) 1998 • Ethics Committee established • The Komatsu Group in Japan acquire ISO14001 integrated certification • First edition of Komatsu's Code of Worldwide Business Conduct published • Development of PC200-8 hybrid hydraulic excavator announced 1999 • Executive Officer system established; Board of Directors reorganized Signed the United Nations Global Compact Compensation Council established Completed Cambodia local reconstruction project with JMAS 2000 All four Komatsu manufacturing facilities acquire ISO14001 certification Started Angola local reconstruction project with JMAS First Global Environmental Affairs Meeting convened PBZ and PAS series of press brakes acquire MF eco machine\* certification Environmental Report again published; published annually thereafter Basic agreement reached between Komatsu, Adaro and UT on the biodiesel project in Indonesia 2001 • Compliance Department established; Ethics Committee renamed as \*The MF Eco machine Certification System is an eco-label established by the Japan Compliance Committee Forming Machinery Association. 2002 All seven Komatsu Group manufacturing facilities in Japan 2010 Production at Komatsu Cummins Engine Co. Ltd. reaches 500.000 engines acquire ISO14001 certification • Komatsu developed leading-edge engine technology meeting All four Komatsu manufacturing facilities attain zero emissions

### External Commendations and Evaluations on Komatsu's Environmental Conservation and Social Activities

2009 Jan. Ranked 17th among 100 companies in Japan in Nikkan Kogyo Shimbun Ltd.'s Fifth Annual Corporate Performance Rankings

Sadao Nozawa, Manager of the Environment and Energy Conservation Group in the General Affairs Department at the Oyama Plant, received the Energy Conservation Feb. Grand Prize "Awards for Personnel" Category from the Minister of Economy, Trade and Industry at the 2008 Energy Conservation Monthly Awards Ceremony PC200-8 hybrid hydraulic excavator received the Nikkei Business Daily Award for Excellence in the 2008 Nikkei Superior Products and Services Awards, sponsored by Nikkei Inc.

Received the Seventh Annual Award for Broadening of Individual Shareholder Base in the Tokyo Stock Exchange, Inc.'s 2008 TSE Awards for Listed Companies

Ranked 17th among 1,900 companies in Japan in the Nippon Foundation's Annual Corporate Performance Rankings

2010 Maronnier ECO business site received citation from Tochigi Prefecture

(1) Komatsu Oyama Plant recognized with the Top Award for ECO Keeper Business

(2) Company cafeteria at Komatsu's Oyama Plant run by Yuki Nutritional Foods Center received an outstanding performance award for "food mileage" (3) Komatsu Utility's hybrid electric forklift truck received the Products of Exceptional Environmental Value Award by the e-Technology Division of Tochigi Prefecture

Chairman of the Board Masahiro Sakane received the 2009 Leadership Award from the business media magazine Zaikai

Received the 15th Annual Award for Disclosure under the Tokyo Stock Exchange's 2009 TSE Awards for Listed Companies Mar.

Received the 2010 Chairman's Award of the Japan Construction Mechanization Association for development of the PC200-8E0 Hybrid Hydraulic Excavator

Komatsu Ltd. is included in the Socially Responsible Investing (SRI) indexes indicated below.







Japanese, U.S. and European next emission standards

Company name	Komatsu Ltd.					
Established	May 13, 1921					
Head Office	2-3-6, Akasaka, Minato-ku, Tokyo 107-8414, Japan					
Representative	President and Chief Executive Officer Kunio Noji					
Capital	Consolidated ¥67,870 million (US\$730 million*) as of March 31, 2010					
Net sales (for the fiscal year** ended March 31, 2010)	Consolidated ¥1,431,500 million (US\$15,392 million*) Non-consolidated ¥457,600 million (US\$4,920 million*) "U.S. dollar amounts are converted at the rate of *99=US\$1.00, the prevailing rate announced by the Federal Reserve Bank of New York on March 31, 2010. "Komatsu's fiscal years end on March 31. "FY2000," for example, means from April 1, 2000 to March 31, 2001.					
Main lines of business (Komatsu Group)	Manufacture and sale of construction and mining equipment, utility equipment (small construction equipment), forestry equipment, industrial machinery, etc.					
Komatsu Group profile	Number of companies (consolidated subsidiaries) 184					

(as of March 31, 2010)

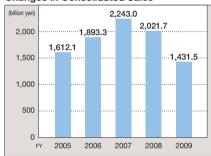
#### Number of employees: (as of March 31, 2010)

Consolidated	38,518
Non-consolidated	8,142
Consolidated subsidiaries in Japan	10,404
Consolidated subsidiaries outside Japan	19,972

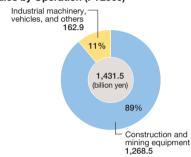
#### Number of employees by region: (as of March 31, 2010)

Japan	18,546
The Americas	8,111
Europe and CIS	3,072
China	3,316
Asia (excluding Japan and China) and Oceania	4,470
The Middle East and Africa	1,003

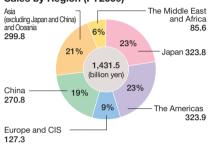
#### **Changes in Consolidated Sales**



#### Sales by Operation (FY2009)



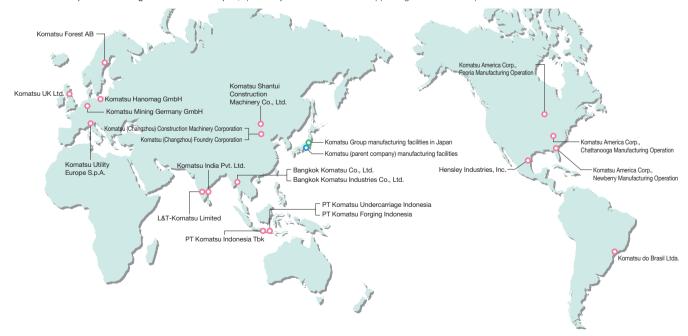
#### Sales by Region (FY2009)



Note: The sales ratio by region has been rounded off to the closest whole number

#### **Scope of This Report**

- OKomatsu (parent company) manufacturing facilities, specifically the following eight plants
- The Awazu Plant [including the Komatsu Plant, the Komatsu Machinery Corporation and Komatsu Engineering Corp (Awazu Plant).], the Kanazawa Plant [including Komatsu Industries Corporation], the Osaka Plant [including the Rokko Plant], the Ibaraki Plant, the Mooka Plant and the Oyama Plant [including Komatsu Cummins Engine Co., Ltd., Industrial Power Alliance Ltd., Komatsu Castex Ltd. (Oyama Plant), and GIGAPHOTON, Inc.], the Koriyama Plant, and the Shonan Plant [including KELK Ltd.].
- Komatsu Group manufacturing facilities in Japan, specifically the above eight plants and the following five business units
  Komatsu Castex Ltd. (Himi Plant), Komatsu Utility Co., Ltd. (Tochigi Plant), Komatsu NTC Ltd. [including Lossev Technology Corporation, Toyama Kiko Corporation, and
  D.S.K. Co., Ltd.], Komatsu Cabtec Co., Ltd.,, and Komatsu House Ltd.
- Komatsu Group manufacturing facilities outside Japan, specifically the 20 business units appearing on the world map below.



#### Major Changes since the 2009 Edition

- Komatsu Utility Co., Ltd.'s Kawagoe Plant, Komatsu America Corp.'s CANDIAC Plant, and Komatsu Mexicana S.A. de C.V. have been closed.
- Data on Bangkok Komatsu Industries Co., Ltd., PT Komatsu Undercarriage Indonesia, and PT Komatsu Forging Indonesia have been covered, starting with FY2009.

#### **Independent Review on Environmental & Social Report 2010**

#### Regarding the Independent Review

Komatsu views the independent review process as crucial for ensuring the integrity and objectivity of its Environmental & Social Report. For that reason, Komatsu has received an independent review from Deloitte Tohmatsu Evaluation and Certification Organization Co., Ltd., a member of the Deloitte Touche Tohmatsu Group. The results are as represented below with regard to the information appearing in the Environmental & Social Report 2010.

http://www.tohmatsu.com/teco/

(TRANSLATION)

Independent Review Report

June 21 2010

Mr. Kunio Noji

President and CEO, Komatsu Ltd.

Deloitte Tohmatsu Evaluation and Certification Organization Co., Ltd. Chief Executive Officer Hiroshi Inanaga

1. Scope of the Review

We have reviewed the "Environmental & Social Report 2010" prepared by Komatsu Ltd. ("the Company"). The purpose of our review was to provide limited assurance from an independent practitioner about whether the quantitative environmental information for the period from April 1, 2009 to March 31, 2010 included in p1-2, p5-22, and p45-57 of "Environmental Report 2010" (hereinafter refer to as the "Quantitative Environmental Information") was accurately measured and calculated, referring to the Environmental Reporting Guidelines - Year 2007 version (issued by the Japanese Ministry of the Environment) and GRI Sustainability Reporting Guidelines 2006, in accordance with calculation methods adopted by the Company.

2. Responsibility of the Management

The "Environmental & Social Report 2010" is the responsibility of the Company's management. Our responsibility is to provide our limited assurance with respect to the review performed on the Quantitative Environmental Information from an independent tractitioner.

3. Summary of Review

To obtain an adequate and valid standard of basis for providing limited assurance with respect to our conclusions, we performed our review with reference to the International Standard on Assurance Engagements (ISAE) 3000 (issued by the International Federation of Accountants in December 2003) and the Proposed Environmental Report Review Standard (issued by the Japanese Ministry of the Environment in March 2004). The review procedures performed for the Quantitative Environmental Information consisted of: 1) agreeing information to summary tables and supporting

The review procedures performed for the Quantitative Environmental Information consisted of: 1) agreeing information to summary tables and supporting documents on a sample basis; 2) interviewing the responsible personnel and the persons in charge; 3) reviewing and agreeing information to the relevant minutes, the Company's regulations, and ISO related documents; 4) site visits; and 5) comparing information with other available supporting internal and external materials

4. Conclusions

On the basis of the review procedures described in the preceding paragraph, nothing has come to our attention that caused us to believe the Quantitative Environmental Information was not accurately measured or calculated, referring to the Environmental Reporting Guidelines - Year 2007 version (issued by the Japanese Ministry of the Environment) and GRI Sustainability Reporting Guidelines 2006, in accordance with calculation methods adopted by the Company.

#### Supplementary Explanation regarding the Conducting of Independent Review Procedures

Reporting on review

Reporting results of

As a supplementary explanation, the following provides an overview of the review procedures conducted during an independent review.

Check of final version

Follow-up on issues

of report

# Supplementary explanation regarding independent review procedures

Formation of plan for review process

- Confirmation of items to be included in the report (1) Scope of information (2) Information collection process
- (3) Information collection method
- (4) Level of importance of individual pieces of information
- Finalization of items to be reviewed and review methodology

Step 2

Execution of review

- Review of offices and persons in charge
- Inspections of business units



Executing a review at the Head Office (with persons in charge of CSR in photo)





Executing a review at the Oyama Plant



report

Submission of

Submission of

independent review

independent review

Executing a review at Komatsu Castex Ltd.

#### Supplementary explanation regarding site visits to business units

- 1. Business units visited in this review:
  - Komatsu Ltd. Head Office
  - · Oyama Plant
  - · Komatsu Castex Ltd
- Visits to business units take place in a planned rotation. Records for business units not visited during this review were reviewed at the Komatsu Ltd. Head Office.

#### Notes from the Editor

#### Editorial Policy for the FY2010 Report

Coinciding with the announcement of the medium-term management plan, a long-term plan for environmental activities was also formulated and included in the Environmental Report 2010. In addition, the Komatsu Earth Environment Charter was revised for the first time in seven years. Especially noteworthy is the inclusion of measures to mitigate climate change, maintain biodiversity, and improve environmental communication.

Komatsu made an effort to give a unified feel throughout the report, by adopting the four key terms of "CO2," "global," "corporate social responsibility" and "social contributions."

#### Period Covered

This report in principle covers the data for the period from April 1, 2009 to March 31, 2010, though information for the period after April 1, 2010 is also included.

#### Guidelines Used

- "Environmental Report Guidelines 2007" (Ministry of the Environment of Japan)
- "The 2006 Sustainability Reporting Guidelines" (Global Reporting Initiative [GRI])

#### Subsequent Reporting Schedule

- Japanese version: Expected July, 2011
- English version: Expected July, 2011



#### Komatsu Ltd.

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