

Developing
People

Enhancing
Quality
of Life



Growing
with
Society

CSR & Environmental
Report

2018

Full Version



KOMATSU CSR & Environmental Report 2018

02 Message from Top Management

■ Concept of CSR activities

06 Special Story: Part of our DNA
09 CSR Theme and Key Business Activities
12 Incorporating CSR into Management
15 Comparison with Global Principles
17 Dialogue with Our Stakeholders
19 Organization to Promote CSR
20 Major Achievements and Mid-term Plans
28 External Evaluations

■ Theme 1 : Enhancing Quality of Life

32 Product Safety -Increasing Safety by Innovation-
35 Quality and Reliability - Responsible Commitment to
Customers -
42 Occupational Safety and Health
50 Special Story:Leading the Way at Awazu Plant
54 Feature Article:KMC' s Environmental Sustainability
Program
59 Pursuing Environmental Management
72 Mitigate Climate Change
89 Promoting Recycling

■ Theme 2 : Developing People

96 Personnel Policy and Performance Appraisal System
102 Diversity Initiatives
107 Enhancing Work-Life Balance
111 The KOMATSU Way
114 Employee Training Structure
116 Strengthening Our "Gemba" Capability
119 Brand Management Initiatives

■ Theme 3 : Growing with Society

123 Communication with Stakeholders
127 Compliance
130 Risk Management
134 Support for CSR Initiatives of Business Partner
138 CSR Procurement Guidelines
140 Environmental Impact of Suppliers
141 Environmental Risk Management
150 Biodiversity

■ Social Contribution Activities

154 Accomplishments and Approaches for Social
Contribution Activities
156 Komatsu's Initiatives for the Social Issues
158 Developing People Needed by the Community
161 Disaster Relief
162 Special Story: Fostering Community Growth in
Cambodia
166 Clearing Anti-Personnel Landmines and
Reconstruction Support
172 Promoting Sports—The Komatsu Women's Judo
Club

■ Data

176 Environmental Education
179 Environmental Accounting
183 Site Data
184 Amount of CO2 Emissions by Scope3
185 PRTR first Class Designated Chemical Substances
data
187 Scope of Environmental Data, Calculation base of
typical environmental data
190 Independent Practitioner's Assurance

192 GRI STANDARDS INDEX
205 Corporate Profile

Editorial Policy

These reports principally cover data for the period from April 2017 to the end of March 2018, with some non-periodic information on continuing efforts.

About the report which doesn't cover all our domestic and overseas consolidated Group companies, we stated the scope of report in each page.

The date of the previous report is July 2017. We publish these reports every July, and the next issue will be published in July 2019.

Please use this form to send us any questions regarding our reports.

The reports contain Standard Disclosures from the GRI Sustainability Reporting Standards. You can see a list of the Standard Disclosures and their location in our report here.

Komatsu has received an independent practitioner's review on important quantitative data in environmental reporting, which can be viewed here.

Message from Top Management



Tetsuji Ohashi
President and CEO

Management with an emphasis on ESG

In FY2017, we expanded our mining equipment business by welcoming a major mining equipment manufacturer in USA, Joy Global Inc.(now Komatsu Mining Corp.), into the Komatsu Group.

Responding to ESG (Environmental, Social, Governance) issues, we seek to develop solutions that utilize our unique strengths in ICT and IoT. These include measures like " SMARTCONSTRUCTION " and the " Autonomous Haulage System(AHS)". We have made efforts to enhance safety and productivity of jobsites while simultaneously reducing the burden on the environment.

FY2018 is the final year of our three-year mid-range management plan "Together We Innovate GEMBA Worldwide - Growth Toward Our 100th Anniversary (2021) and Beyond - ". As we move towards 2021, we plan to focus on "Growth Strategies based on innovation", " Growth strategies of existing businesses", and "Structural reforms designed to reinforce the business foundation " to accelerate growth. By linking these management strategies with ESG activities required by society, we hope to build a brighter future that marks the celebration of our 100th Anniversary in 2021 and beyond.

Furthermore, we aim to contribute to the "Sustainable Development Goals (SDGs)", a collection of common objectives established by the international community, to further strengthen our ESG efforts. Through extensive discussion among our management team, we selected five SDG goals that were most relevant with our business operations. By focusing on these goals, we believe we will be able to comprehensively contribute to the advancement of the SDGs.

SDGs highly relevant with our business

- **SDG Goal 8: Decent Work and Economic Growth**
- **SDG Goal 9: Industry, Innovation, and Infrastructure**
- **SDG Goal 11: Sustainable Cities and Communities**
- **SDG Goal 13: Climate Action**
- **SDG Goal 17: Partnerships for the Goals**

Symbolic social and environmental activities

This "CSR & Environmental Report 2018" consolidates all non-financial information into a single report. We have highlighted three symbolic social/environmental activities in special stories, which relate to the actual locations of our business operations.

Nurturing the Next Generation

The spirit of "coexistence with local communities" and "human resource development" is of particular importance to Komatsu's management principles. Through the perspective of "people" rather than "products", we intend to convey our business philosophy that has been inherited since our foundation over a century ago to today, and beyond.

Leading the Way at Awazu Plant

Energy resource is indispensable for our business operations. With this in mind, we have worked closely with local communities to come up with ways by which our electricity consumption should be managed considering desirable form of our environmental efforts. Actual cases can be explored through power reduction activities at our Awazu plant and its biomass cogeneration facility.

Fostering Community Growth in Cambodia

Since 2008, we have been supporting anti-personnel landmines removal and reconstruction activities in Cambodia. We would like to report the local daily activities that are carried out alongside our partners, hoping to create a safe and comfortable living environment for villagers in Cambodia.

Creating new value with our customers

It goes without saying that the quality and reliability of products is important for any manufacturer that deals with machines. However, it is my belief that businesses focusing solely on quality and reliability will become difficult to sustain in the long run. Through thorough dialogue with our customers, we wish to envision the future they seek to realize together, which should lead us to genuine "New Value".

How will the future change? What roles will company, industry and society take? We believe deepening such discussions will enable us to materialize products, services and solutions that are in need, and to further promote activities toward value creation.

Actions based on SLQDC

In today's society where the impact of corporate responsibility has become more significant than ever, it is critical for every individual employee to be fully aware of "corporate social responsibility". This applies not only in the narrow sense of complying to law, but also in broader sense of following business and societal rules in general, thus allowing us to meet the level of trust demanded from society.

Whenever our employees face uncertainty or confusion in making decisions, they are advised to use the "SLQDC" as a frame of reference. The "SLQDC" is an acronym for Safety (safety and health), Law (general compliance with the law/compliance with environmental regulations), Quality (quality and reliability), Delivery (timing), and Cost. I believe safety and health should always come first in day to day operations, whether it is an internal/affiliated entity or not.

Finally, Komatsu considers "corporate value" to be the total sum of trust given to it by society and all its stakeholders. Through constant adherence to this guideline, we will further strengthen our efforts towards ESG in order to reach the targets set by our March 2019 mid-

range management plan and the 100th anniversary in 2021, and beyond. In addition, while actively participating in initiatives such as the United Nations Global Compact and World Business Council for Sustainable Development (WBCSD), we will fulfill our responsibilities as a global company for society and the environment.

July 2018
Tetsuji Ohashi
President and CEO



Komatsu has signed the [United Nations Global Compact \(UNGC\)](#).
☐ Click this link for more information about the ten principles advocated by UNGC and how they pertain to [Komatsu's initiatives](#).



Komatsu has joined the World Business Council for Sustainable Development (WBCSD) Click this link for more information regarding [this event](#).

Concept of CSR activities

06 Special Story: Part of our DNA

09 CSR Theme and Key Business Activities

12 Incorporating CSR into Management

15 Comparison with Global Principles

17 Dialogue with Our Stakeholders

19 Organization to Promote CSR

20 Major Achievements and Mid-term Plans

28 External Evaluations

Special Story: Part of our DNA

Part of our DNA Nurturing the Next Generation



Long after one's official work at Komatsu ends, the company's founding spirit of commitment to community growth lives on in each employee and the lives they touch.

Komatsu's founder, Meitaro Takeuchi, established the company nearly 100 years ago in Komatsu City, Japan, to sustain area residents dependent on the depleted Yusenji Copper Mine he previously managed.

Inspired by the leading-edge technologies he saw in Europe, Takeuchi began focusing his efforts on developing industrial technologies and the resources to create them, locally.



The guide map of the Yusenji Copper Mine

He knew the importance of education," said Akinori Maeda, who worked at Komatsu for 42 years. "He knew the Yusenji Copper Mine would eventually be depleted, and he had a vision of what to do - how to move society forward."

Akinori Maeda, who retired from Komatsu in 2004 and now volunteers at the company's Komatsu-no-Mori site for children and families, said he and other retirees feel a connection to Takeuchi's vision through their work teaching local children about science and nature.

Special Story: Part of our DNA

"Our motto is to teach children while we enjoy ourselves," said Susumu Yoshida, who retired from the company in 2000. "We use the site's Genki-Satoyama nature preserve to help knowledge take root." Ranging in age from 65 to 93, the members of Yoshida's Komatsu retiree group are all connected in some way through familial ties. Yoshida's father worked at the company, and now his son is also "a Komatsu man." These close family and business connections are common in Ishikawa Prefecture, Japan; home to Komatsu-no-Mori, the KOMATSU Way Global Institute and the company's manufacturing plants in Awazu and Kanazawa.

To see these connections continue to grow and thrive nearly 100 years after Komatsu's origin is a fitting tribute to Takeuchi, who founded Komatsu Ltd. with a passion for developing people.

"We have grown with the company," said Junji Kawasaki, head of the Kushi neighborhood district association. "Community and company growing together. From the viewpoint of human development, Komatsu is fulfilling that connection to the founding principles. Person to person, an exchange is built."

As set forth in The KOMATSU Way, the company's guiding principles handed down through generations, the core of Komatsu's founding philosophy includes contributing to the sustainability of local economies through technology development and job creation.



Class at Komatsu-no-Mori



Awazu manufacturing plant

For Masayuki Itao, the president of Itao Iron Works, a Komatsu supplier, the company has been influential in both aspects. Itao's grandfather and father both worked at Komatsu before founding and incorporating, respectively, Itao Iron Works. Itao went through a three-year Komatsu training program at the company's Osaka plant, during which he and the other trainees "received a lot of support from senior members of Komatsu," he said. Learning about process management, machine engineering, sales and production systems "laid the foundation for the rest of my career," Itao said, "Komatsu has a real commitment to training its employees."

Some of the people he was in training with went on to become the next generation of Komatsu leadership, who he then continued to work with through his work at family's company.

"Having colleagues and business associates that started at the same time as me and went through the same training has been very valuable," Itao said. "We share the same mentality."

It's a mentality that relies on the Monozukuri spirit essential to Komatsu. Though it literally translates as "manufacturing," Monozukuri encompasses teamwork activities performed by all members of the Komatsu family, including internal divisions and external partners. It includes the wisdom collected and shared by all.

"In order to maintain quality, it's important to learn from senior members," said Tadahiro Naka, who spent 50 years as a welder at Komatsu before retiring. He now instructs high school students, teaching them the welding trade senior members of the company taught him.

"I succeeded in this business because of the enthusiasm from older generations," he said. "Those who are motivated can learn quickly. I was told, 'Don't fear making mistakes. The gemba should always be the best place to improve.'" Though technology has changed significantly over the years and the welding shop he once ran at Awazu is now automated in some areas, the wisdom collected from years past remains invaluable.

"There are robots doing some of the work now," Naka said. "But it is indispensable to still have the basic understanding of how to do things. It enables the best use of cutting-edge technologies."

Special Story: Part of our DNA

The desire to share Monozukuri learning inspired Kouji Orimoto, who retired from Komatsu in 2009 after 45 years at the company, to start offering free science classes for children at Komatsu-no-Mori. Starting in 2011 with 20 retirees, Orimoto and his peers each came up with topics they could teach and developed a curriculum.

Classes are held at the Waku-waku Komatsu Kan, a recreation of the company's original head office building, which features classroom space upstairs, and a children's museum and play area below. The facility was built at a former Komatsu plant site, in honor of the company's 90th anniversary in 2011



Kouji Orimoto, a lecture of Komatsu-no-Mori



Yoshinobu Hirai, a retiree teaching juvenile

"We want the children to work at Komatsu someday," Orimoto said. "Through Monozukuri learning we share with them about quality, reliability and manufacturing craftsmanship."

An average of 240 students in grades 3 through 6 attend science classes at Komatsu-no-Mori each year. They recently added an advanced class for select 5th and 6th graders. The program's retiree instructors also volunteer at other schools approximately eight times a year.

In advance of a Japanese educational mandate set to take effect in 2020, the Komatsu-no-Mori instructors also started coming up with ways to teach the children about programming.

They use basic models of the company's hydraulic excavators and mining trucks that students can program to move; incorporating Komatsu's end products with foundational learning.

For Mr. Yoshida, getting the chance to nurture the next generation at a place where the original Komatsu factory once stood has a certain romance to it.

"We want kids to come and be interested in science and nature," he said, "to blossom."

CSR Theme and Key Business Activities

Komatsu has put together a set of material issues in CSR that will utilize our unique strengths and business strategies to provide value for society.

In 2009, we assessed our CSR activities in terms of their valuation and meaning through a societal perspective, and were proud to recognize that every one of our activities has contributed in a meaningful manner to societal needs. We are aware of the need for reliable fulfillment of our social responsibilities, and thus believe that it is necessary to first determine what both society and Komatsu considers to be of the most value. Through these determinations, we formulated our CSR material issues in.

Komatsu's procedure to identify CSR material issues

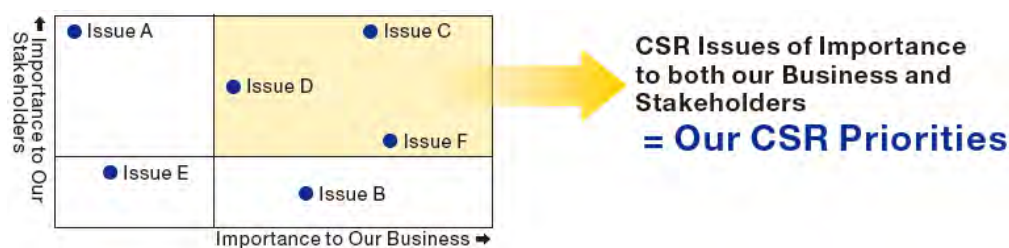
In 2010, with the support of Business for Social Responsibility (BSR), a nonprofit organization, Komatsu undertook a materiality assessment to accomplish the following objectives:

1. Identify a set of CSR issues and prioritize these issues by their relevance to our business and importance to our stakeholders
2. Define a set of global CSR themes and activities

From an extensive list of CSR issues, we selected those relevant to Komatsu as a construction/mining and industrial equipment manufacturer. We then evaluated CSR issues based on their importance to our business. To understand the relevance of CSR issues to our business, we interviewed senior executives across our company, including the heads of regions outside Japan. These interviews helped us in understanding the degree to which CSR issues impact our business priorities and operations. We then evaluated CSR issues based on their importance to our stakeholders. To understand the relevance of CSR issues to our stakeholders, we reviewed external reports, viewpoints, and public statements published by governments and policy makers, issue experts and advocates, media, suppliers, and customers. We also took into consideration the BSR's view of stakeholder importance.

Evaluating CSR issues

We evaluated CSR issues based on the degree of importance to our business shown on the horizontal axis, and the degree of importance to our stakeholders shown on the vertical axis.



The CSR issues of more importance to both businesses and stakeholders are placed in the top right quadrant. We narrowed our focus to sixteen material issues across six categories. By focusing on these material issues that have the most impact on our business and stakeholders, we believe that we are in a strong position to leverage our core strengths as an equipment manufacturer, and create lasting social impact going forward.

CSR Theme and Key Business Activities

Komatsu's CSR Priorities

Products, Services, and Customers	<ul style="list-style-type: none"> Products that enhance safety Responsible marketing and customer support
Environment	<ul style="list-style-type: none"> Environmentally-friendly products Environmental efficiency (facilities, such as plants, and job sites) Remanufacturing
Employees	<ul style="list-style-type: none"> Human resource development Safety and health Respecting employees
Human Rights	<ul style="list-style-type: none"> Respecting human rights Equal employment
Ethics and Governance	<ul style="list-style-type: none"> Cooperation with stakeholders Corporate governance and compliance Collaboration with business partners to comply with social regulation
Local Community	<ul style="list-style-type: none"> Development of local communities Disaster relief Improving local residents' quality of life

Formulating CSR Themes and Key Business Activities

We identified three CSR Themes via a two pronged approach, basing them on our material issues and through internal/external dialogues within the company and with BSR.

Komatsu's CSR Themes

- Enhancing Quality of Life-Providing products required by society-
- Developing People
- Growing with Society

In order to achieve our goals for each of the three areas, we have determined priority activities that align with the mid-term management plan as “activities through our core businesses”. In addition to its main business, Komatsu believes it is the responsibility of a business to engage in “social contribution activities” in the local community where business is conducted. Komatsu is engaging in the following social contributory activities that make the most of the know-how developed in our main business.

CSR Theme and Key Business Activities

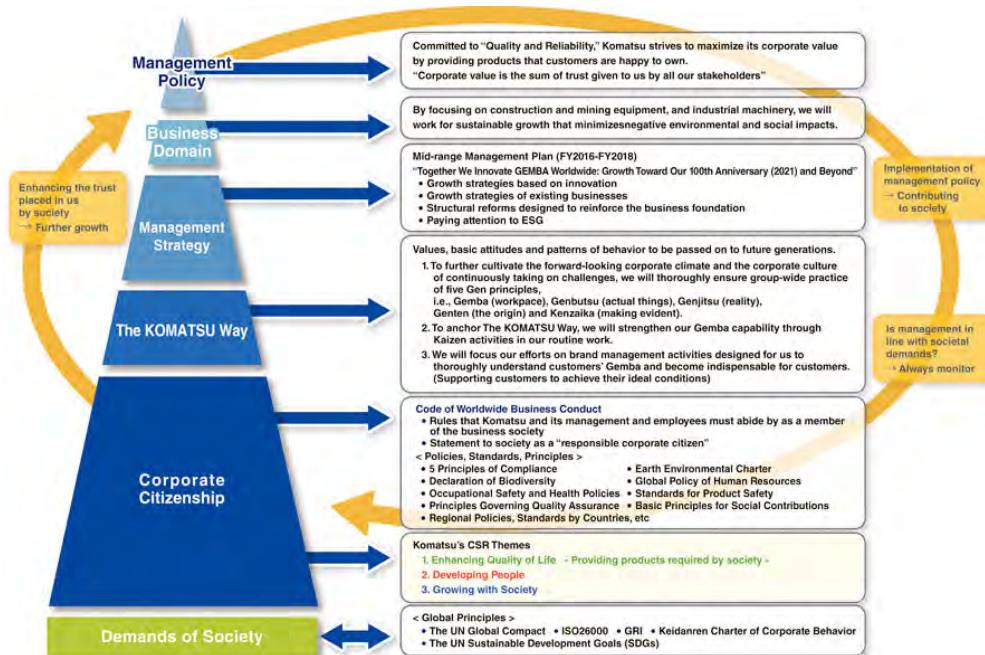
CSR Themes	Key Business Activities	
	Activities through the core business	Social Contribution Activities
<p>Enhancing Quality of Life</p> <p>-Providing products required by society -</p>	<ul style="list-style-type: none"> Provide products and services that contribute to the development of infrastructure and improvements in quality of life Improve production/safety, as well as promoting efficiency and energy conservation through innovation Improve environmental efficiency at operation sites and facilities. Reduce the environmental load throughout the product life cycle Improve safety (for customers, society, employees, business partners) 	<ul style="list-style-type: none"> Promoting environmental efficiency & safety through initiatives not directly related to the business Providing products, services, know-how required by society for free of charge
<p>Developing People</p>	<ul style="list-style-type: none"> Human resources development through the KOMATSU Way (employees, business partners) Human resources development through our Brand Management initiative (employees, distributors) Respect for employees, diversity 	<ul style="list-style-type: none"> Support the development of people in local communities Development of next generation
<p>Growing with Society</p>	<ul style="list-style-type: none"> Engage in dialogue with our stakeholders Strengthen our corporate governance and compliance Promote compliance with environmental, labor and social norms within our group and among business partners 	<ul style="list-style-type: none"> Disaster Relief Social Contribution utilizing core strength and know-how

Incorporating CSR into Management

Having clearly defined our CSR themes and key activities, we consistently confirm that Komatsu meets public expectations and requirements throughout the execution of our business activities, while deepening our understanding of material issues through dialogues involving stakeholders inside and outside the company. Thus, we seek to earn the trust society has placed in us as we pursue sustainable growth.

In order to know the demands of society, we seek to adhere to not only various international guidelines such as GRI Guidelines and the Keidanren Charter of Corporate Behavior, but also to international standards such as the United Nations Global Compact- 10 Principles and ISO 26000, as well as international goals for SDGs (Sustainable Development Goals). In addition, we will understand social issues through interactive dialogue with stakeholders and will carry out exclusive efforts.

In our social contribution activities, we pay due attention to prevailing issues in the regions where we operate while carefully considering how we can apply our strengths to undertake "activities with a human face" that are uniquely associated with Komatsu.



Komatsu's CSR and SDGs (Sustainable Development Goals)

In light of the emphasis on corporate efforts towards ESG (Environmental, Social, Governance), Komatsu announced the Mid-range Management Plan in April 2016 which stated that Komatsu places emphasis on ESG. In incorporating ESG into the Mid-range Management Plan, we re-examine the relationship between Komatsu's business and CSR initiatives, reveal the direction we are currently taking, and how Komatsu's CSR activities link to the SDGs (Sustainable Development Goals) adopted by the United Nations as a common goal aimed at by the international community.

[SDGs \(Sustainable Development Goals\)](#)

The SDGs, officially known as The 2030 Agenda for Sustainable Development is a set of 17 goals with 169 targets covering a broad range of sustainable development issues, which was adopted at the United Nations General Assembly in September, 2015.

Incorporating CSR into Management

SDG Goals and Selection Process

Based on the discussions, we did a thorough analysis to compare the 17 SDG goals and their accompanying 169 SDG targets with our CSR activities and themes. We evaluated 1) whether there is a relation, and 2) the depth of the relation.

[Table 1: Komatsu's CSR priority areas / Priority activities and SDG goals]

Later-connections: High Med Low

Figures: SDGs targets

Komatsu's CSR key themes

CSR Activity	1. No Poverty	2. Zero hunger	3. Good health & well being	4. Quality education	5. Gender equality	6. Clean water & sanitation	7. Affordable & clean energy	8. Decent work & economic growth	9. Industry, innovation & infrastructure	10. Reduced inequality	11. Sustainable cities & communities	12. Responsible consumption & production	13. Climate action	14. Life below water	15. Life on land	16. Peace & justice	17. Partnership for the goals
Enhancing Quality of Life																	
Provide products and services that contribute to infrastructure development and improving quality of life	1.5						7.1, 7.b	8.4	9.1	10.1	11.1, 11.2, 11.a, 11.c			14.5	15.3		
Improve production/safety as well as promote efficiency and energy conservation through innovation				5.b			7.a, 7.3	8.2, 8.4	9.2, 9.5	10.2	11.3		13.1				17.6, 17.7
Improve environmental efficiency at operation sites and plants		3.9				6.3, 6.4	7.2	8.4	9.4		11.6	12.4	13.1		15.1, 15.2, 15.4, 15.6		17.7, 17.14, 17.15
Reduce environmental load throughout product life cycle		3.9				6.3, 6.4	7.a	8.4	9.4		11.6, 11.c	12.4, 12.5	13.1		15.4, 15.5		
Enhance safety for society, customers, employees and business partners								8.8	9.5		11.2, 11.3, 11.b						
Developing People																	
Enhance our employees and suppliers through the KOMATSU Way				4.4				8.5, 8.8									17.16
Enhance our employees and distributors through brand management								8.5	9.5								17.6
Local HR education in the area of construction equipment and manufacturing	1.a			4.3, 4.4	5.1			8.6, 8.8	9.5	10.2, 10.b	11.a						17.9
Respect for employees (Diversity)			3.d	4.4	5.1, 5.5, 5.c			8.5		10.2							
Develop the next generation				4.1				8.5		10.2				13.3			
Growing with Society																	
Engage in dialogue with stakeholders	1.a		3.d		5.5, 5.b		7.a	8.7	9.1, 9.5		11.b		13.b			16.7	17.6, 17.17
Strengthen our corporate governance and compliance					5.1, 5.5	6.3		8.8	9.4	10.2, 10.3	11.b	12.6	13.3		15.1		16.3, 16.5, 17.14
Promote compliance with environmental, labor and social norms with the group among business partners					5.1		7.a	8.5, 8.7, 8.8	9.4	10.2	11.6		13.b		15.1		16.3, 16.5, 16.b, 17.16
Social contribution utilizing core business (support for local communities, cleaning land mines and cultivation of safe villages)	1.a	2.3	3.9	4.1, 4.3, 4.4		6.6		8.5	9.a	10.2, 10.b	11.6, 11.7				15.2	16.7	17.16
Disaster relief	1.5		3.9								11.5, 11.b		13.1	14.5		16.7	17.14

For example, one of our CSR activities is providing products and services that contribute to infrastructure development and improve the quality of life. For each SDG goal and target, we compared our activity: For example, for SDG Goal #1, we compared as follows;

<Example 1> SDG Goal #1 (No poverty)

- SDG Target 1.1 (By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day)
In this instance, we did not see a direct relation.
- SDG Target 1.2 (By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions)
In this instance, we did not see a direct relation.
- SDG Target 1.5 (By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters), we believe there is an indirect relation, and thus colored the cell light blue to indicate the connection. (Refer to ① in the Table 1)

In the same manner, we compared as follows;

<Example 2> SDG Goal #9 (Industry Innovation and Infrastructure)

- SDG Target 9.1 (develop quality, reliable, sustainable and resilient infrastructure, including regional and trans- border infrastructure to support economic development and human well-being).
We colored the cell rich blue because there is a strong relation with our key theme. (Refer to ② in the Table 1)

The same process was followed for all SDG targets and all of Komatsu's CSR activities. On Table 1, the number in the cell represents the SDG target(s) where there is a relation, and the color (dark/medium/light) indicates the depth of the relation (direct or indirect).

According to the team's analysis, five SDG goals have a strong relationship with Komatsu's three CSR Themes. By focusing on these five SDG goals, Komatsu contribute to all the SDG goals comprehensively since it is proved that each SDG goal is mutually intertwined.

Incorporating CSR into Management

■ The five SDG goals are



#8 Decent work and economic growth



#9 Innovation and Infrastructure



#11 Sustainable Cities and Communities



#13 Climate action



#17 Partnerships for the goals

Table 2 explains how Komatsu's business and CSR activities contribute to the five SDG goals and targets that have the strongest ties to Komatsu's business.

[Table 2: Co-relation between SDG Goals and Komatsu Business/CSR]

SDG Goals	Komatsu Business/CSR	SDG Targets (which have strong ties with Komatsu business)
Decent work & economic growth 	<p>We strive for increased employment and job creation in regions where we operate by utilizing our human resource and skills development know-how cultivated in our business.</p> <p>We place top priority in providing a safe and rewarding workplace for our employees and our customers' employees worldwide.</p>	<ul style="list-style-type: none"> Achieve full and productive employment and decent work Reduce youth not in employment, education or training Achieve higher levels of economic productivity through diversification, technological upgrading and innovation Improve resource efficiency in consumption and production
Industry Innovation & Infrastructure 	<p>We enhance productivity, safety and reduction of the environmental impact of our customers' business by providing innovative and environmentally sound business solutions.</p> <p>We collaborate with business partners and stakeholders, including our customers, towards advanced technology contributing to sustainable infrastructure and energy/resource development.</p>	<ul style="list-style-type: none"> Develop resilient infrastructure to support economic development and human well-being Promote inclusive and sustainable industrialization Upgrade infrastructure with greater adoption of clean and environmentally sound technologies and industrial processes Encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending
Sustainable cities 	<p>We contribute to bringing industrial vitalization and enhancement of quality of life through our Dantotsu (Unrivaled) Products, Services and Solutions which accelerate sustainable infrastructure development and urbanization.</p> <p>We support development of cities resilient to natural disasters and provide disaster relief using Komatsu equipment and core business skills.</p>	<ul style="list-style-type: none"> Provide access to sustainable transport systems (infrastructures, including roads) for all Enhance inclusive and sustainable urbanization Reduce the environmental impact by waste management Reduce the number of people affected by disasters
Climate change 	<p>We commit to reduce carbon emissions and environmental impact throughout our value chain.</p> <p>We increase efficiency and reduce energy use through innovation.</p>	<ul style="list-style-type: none"> Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters Raising capacity for effective climate change-related planning and management focusing on women, youth and communities
Partnerships 	<p>We engage with stakeholders to understand societal needs and take action.</p> <p>We foster actions complying with social, environmental and working condition norms including our business partners.</p> <p>We work towards social solutions through open innovation, academic-industrial collaborations, and partnering with customers, distributors, suppliers and local communities.</p>	<ul style="list-style-type: none"> Enhance regional and international cooperation on and access to science, technology and innovation Enhance knowledge sharing through a global technology facilitation mechanism Enhance the global partnership for sustainable development complemented by multi-stakeholder partnerships

Enhancing Quality of Life Developing People Growing with Society

Our next steps are to engage with additional internal and external stakeholders, share this information and follow the Plan-Do-Check-Act method to validate the analysis and establish an action plan.

Following this analysis, we are now reviewing what additional opportunities exist for Komatsu to make an increased contribution to the achievement of the SDGs, focusing on SDGs 8, 9, 11, 13, and 17. We will prioritize opportunities that contribute to the SDGs by creating value for stakeholders and shareholders, and will communicate progress in future Komatsu reports.

Comparison with Global Principles

What Komatsu considers to be material issues are listed in our CSR Priorities, each of which are in line with international standards such as the ISO26000 and the United Nations Global Compact.

Details on these standards can be found in "[Komatsu's Worldwide Code of Business Conduct](#)" and the "[CSR Procurement Guidelines](#)".

ISO26000 core subjects /issues	UNGC 10 Principles	Komatsu's CSR Priorities	Incorporation into Komatsu's Internal Guidelines ■ : Items of Komatsu's Worldwide Code of Business Conduct ● : Items of Komatsu Group CSR Procurement Guidelines
Organizational Governance		<ul style="list-style-type: none"> ■ Corporate Governance ■ Compliance ■ Collaboration with business partners to comply with social regulations 	<ul style="list-style-type: none"> ■ "Quality and Reliability" of organizational structure, business operations, employees and management ■ Emphasis on corporate governance ■ ● Comply with the Rules
Human Rights	Human Rights Principle 1 Principle 2	<ul style="list-style-type: none"> ■ Respecting human rights ■ Collaboration with business partners to comply with social regulations ■ Development of local communities ■ Disaster relief ■ Improving local residents' quality of life 	<ul style="list-style-type: none"> ■ ● Respect for human rights ■ Due consideration to work-life balance
Labour Practices	Labour Principle 3 Principle 4 Principle 5 Principle 6	<ul style="list-style-type: none"> ■ Equal employment ■ Safety and health ■ Human resource development ■ Collaboration with business partners to comply with social regulations 	<ul style="list-style-type: none"> ■ Conversations or discussions with employees or their representatives ■ ● Zero tolerance for child labor or forced labor ■ ● Promotion of equal opportunities for employment, with zero tolerance for discrimination and any kind of harassment ■ ● Ensuring a safe and comfortable work environment ■ ● Human resources management in fair and impartial manner
The Environment	Environment Principle 7 Principle 8 Principle 9	<ul style="list-style-type: none"> ■ Environment-friendly products ■ Environmental efficiency (facilities, such as plants, and operation sites) ■ Remanufacturing 	<ul style="list-style-type: none"> ■ Provide products, services and systems that are environmentally-conscious ■ Environmental protection ■ Komatsu Earth Environmental Charter ■ Declaration of Conservation of Biodiversity ● Reduce environmental impact, manage chemical substances and build up environmental management systems

Comparison with Global Principles

ISO26000 core subjects /issues	UNGC 10 Principles	Komatsu's CSR Priorities	Incorporation into Komatsu's Internal Guidelines <ul style="list-style-type: none"> ■ : Items of Komatsu's Worldwide Code of Business Conduct ● : Items of Komatsu Group CSR Procurement Guidelines
Fair Operating Practices	Anti-Corruption Principle 10	<ul style="list-style-type: none"> ■ Corporate governance ■ Compliance ■ Collaboration with business partners to comply with social regulations 	<ul style="list-style-type: none"> ■ ● Fair and appropriate business operations ● Fair and proper relationship with governmental bodies and agencies ■ ● Never provide,offer or promise inappropriate money,goods or favors
Consumer Issues		<ul style="list-style-type: none"> ■ Products that enhance safety ■ Responsible marketing and customer care ■ Environment-friendly products ■ Remanufacturing 	<ul style="list-style-type: none"> ■ To provide customers with suitable solutions and to strive to deliver products, services and systems that are safe, environmentally-conscious and innovative ■ Environmental protection ■ ● Reduce environmental impact, manage chemical substances and build up environmental management systems
Community Involvement and Development		<ul style="list-style-type: none"> ■ Development of local communities ■ Disaster relief ■ Improving local residents' quality of life ■ Human resources development 	<ul style="list-style-type: none"> ■ To fully understand its social responsibilities as a corporate citizen ■ Groupwide social contribution (5 Principles for social contribution) ■ ● Good harmony with local communities

Dialogue with Our Stakeholders

Creating a Variety of Opportunities for Dialogue

Engaging in dialogues with our stakeholders is essential for determining the relative effectiveness of Komatsu's management and business operations in terms of meeting social needs. Every department that has direct contact with our stakeholders strives to create an environment of transparency and integrity by detailing our company's current situation, receiving feedback, and engaging in effective discussions.

Stakeholders	Purposes	Examples of Meetings and Activities	Frequency
Customers	Collaborate to realize customers' goals and fulfill corporate responsibility	▶ Brand Management Activities	Daily
	Collaborate to resolve issues in society and in the regions where we operate, and participate in local activities		Daily
Business Partners	President explains business performances, policies and strategies	▶ Various meetings with Midori-kai	3 times a year
	Conduct safety patrols and provide opportunities such as for support of efforts for obtaining certification		As needed
Distributors	Explanation by the President on business performance, policies and strategies	Distributor meetings in each region	Annually
Employees	Explanation by the President business performance, policies and strategies	Meetings with the President	Semiannually
		▶ Sharing Q&A session content with global employees via the intranet	As needed
	Dialogue with the labor union and employee representatives to improve the workplace environment	Regular Meetings between Management and Labor Union	As needed
Local Community	Explanation of initiatives related to operations, the environment and safety	Meetings with residents of the local community near the plant	As needed
	Activities to resolve local issues based on employee suggestions	Voluntary activities by employees	Daily

Dialogue with Our Stakeholders

Stakeholders	Purposes	Examples of Meetings and Activities	Frequency
Industry-Academia Collaboration Partners	Exchange of ideas and opinions between representatives such as university professors and our Chief Technology Officer	Komatsu Science and Technology Collaboration Council	Biannually
Investors	CEO and CFO explanation of business performance, policies and strategies	▶ IR Meetings	Japan: Daily USA and Europe: Annually
	Respond to inquiries and SRI surveys	▶ SRI Surveys	Daily
Individual Shareholders	CEO and CFO explanation of business performance, policies and strategies	▶ Shareholders Meetings	2–3 times a year, held in Japan
	Plant tours and explanation of operations	▶ Plant tours for shareholders	About twice a year in Japan

TOPICS

Visit to Komatsu Techno Center by the Iraq Vocational Training School

In May 2017, representatives of an Iraq vocational training school (Swedish Academy for Training) and the Ministry of Labor and Social Affairs of Iraq visited the center, aiming to perform a live-inspection of skill training in Japan. Under the leadership of the United Nations Industrial Development Organization (UNIDO) which supports the operations of the school, they had the opportunity to experience the simulator for Construction Machine Operator training, visit the service personnel education courses that were being held on the day, and tour Komatsu's personnel training site.

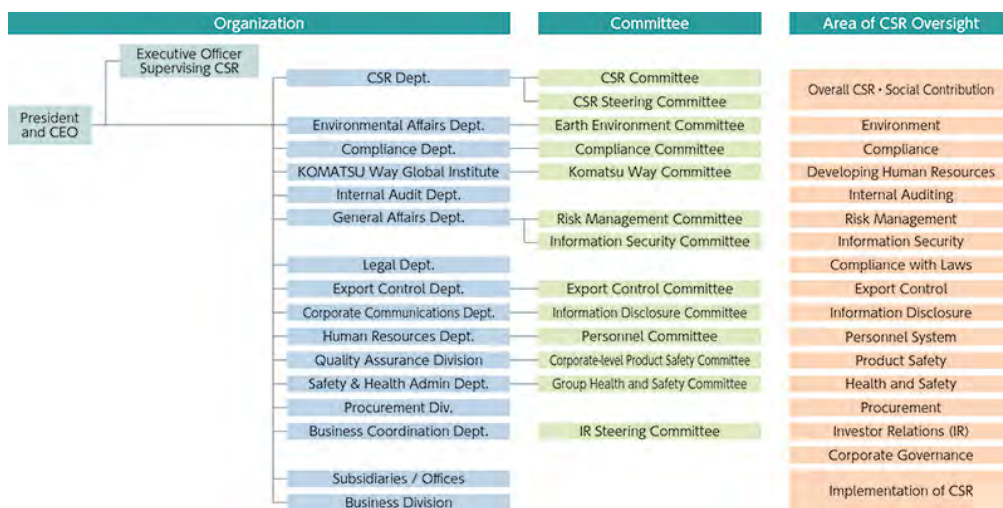


The students of vocational training schools in Iraq mainly consist of refugees who have escaped the dangerous climate of Islamic countries. Komatsu hopes that these students who aspire to help with the developments in their home country will be able to acquire the skills needed for future employment when they eventually leave their nests.

Organization to Promote CSR

The CSR Department is an organization under the direct control of the President and has established the CSR Committee chaired by the President, and has the opportunity for top management to regularly discuss the direction of CSR strategy. In addition, the CSR Steering Committee, which consists mainly of related officers, conducts discussions on the policy of individual activities, and in particular, is responsible for governance functions in conducting social contribution activities.

Our CSR activities are integrated to our daily business activities, and we engage in them through dedicated divisions and committees organized in all our Group companies. With respect to our major overseas subsidiaries, we communicate with staff responsible for CSR activities on a daily basis and share information in an effort to bolster our organization and promote CSR activities worldwide.



Reinforcement of Our CSR Systems

Evaluation Tools for CSR Activities

We evaluate new initiatives to determine whether they are beneficial to both our business and our stakeholders. Of particular importance are social contribution activities (donations), which we have monitored diligently with regards to their effectiveness as CSR activities since FY2013. This is carried out using a donation check sheet that we created to assess quantitative effects via two perspectives (our business and our stakeholders), which is then evaluated by our CSR Steering Committee upon completion.

Global Information Sharing

Prior to FY 2015, information on CSR activities implemented in overseas subsidiaries were obtained through questionnaires that were collected periodically. We have since updated this system in order to increase its reach and effectiveness; the information is now updated daily on a bulletin board so that it can be disseminated on a global scale through the intranet.

In addition, overseas subsidiaries set up places for exchange of opinions through individual visits, e-mail, telephone, etc., for about 30 persons in charge who are responsible for the CSR activities of each company to share current status globally. In the future, by collecting various opinions from various areas of the world, we will create a system to comprehensively understand and share what is required on the front lines of the business sites.

Major Achievements and Mid-term Plans

Komatsu's CSR themes, concrete initiatives of key business activities, and mid-term issues and targets are as follows.

Contributing to Society through Core Business

Theme1 : Enhancing Quality of Life -Providing Products Required by Society -

- Providing products and services that contribute to infrastructure development and improvement of quality of life
- Improving productivity, safety and efficiency, and enhancing energy conservation through innovations

Major Achievements for FY2017	Mid-term Issues and Targets
<ul style="list-style-type: none"> ■ Solution Business SMARTCONSTRUCTION - Partnership to increase the safety and productivity of construction sites - <p>Related article</p> <ul style="list-style-type: none"> ▸ Komatsu and NVIDIA to Improve Operational Safety and Productivity by Introducing AI to Construction Jobsites ▸ Komatsu and Trimble Collaborate to Improve Interoperability for Mixed Fleet Earthworks Customers 	<ul style="list-style-type: none"> ■ Fostering the enhancement of SMARTCONSTRUCTION as a core business
<ul style="list-style-type: none"> ■ Expansion of launching construction equipment that respond to comprehensive applications of ICT "i-Construction" advocated by Japan's MLIT 	<ul style="list-style-type: none"> ■ Sales expansion of ICT intensive machines in Japan, USA and Europe
<ul style="list-style-type: none"> ■ Autonomous Haulage System (AHS) 10th anniversary of commercial introduction <p>Related article</p> <ul style="list-style-type: none"> ▸ Komatsu celebrates 10th anniversary of commercial deployment of Autonomous Haulage System (AHS):100-AHS-trucks-in-operation milestone inspires plans to accelerate pace of mining automation 	<ul style="list-style-type: none"> ■ Optimization of mining machine operations, and expanding scope of remote and unattended operations ■ Reinforcement of global presence in quarry and cement production business

- Improving environmental efficiency at operation sites and plants

Major Achievements and Mid-term Plans

- Reducing environmental impact throughout the product life cycle

Major Achievements for FY2017	Mid-term Issues and Targets
<ul style="list-style-type: none"> Tier4 Final Compliant Models Released Reduction in CO2 Emissions of Construction Equipment <p>Related article</p> <p>› Mitigating Climate Change through Products and Services Initiatives to Mitigate Climate Change in Business Operations</p>	<ul style="list-style-type: none"> Expanding lines of environmentally compatible models 25% of CO2 reduction per work volume (New models to be sold in FY2025 as compared to FY2007)
<ul style="list-style-type: none"> Reduction of CO2 emissions in manufacturing in; Japan -39.2% (compared to FY2000) Overseas -25.8% (compared to FY2010) 	<ul style="list-style-type: none"> Japan -57% (in FY2020 compared to FY2000) Overseas -32% (in FY2020 compared to FY2010)
<ul style="list-style-type: none"> Reduction of water consumption in Japan: -42.7% (compared to FY2010) 	<ul style="list-style-type: none"> Japan -40% (in FY2020 compared to FY2010) Overseas -10% (in FY2020 compared to FY2010)
<ul style="list-style-type: none"> Implemented reducing electricity usage project to suppliers (93 companies) Water risk seminar for suppliers: Distribution of the best practice booklet related with water usage reduction (to 93 member firms of the Midori-kai) 	<ul style="list-style-type: none"> Follow-up action to suppliers that could not achieve the targets

- Enhancing safety for society, customers, employees and business partners

Major Achievements for FY2017	Mid-term Issues and Targets
<ul style="list-style-type: none"> Cardiopulmonary resuscitation training for all domestic Komatsu Group employees <p>Related article</p> <p>› Occupational Safety and Health</p>	<ul style="list-style-type: none"> All employees receive course training (Domestic employee attendance rate as of the end of FY 2017: 91.5%)
<ul style="list-style-type: none"> Promoting the Five-Year Health Development Plan in Japan (Lifestyle diseases, cancer, Tabaco and mental health) <p>Related article</p> <p>› Occupational Safety and Health</p>	<ul style="list-style-type: none"> Continuation of the Five-Year Health Development Plan
<ul style="list-style-type: none"> Safety patrol in suppliers' sites (97 companies) 	<ul style="list-style-type: none"> Continuation of safety patrol in suppliers' sites

Major Achievements and Mid-term Plans

Major Achievements for FY2017

Mid-term Issues and Targets

Related article

› [Occupational Safety and Health](#)

Theme2 : Developing People

Enhancing our employees and suppliers through the KOMATSU Way

Major Achievements for FY2017

Mid-term Issues and Targets

Employee trainings (non-consolidated);

- Average hours per FTE: 58 hours
- Average spent per FTE: JPY 255 thousand

Related article

› [Employee Training Structure](#)

Continuation of Employee Training

- Continued QC instructor trainings to oversea subsidiaries

Related article

› [Employee Training Structure](#)

- Developing national employees as in-house KOMATSU Way instructors
- Conduct surveys on understanding of The KOMATSU Way

- Full-scale "Asia Training & Demonstration Center" in Thailand
- Manufacturing skill competition (181 participants from 11 countries)
- QC circle competition (94 cases from 14 countries)

Related article

› [Strengthening Our Gemba Capability](#)

- Continuation of manufacturing skills development world-wide

Development of employees and distributors through Brand Management initiatives

Major Achievements for FY2017

Mid-term Issues and Targets

- Improvement and expansion of Brand Management activities

- Continuation of improvement and expansion of Brand Management activities

Major Achievements and Mid-term Plans

Major Achievements for FY2017	Mid-term Issues and Targets
<p>Related article</p> <p>▶ Brand Management Initiatives</p>	

Respect for employees, Diversity

Major Achievements for FY2017	Mid-term Issues and Targets
<ul style="list-style-type: none"> Enhancement of employees' work-life balance (Average days of paid leave taken per year: 19.4 days) <p>Related article</p> <p>▶ Enhancing Work-Life Balance</p>	<ul style="list-style-type: none"> Continuation of enhancement of employees' work-life balance (less than 2,100 working hours per year, and at least 18 days of paid leave taken per year)
<ul style="list-style-type: none"> Holding female employee exchange workshops Continuation of Career plan training for female employees <p>Related article</p> <p>▶ Diversity Initiatives</p>	<ul style="list-style-type: none"> Promoting female employees (Ratio of employees in management positions: 8% in April 2019, 10% in April 2021)
<ul style="list-style-type: none"> Promoting employment of persons with disabilities (Employment ratio : 2.50%, non-consolidated) <p>Related article</p> <p>▶ Diversity Initiatives</p>	<ul style="list-style-type: none"> Continuation of creating workplaces that provide a sense of fulfillment such as activity of Business Creation Center

Theme3 : Growing with Society

Engaging in dialogues with our stakeholders

Major Achievements for FY2017	Mid-term Issues and Targets
<ul style="list-style-type: none"> Shareholders' meeting (December, 984 participants) Plant tours for individual shareholders (September to March, 526 participants) Techno Center tours for individual shareholders (August, 	<ul style="list-style-type: none"> Continuation of communication activities

Major Achievements and Mid-term Plans

Major Achievements for FY2017	Mid-term Issues and Targets
<p>212participants)</p> <ul style="list-style-type: none"> Meetings for Individual Investors (11 cities in Japan, 1,045 participants) Plant Fairs (8 plants in Japan, 56,350 visitors) President meeting with employees and sharing Q&A session contents with global employees <p>Related article</p> <p>> Communication with Stakeholders</p>	

Strengthening our corporate governance and compliance

Major Achievements for FY2017	Mid-term Issues and Targets
<ul style="list-style-type: none"> Establishment of Komatsu Mining Corp. (April 2018) <p>Related article</p> <ul style="list-style-type: none"> Notice of Closing of Acquisition of Joy Global Inc. 	<ul style="list-style-type: none"> Improve efficiency by integration, technological innovation, and strengthening of development capabilities
<ul style="list-style-type: none"> Conducting compliance and risk audit (575 offices) Conducting compliance training (17,800 employees) Information provision through "Everybody's Compliance" (147 issues, March 2018) <p>Related article</p> <p>> Risk Management</p> <p>> Compliance</p>	<ul style="list-style-type: none"> Improve efficiency by integration, technological innovation, and strengthening of development capabilities

Promoting compliance with environmental, labor, human rights and social norms within the Group and among business partners

Major Achievements for FY2017	Mid-term Issues and Targets
<ul style="list-style-type: none"> Conducting safety patrol (99 suppliers) Implementation of electric power consumption reduction activities (96 suppliers) CSR training (23 suppliers), Subcontracting Charges Law Training (312 participants from 181 suppliers) Information provision through "CSR Bulletin" (118 	<ul style="list-style-type: none"> Continuation of individual activities based on "CSR procurement guideline"

Major Achievements and Mid-term Plans

Major Achievements for FY2017	Mid-term Issues and Targets
<p>issues, cumulative total)</p> <p>Related article</p> <p>▶ Support for CSR Initiatives of Business Partners</p>	

Social Contribution Activities

Theme1 : Enhancing Quality of Life -Providing Products Required by Society -

Support for Agriculture with ICT

Major Achievements for FY2017	Mid-term Issues and Targets
<ul style="list-style-type: none"> Promotion of rice field flattening and direct sowing cultivation by multifunctional ICT bulldozers 	<ul style="list-style-type: none"> Dissemination of production methods nationwide

Theme2 : Developing People

Local HR development in the area of construction equipment and manufacturing

Major Achievements for FY2017	Mid-term Issues and Targets
<ul style="list-style-type: none"> Komatsu and Cummins collaborative program <p>Related article</p> <p>▶ Collaboration with Cummins Inc.</p>	<ul style="list-style-type: none"> Enhancement of programs in each area (Australia, South Africa, USA and Peru)

Komatsu-no-mori (science class provided by retired employees and flower fostering)

Major Achievements for FY2017	Mid-term Issues and Targets
<ul style="list-style-type: none"> 52,000 visitors (FY2017) 	<ul style="list-style-type: none"> Continuation of the second term of "Waku-Waku Komatsu Workshop"

Theme3 : Growing with Society

Disaster relief

Major Achievements for FY2017	Mid-term Issues and Targets
<ul style="list-style-type: none"> Assistance to America in Hurricane disaster areas <p>Related article</p> <p>▶ Disaster Relief</p>	<ul style="list-style-type: none"> Assistance tailored to the needs of disaster areas

Clearing anti-personnel land mines and reconstruction support

Major Achievements for FY2017	Mid-term Issues and Targets
<ul style="list-style-type: none"> 1,735ha landmines removal in Cambodia. Total removal count - 1,360 landmines, Road construction 61.8km, Ponds constructed 46, Schools constructed 8 (cumulative total). 200ha Cluster bomb removal in Laos. Total removal count - 1,436 bombs Visiting lectures in Japan approximately 50 times, about 4,500 people <p>Related article</p> <p>▶ Clearing Anti-Personnel Landmines and Reconstruction Support</p>	<ul style="list-style-type: none"> Continuous activities in Cambodia and Laos Continuation of visiting lectures

Supporting Flower Association of Japan

Major Achievements for FY2017	Mid-term Issues and Targets
<ul style="list-style-type: none"> Technical support to fostering flowers at Komatsu-no-mori Donation of young cherry blossom trees to disaster areas of the Great East Japan Earthquake (more than 5,600 trees, cumulative total) 	<ul style="list-style-type: none"> Continuous support to growing flowers at Komatsu-no-mori Inspection of health condition of cherry blossom trees and consultation

External Evaluations

Commendations from Assessment Bodies



Certified as CDP “Climate Change” and “Water” A List Company



Selected for inclusion in the Dow Jones Sustainability World Indices (DJSI World and DJSI Asia Pacific), SRI indexes developed by S&P Dow Jones Indices (U.S.) and RobecoSAM (Switzerland)



Selected for inclusion in the MSCI Global Sustainability Indexes, SRI indexes developed by Morgan Stanley Capital International (U.S.)
 THE INCLUSION OF KOMATSU LTD IN ANY MSCI INDEX, AND THE USE OF MSCI LOGOS, TRADEMARKS, SERVICE MARKS OR INDEX NAMES HERIN, DO NOT CONSTITUTE A SPONSORSHIP, ENDORSEMENT OR PROMOTION OF KOMATSU LTD BY MSCI OR ANY OF ITS AFFILIATES. THE MSCI INDEXES ARE THE EXCLUSIVE PROPERTY OF MSCI. MSCI AND THE MSCI INDEX NAMES AND LOGOS ARE TRADEMARKS OR SERVICE MARKS OF MSCI OR ITS AFFILIATES.



Selected for inclusion in the index of companies recognized for their contribution to sustainable development by NYSE Euronext and Vigeo



Rated as a “Prime” machinery company in the social responsibility ratings by Oekom, a Germany-based independent CSR assessment company

External Evaluations



Selected as a “2018 Nadeshiko Brand” company by Japan’s Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange



2017 Constituent
MSCI Japan ESG
Select Leaders Index

Selected as a MSCI Japan ESG Select Leaders Index



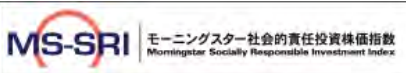
2017 Constituent
MSCI Japan Empowering
Women Index (WIN)

Selected as a MSCI Japan Empowering Women Index



FTSE Blossom
Japan

Selected for inclusion in the FTSE Blossom Japan Index Component (July 2017)
“FTSE Russell (the trading name of FTSE International Limited and Frank Russell Company) confirms that Komatsu has been independently assessed according to the index criteria, and has satisfied the requirements to become a constituent of the FTSE Blossom Japan Index. Created by the global index provider FTSE Russell, the FTSE Blossom Japan Index is designed to measure the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices. The FTSE Blossom Japan Index is used by a wide variety of market participants to create and assess responsible investment funds and other products.”



Selected for inclusion in the listing of SRI issues developed by Morningstar (As of January, 2017)

External Evaluations

External Evaluations for CSR Activities (FY2017)

2017

April	Certified as SBT (Science Based Targets)
July	Selected for inclusion in the FTSE Blossom Japan Index Component
July	Selected as a MSCI Japan ESG Select Leaders Index
July	Selected as a MSCI Japan Empowering Women Index
September	Listed on the Dow Jones Sustainability Index list of companies.
October	Certified as CDP “Climate Change” and “Water” A List Company
December	Chosen to be a Euronext Vigeo World 120 index.
December	22st IR Excellent Business Prize awarded.

2018

February	Ranked fourth (among 1,413 firms) in the 12th “CSR Firm Ranking” compiled by Toyo Keizai Inc.
March	Chosen on the “Nadeshiko Brand 2017” list, or a list of firms supporting active promotion of women

Theme 1 : Enhancing Quality of Life

32 Product Safety -Increasing Safety by Innovation-

35 Quality and Reliability - Responsible Commitment to Customers -

42 Occupational Safety and Health

50 Special Story:Leading the Way at Awazu Plant

54 Feature Article:KMC' s Environmental Sustainability Program

59 Pursuing Environmental Management

72 Mitigate Climate Change

89 Promoting Recycling

Product Safety -Increasing Safety by Innovation-

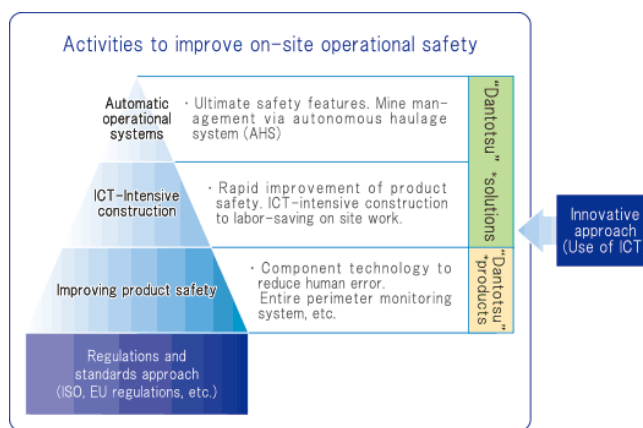
Our innovative processes afford us the ability to consistently conceive valuable ideas in multiple fields, such as environmental design and economic efficiency. Out of these areas, the one which we consider to be of the most importance is that of “Safety”.

From providing safe products to the overall safety of our automatic operational systems, we persistently utilize the full scope of our innovation capabilities to find ways in which safety is used to maximize the value of our products to our customers.

On-site Operational Safety

The provision of profoundly safe products is the most important responsibility of any manufacturer. With that in mind, we strive to exceed what is expected of us by going above and beyond the call of duty. On top of meeting all international standards and regulations, we supplement our products with additional safety features that remain unsurpassed by our competitors.

This commitment, compounded with our innovative drive for safety improvement, also allows our customers to achieve the consummate climate of safety within their operations.



In 2013 and 2014, Komatsu introduced the ICT Bulldozer and ICT Hydraulic Excavator respectively, an innovation that made possible the automatic control of blades and buckets. These systems by-pass the need for manual experience, allowing even fresh or less-experienced workers to perfectly reproduce the same high-level precision construction work of a skilled worker. This has eliminated the past need for ancillary workers and guiding processes, thus enabling our customers to make huge savings on labor costs and improving general safety.

The pinnacle of our safety innovations has birthed a fully automated operational system, known as the Autonomous Haulage System (AHS). This ingenious system has been fully-established in certain major mines in Australia and Chile, which involves the unmanned operation of giant dump trucks that carry over 300 tons of soil and minerals. The mine is an often harsh environment which requires constant vigilance and safety protocols, having multiple construction machines and vehicles that operate around the clock on a 24 hour basis. The AHS system utilizes cutting-edge technologies like satellite communication and various radars and sensors to create a useful system that meets this need in its entirety, responding to the diverse nature of our customer's safety requirements.

Despite these significant achievements, we are fully aware that there is always room for amelioration. We will continue to innovate and improve, furthering the evolution of such safety systems in order to realize the optimal safety environment that our customers require in their respective sites of operation.

Example of Safety Activities

Komatsu and NVIDIA to Improve Operational Safety and Productivity by Introducing AI to Construction Jobsites

Komatsu and NVIDIA Corporation have come together to improve the safety and productivity of construction jobsite operations through the introduction of AI. This announcement was made during Huang's keynote speech at GTC Japan, a NVIDIA-sponsored GPU Technology Conference held in Tokyo in December, 2017.

◆ Challenges of the construction industry

Japan's construction industry is facing a serious labor shortage, owing to the ageing and subsequent decrease in the amount of skilled workers. Of the 3.4 million skilled workers (as of 2014), it is estimated that approximately 1.1 million (about 1/3) of them will leave the industry within the next decade.

In response to this glaring issue, Komatsu introduced the "SMARTCONSTRUCTION" business in 2015, which works by connecting information related to jobsite workers and objects (such as construction machines and earth) through ICT, thereby improving jobsite safety and productivity. Komatsu has deployed "SMARTCONSTRUCTION" in more than 4,000 construction sites in Japan on a cumulative basis and is planning to introduce it on a global scale in the future.

* Source: Estimated by Komatsu based on the "Long-term Vision: For Rebirth and Evolution" of Japan Federation of Construction Contractors (announced in March 2015)

◆ Expanding the SMARTCONSTRUCTION business with AI

Leveraging on our partnership with NVIDIA, Komatsu will utilize NVIDIA GPUs in its SMARTCONSTRUCTION jobsites. The GPUs will communicate with drones from another partner (Skycatch Inc.) to collect 3D images, generate terrain data, and "visualize" site conditions. Another of our partners (OPTiM), an IoT management software company, will provide applications to visualize the personnel and construction machines recognized by the GPU, which is linked to the topographical information of the site.

At the heart of this collaboration is NVIDIA® Jetson™, an AI platform for edge computing. Utilizing NVIDIA's impressive cloud technology, Jetson will be able to provide 360-degree imaging when installed in construction machines. This enables comprehensive situational awareness and immediate recognition of nearby workers and machines, thereby preventing dangerous accidents or collisions.

Jetson will also be used with the stereo cameras installed in the cabs of construction equipment, providing real-time monitoring of changing jobsite conditions to better provide accurate instructions to machine operators.

By utilizing NVIDIA's technologies and expertise in imaging processing, virtual simulation and AI, Komatsu will further promote the SMARTCONSTRUCTION business and accelerate the pace of achieving our desired "construction jobsites of the future".

•The information provided is accurate at the time of presentation and may be subject to change.

Komatsu celebrates the 10th anniversary of the commercial deployment of Autonomous Haulage System (AHS): Meeting the "100-AHS-trucks-in-operation" milestone inspires plans to accelerate pace of mining automation

Jan. 29, 2018

Komatsu announced the celebration of the tenth anniversary of the commercial deployment of its Autonomous Haulage System (hereafter "AHS"). As of today, more than 100 AHS trucks operate in Australia, North and South America. Based on its 10-year proven

Product Safety -Increasing Safety by Innovation-

record of safety, productivity, environmental friendliness and system flexibility in a variety of mining environments, Komatsu plans to accelerate the pace of AHS deployment.

In 2005, Komatsu began AHS trials at CODELCO's copper mine in Chile, subsequently achieving the world's first commercial AHS deployment with CODELCO in January 2008. A second successful deployment followed in late 2008 at Rio Tinto's iron ore mine in Australia. To date, Rio Tinto operates AHS trucks in four mines in the Pilbara region of Western Australia. The entire AHS operation is controlled remotely and efficiently from Rio Tinto's operations center in Perth, roughly 1,500 km from the mines. Following the successes of these AHS deployments, Komatsu supported Suncor's AHS testing in a section of their oil sands mine in Canada in 2013.

Today, our Automatic Hauling Systems operate around the clock, hauling three different commodities in six mines across three continents. It has achieved significant milestones in efficiency, safety, and environmental friendliness. By the end of 2017, the AHS recorded a world-leading cumulative total of 1.5 billion tons of materials hauled. With regards to safety, we have found the AHS to be significantly safer than conventional mining methods where even a small truck driving error could cause a serious accident. AHS has created large-scale customer efficiency, reducing load and haul unit costs by more than 15% compared to conventional haulage methods. In addition, the optimized automatic controls of the AHS reduce sudden acceleration and abrupt steering resulting in a 40% improvement of tire life which reduces the need for replacements and related environmental impacts.

In order to extend the scope of AHS's applicability to operations with manned haul fleets, Komatsu conducted and successfully completed trials of its AHS retrofit kit at Rio Tinto's existing mine in September 2017. The retrofit kit, mounted on a Komatsu electric drive standard truck 830E (nominal payload: 220 tons), enabled the truck to operate in autonomous mode. As a result, Komatsu received an order from Rio Tinto for 29 AHS retrofit kits, to be installed on 830E standard trucks currently operating at Rio Tinto's Brockman 4 mine.

In addition to expanding the AHS retrofit kit to include other main models of Komatsu electric drive standard trucks, Komatsu is planning to enhance the AHS's mixed-operation functions. The planned enhancements will enable manned haul trucks of any make to safely interoperate with Komatsu AHS trucks in a blended fleet operation. Under this initiative, Komatsu has committed to provide mining customers with AHS solutions to meet the growing demand for gradual transitions to fully automated mines.



A standard truck 830E with the AHS retrofit kit running in autonomous mode at Rio Tinto's mine in Australia

The information provided is at the time of presentation and may be subject to changes.

Quality and Reliability - Responsible Commitment to Customers -

Komatsu's commitment to quality and reliability is encapsulated within the fundamental principle of “Monozukuri” (manufacturing competitiveness). With this in mind, we are dedicated to maintaining a portfolio of first-class products—both hardware and software—that builds on customer satisfaction. Our basic managerial policies have a strong focus on customer-centricity, creating a manufacturing ecosystem that places customer satisfaction at the forefront of its priorities. We maintain the standards of quality that have become an integral part of our organizational culture through a continuous process of assessment and refinement that takes place across all areas of our production process.

Our quality management systems touch on a number of specific fields, such as the global environment, quality assurance, and the education and training of our personnel. We also evaluate our performance in these areas using a number of key performance indicators.

Our Principles (Komatsu's Principles that govern 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.

General Approach to Quality and Reliability

We provide customers with products, services, and systems that are considered to be environment friendly, safe, and innovative.

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.

Quality and Reliability - Responsible Commitment to Customers -

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

Komatsu employees across all areas of our operations, from product planning to development, manufacturing, sales, and after-sales service, work together as a single cohesive unit to ensure that the products we develop are safe, innovative, and of high quality. Our unique “monozukuri” system enables the creation and subsequent introduction of highly competitive DANTOTSU products into the market, whilst maintaining our significant competitive advantage through goods and services with a wide array of substantial features.

Keeping in line with our commitment to product quality and innovation, a variety of meetings are held at each stage of the development and manufacturing process in order to ensure that our offerings are of the highest possible quality. Through this meticulous step-by-step process, the product's features are enhanced and refined until it meets the high standards that we adhere to.

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 product portfolio is made up of manufacturing equipment (construction and mining equipment, presses, and forklifts) that lend value to customer enterprises through enhanced rates of operation and productivity. In order to ensure optimal user experience, Komatsu sales agents engage with customers on both a pre-sale and post-sale basis to provide advice, conduct maintenance, and collect feedback. This collated information is then related back to the relevant Komatsu divisions for evaluation and, if it should be needed, subsequent follow-ups or remedial actions.

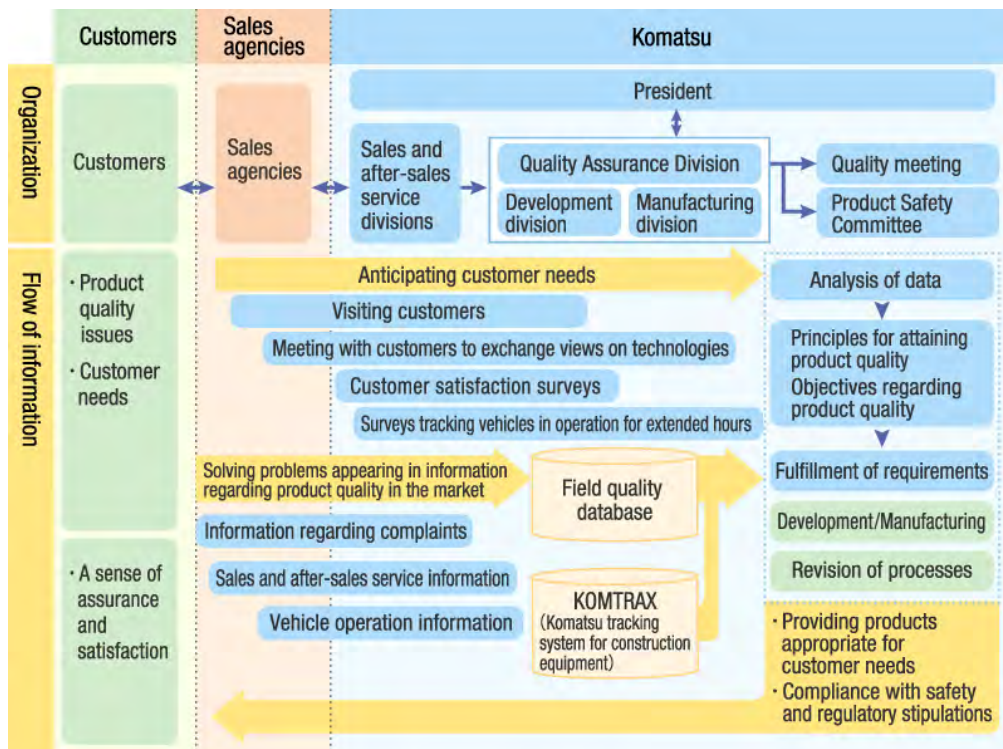
Komatsu also maintains comprehensive databases on market information regarding product quality. Company sales staff are able to utilize this wealth of information to ensure the rapid resolution of quality-related issues, should they be raised.

Increasing the Degree of Customer Satisfaction

In accordance with our Principles that Governing Quality Assurance, Komatsu has introduced a range of initiatives that deal explicitly with increasing customer satisfaction.

We take customer response seriously, and have implemented rigorous feedback mechanisms in order to give due consideration to the views of our consumers. Utilizing regular customer satisfaction and post-launch field surveys, we acquire and collate copious amounts of data. The results from these assessments are used by our analysts to improve upon not only our product quality, but our quality assurance frameworks as well. 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 the following approaches.

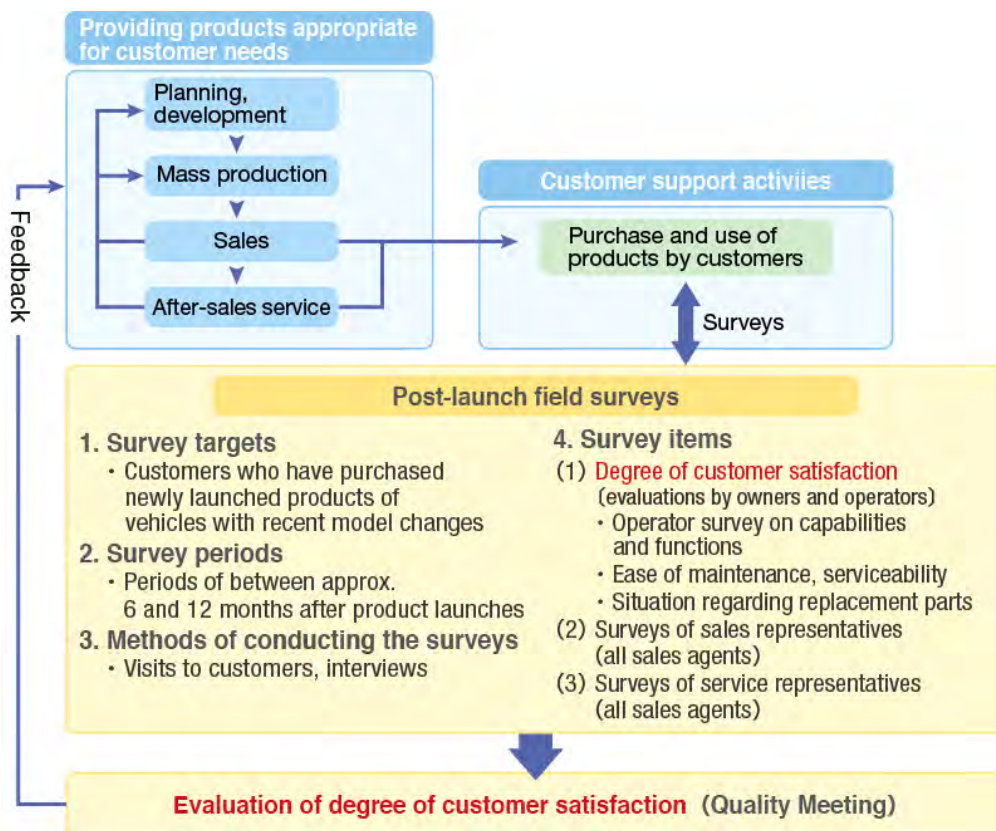


Post-launch Field Surveys and Feedback of Results

Komatsu's post-launch field surveys are a core component of our customer satisfaction assurance framework, conducted by our employees who visit purchasers of our newly developed products in order to acquire important data regarding product evaluation.

These personnel listen to customer feedback, taking input on all aspects of the product in order to report back to the relevant Komatsu divisions. After careful assessment of operational feedback and customer requests pertaining to service and replacement parts, we process the data into quantified objectives for improvement. The data is also disseminated to all levels of the company in order to ensure an effective understanding of customer needs and potential areas for advancement. With these systems in place, we are able to consistently deliver products and services that generate optimal levels of customer satisfaction.

Quality and Reliability - Responsible Commitment to Customers -



Tracking Vehicles with Extended Hours of Operation*

Keeping in accordance with our commitment for pursuing product durability and reliability, we track our product vehicles that have seen lengthy periods of operational service. By storing this information, Komatsu is able to predict potential issues with product usability and respond promptly to requests for servicing and other maintenance concerns. In addition to this, we utilize an ICT remote management system named “KOMTRAX PLUS” to monitor equipment operating conditions, allowing us to ensure continued product stability in terms of durability, efficiency, and functionality. Through these assessment systems, we are able to analyze customer expectations and satisfaction in relation to our product quality objectives. Should there be a failure to meet these objectives, Komatsu designs carefully evaluated proposals to rectify problematic areas, later integrating any effective measures into product revisions or development. This process increases product durability and reliability and thus extends product lifecycles, leading to greater customer satisfaction and an overall decrease in resource consumption and waste production.

* 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 in order to track the current status of a vehicle's “health”, its operating status, and other relevant information metrics. The Komatsu Tracking System (KOMTRAX) is used for conventional construction equipment, while the Komatsu Tracking System Plus (KOMTRAX Plus) is used in relation with larger mining equipment.

Quality Assurance Activities at the Global Level

By fully implementing our quality assurance systems on a global level, Komatsu is able to ensure that its products meet a standardized level of high quality across all countries of operation. Regardless of geographical location, our products are subject to strict, uniform

Quality and Reliability - Responsible Commitment to Customers -

standards in relation to technical drawings, manufacturing systems, inspection methods, information collection, and quality management.

Komatsu has a number of manufacturing facilities that it refers to as “mother plants”. These plants have product development capabilities and serve as the central hub for global product development initiatives using cutting-edge technologies and techniques. Any form of progress or advancement that is conceived at a “mother plant” is immediately disseminated to other Komatsu manufacturing locations around the world, creating a uniform ecosystem that promotes technological development and enhances product quality.

Standards for Product Safety

Safety and customer trust are at the forefront of all our quality assurance activities. In line with this dedication, Komatsu has formulated a number of Product Safety Standards and associated principles that all employees are expected to comply with in the execution of their duties. This enables us to live up to our established reputation by delivering products that exceed customer expectations in terms of safety, quality, and longevity.

Information System for Product Safety and Services

While we have utmost confidence in the safety of our products, Komatsu is nonetheless aware of the fact that potential issues could arise in the course of their usage. In order to facilitate a rapid response to any problems that occur, we have established an information system that deals exclusively with product safety concerns.

The system executes a consistent process of education and refinement, making constant improvements and allowing employees at all levels to respond quickly to problems without delay. Using the system, personnel are able to (1) assess the cause of the accident and subsequent procedures to be taken, (2) contact the relevant governing authorities, and (3) decide the best course of action in terms of remedial measures, such as product recalls.

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.

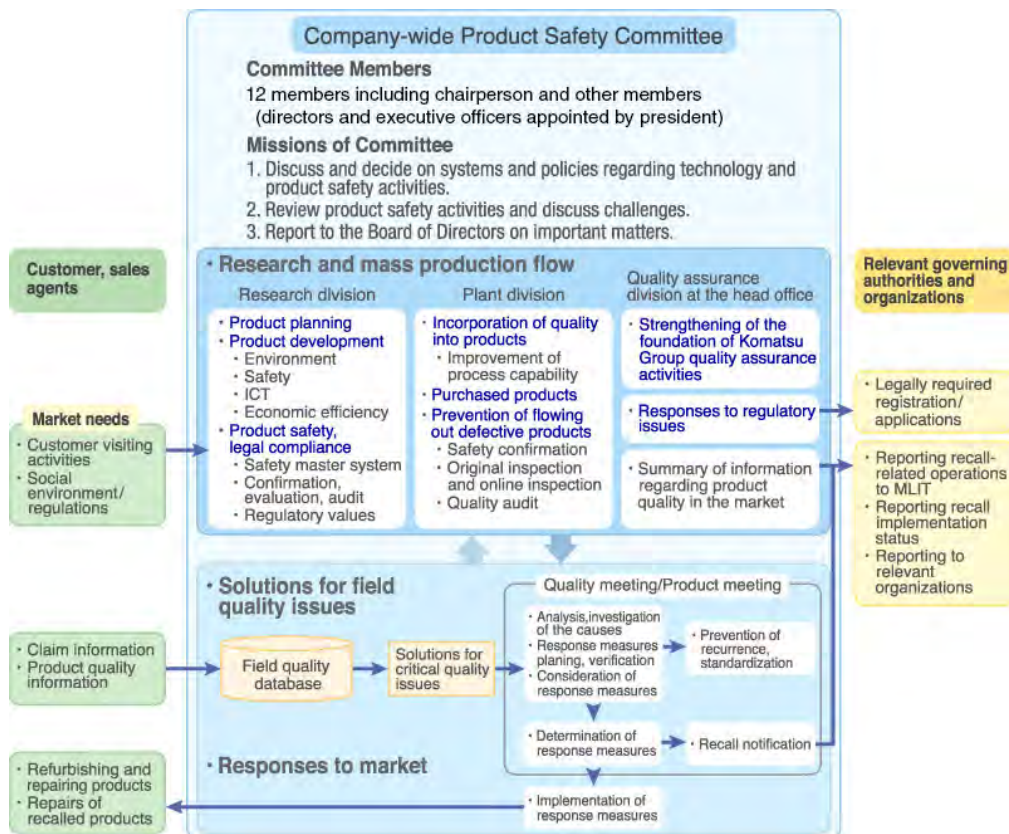
4. Transparency

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 culture

In order to create a corporate culture 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.

Quality and Reliability - Responsible Commitment to Customers -



Providing Product Safety Information to Customers

Komatsu meets legal requirements for the provision of safety information through (1) direct indication of information on products or in user manuals, (2) direct explanations by pre-sale and post-sale service personnel, and (3) telephone consultations with pre-sale and post-sale service divisions. In addition to this, we provide further engagement on a case-by-case basis, with engineers or upper-management visiting customers when necessary.

System for Dealing with Recalls

We have noticed a paradigm shift in customer concerns in recent years, with a greater focus on product safety and recalls. To meet these new expectations and ensure product safety in our markets, Komatsu is reinforcing its recall-related organizational strength, comprehensive response capabilities, procedures for prompt corrective measures, and proactive information disclosure whilst conducting increasingly rigorous monitoring activities.

■ Procedure regarding recalls

1. Proposal for rectification of the situation based on information regarding the defect; decision regarding what measures the company will take toward the market
2. File a notice with relevant authorities as provided under the law
3. Inform customers through appropriate channels
4. Take appropriate corrective measures including, for example, repairs, replacements, or refunds

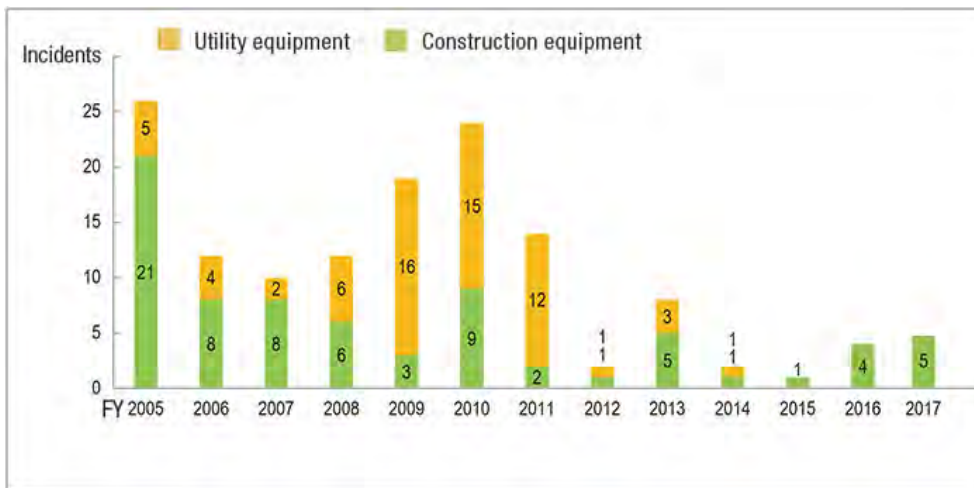
Quality and Reliability - Responsible Commitment to Customers -

■ System to deal with recalls appropriately

1. Strengthening of information collecting systems on product quality in the market
2. Promotion of technical verification of the problem involved in the recall and timely decision making
3. Regular auditing of recall-related operations

Komatsu strictly oversees compliance with legal requirements. Should a defect 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 and utility equipment products sold in Japan)



Occupational Safety and Health

Occupational Safety and Health is a core component in Komatsu's business operations. In line with this commitment, Komatsu thus enhances safety at the workplace for our employees and business partners.

Our Approach to Safety and Health at the Workplace

Komatsu communicates the message of "Safety First" to the Komatsu Group and addresses occupational safety and works on mental and physical health care to create a safe and comfortable work environment.

Message from the President Concerning Occupational Safety and Health

1. The Komatsu Group shall, first of all, strive to ensure a safe and comfortable work environment, and maintain and promote employee 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 the above two matters as top priority tasks and shall take the initiative in demonstrating the execution of daily duties accordingly.

Considering our obligation to occupational Safety and Health, we have implemented the following guideline: All Komatsu Group companies, together with all top managers and employees, shall promote occupational Safety and Health activities so that employees can work in a safe and comfortable work environment in accordance with the policies described below.

Occupational Safety and Health Policies

(Released as a part of the Komatsu's Worldwide Code of Business Conduct on April 1, 2011)

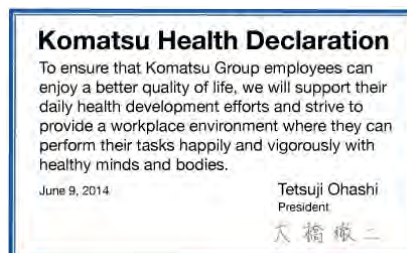
1. Observe the laws and regulations concerning occupational safety and health as well as internal rules, key items common to the Komatsu Group about occupational safety and health, and particularly items agreed as a result of labor-management consultations in each workplace.
2. Set up targets for activities based on occupational safety and health policies, review their progress, and endeavor to continuously improve and enhance occupational safety and health activities.
3. Carry out occupational safety and health activities in management-and-labor partnership on a full participation basis and keep good communication with stakeholders with regard to occupational safety and health.
4. Identify and evaluate the risk for occupational safety and health of a workplace and take appropriate actions accordingly.
5. Actively promote employees' healthcare management and support the maintenance and promotion of employees' health.
6. Actively promote education, training and qualification acquisition necessary for employees' occupational safety and health activities, and endeavor to develop human resources for safely carrying out their responsibilities in the workplace.

Occupational Safety and Health

- Subject to appropriate protection of personal information, publicly offer the knowledge and information about occupational safety and health activities obtained through the business activities in order to secure safety and health in society.

Excerpted from “Komatsu's Code of Worldwide Business Conduct”

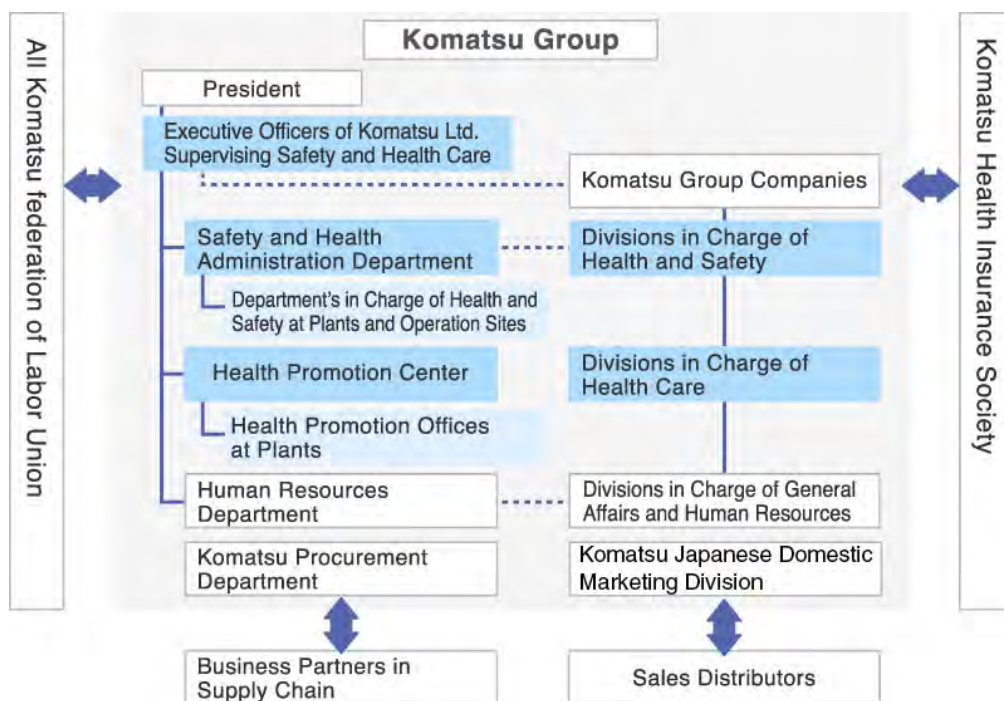
In addition to our existing health management programs, the Komatsu Group is striving to create its corporate Health Culture after the launch of the Five-Year Health Development Plan in FY2014. The goal of the Health Culture is: to look after one's own health and the health of one's colleagues and to consider and take action on what is necessary for leading a better life. The president announced the “Komatsu Health Declaration” in June 2014 to effectively promote this goal.



Overview of Safety and Health System

The Komatsu Group enforces strict compliance with Safety and Health management through the following system structure.

Organization



Meeting Committee Structure

- Group Safety and Health Conference (they run safety meetings at Group companies, small-group “zero accidents” activities presentation, etc.)

Occupational Safety and Health

This conference convenes with the aim to increase awareness regarding Safety and Health for employees of the Komatsu Group and partner companies while raising the level of Safety and Health activities. It also engages in activities that share the policy, priorities and best practices of Safety and Health activities, and incorporates these practices into other divisions while administering presidential awards related to Safety and Health.

■ Group Safety and Health Committee (Safety and Health Committees at Group companies, Safety and Health Committees at Plants and Operation Sites)

Formed to establish cooperation between labor and management in the examining of, debating of, and decision-making for measures aimed at preventing hazards and health risks, this committee formulates regulations concerning Safety and Health, examines, debates, and decides on activity policies for the fiscal year, while also managing the progress of these activities etc.

■ Global Occupational Safety, Health & Environmental Affairs Meeting

Discusses and shares information on activities to be implemented globally, and colligates them to activities of various overseas subsidiaries.

■ Group Health Representatives Meeting

- Formulates and proposes all company safety practice policies.
- Promotes and implements practices based on company policy in locations of business operation.

■ Health Promotion Meeting

- Formulates and implements company-wide Safety and Health management policies.; handles the overall supervision of health management activities throughout various business sites.

■ Health Promotion Committee

Consists of business owners and employees (organized by Komatsu union) in addition to the Health Insurance Society; affirms a common recognition of "Health" and formulates measures and policies intended to enhance the health maintenance of employees and their families.

Safety and Health Activities

1. Raising of management level by implementing the Labor Safety and Health Management System
2. Elimination of disaster elements through risk assessment
3. Stimulating voluntary improvement activities through the small group "Zero Accidents"
4. Hazard simulation training at the "Safety Dojo", or "Safety Training Hall"
5. Enhancing the quintessential safety of equipment
6. Building physical health (health supervision for preventing diseases related to lifestyle, a diabetes management program, support for smokers who would like to quit, etc.)
7. Attaining mental health (diagnosing stress, implementing activities to improve the work environment, mental health training, establishing consultation services inside and outside of the company, support for returning to work)
8. Improving and maintaining an appropriate work environment

Occupational Safety and Health

9. Prevention of second-hand smoke
10. Global and Group-wide activity support for overseas subsidiaries and Japanese business partners

Main Themes of the Five-Year Health Development Plan

1. Addressing lifestyle diseases and cancer: Prevent lifestyle-related diseases and reduce the number of patients, and reduce the severity of diseases
2. Addressing tobacco-related diseases: Reduce smoking and prevent passive exposure to smoking
3. Addressing mental health: Reduce the number of individuals with mental disorders, provide early response and support return to appropriate workplaces, and create a happy and vigorous workplace
4. Addressing risks of impaired health: Eliminate and reduce the risks of impaired health associated with the work environment and operations
5. Response for small domestic worksites: Support health development at small worksites (such as sales and service sites)
6. Global response: Formulate and promote global measures for occupational safety and health management

Cardiopulmonary resuscitation training for all domestic Komatsu Group employees

The infectious disease and first aid team of the five-year health development plan is engaging in activities to acquire knowledge and skills with regards to cardiopulmonary resuscitation methods and AED for all Komatsu Group employees in Japan. (As of the end of FY2017, domestic employee cardiopulmonary resuscitation training attendance rate: 91.5%)

The purpose of this activity is to make a stand from the perspective of respect for human life, to improve the knowledge and skills of our employees, and to take the initiative in dealing with emergency situations encountered inside and outside the company. We also aim to contribute widely to local residents by posting AED installations at each site and displaying "AED mounted car" etc. in our service company's sales company.



Cardiopulmonary resuscitation training



AED mounted car

Supporting Supplier's Safety Activities

Komatsu is conducting the following safety activities for the "Komatsu Midori-kai", which is an organization of Komatsu's business partners (suppliers) in Japan.

1. Support for the introduction of Japan Industrial Safety and Health Association (JISHA)'s Workplace Safety Health Impact Project for small and medium-sized businesses (2015)
For our 97 business partners—suppliers of outsourced items—Komatsu introduced JISHA's Workplace Safety Health Impact Project, paying for the inspection fees, and asking each company to improve their safety level in 2015.

Occupational Safety and Health

2. Conduct Safety Patrols

Komatsu conducts paperwork inspections and patrols the workplace, checking especially the legal compliance status (such as notifications and inspections) and unsafe places in the workplace and the possibility of unsafe conduct. For findings, we request the submission of a report listing preventative measures, and follow up accordingly.

3. Participation of business partners in the Komatsu Group Safety and Health Conference.

The heads of business partners are invited to participate in the Komatsu Group Safety and Health Conference that is held every year in June.

4. Focused guidance for companies that have repeated accidents

For cooperating businesses that have repeated accidents, Komatsu requests a submission of a "Special Safety Activity Chart", and based on the situation of each company, guidance and support is provided by the district procurement department.

5. Implementation of Mutual Safety Patrol

Patrols are conducted between cooperating businesses from their similar business standpoint, and in cases where there are findings, we request a submission of a report listing preventative measures and follow up accordingly.

Status in FY2017

Educational Training for Labor Safety and Health (in Japan)

■ Education regarding Mental Health

Contents	FY2017 Practice
Based on the rules of the Industrial Safety and Health Act, educational training for mental health is conducted. Stress assessments were started in FY2006, and stress awareness training were started in FY2007 and is being held for the employees of all Group companies in Japan.	<ul style="list-style-type: none"> ■ Stress assessment/awareness training implemented in 30 companies, with approximately 23,409 employees ■ “Support Letter for the Heart”, which is motivational material for management personnel, is distributed every other month to management personnel within the Group.

■ Education based on Job Levels

Contents	FY2017 Practice
Safety and Health education and mental health education is provided to each level of the company including new employees	<ul style="list-style-type: none"> New Employees (1 time, 330 people) 3rd year of employment with the company (10 times, 330 people) Hiring experienced individuals (4 times, 105 people) New Assistant Managers (10 times, 307 people) Foremen/Senior Foremen (6 times, 147 people) New Managers (6 times, 188 people)

Occupational Accidents in Komatsu do Brasil

On September 15th, 2017 at the Aruja plant in Komatsu do Brasil, a worker suffered a fatal accident and passed away on September 24th. Reports show that the worker lost consciousness on the ladder and fell off while working at a high altitude (the worker had a

Occupational Safety and Health

helmet on his head).

We collaborated with local safety personnel from Japan and production engineers to investigate the cause of the tragedy, and have devised a number of countermeasures.

Cause:

1. The worker was working on a ladder that should be used only for ascent and descent.
2. It was doubtful whether the worker was in good health.

Measures to be taken:

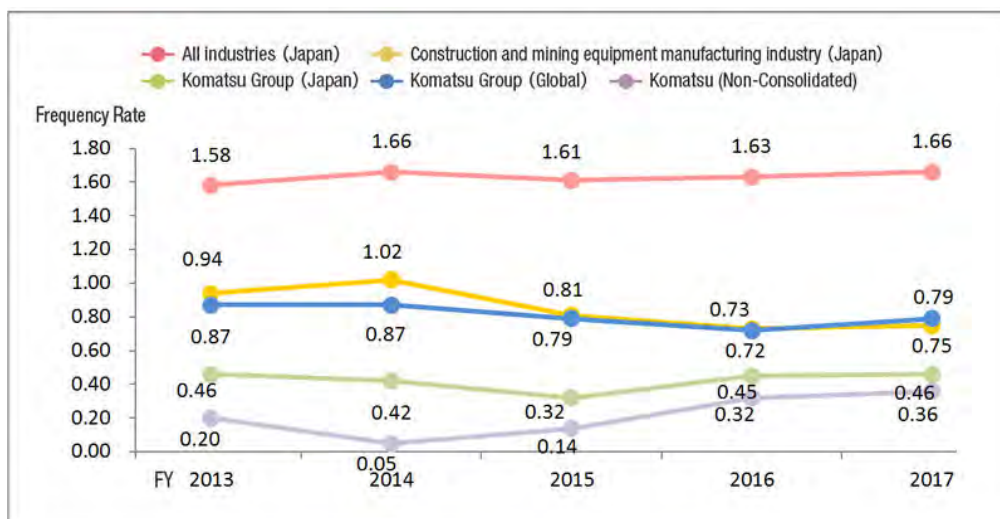
1. Physical measures to identify potentially hazardous work (like high altitude work) and reduce risks related to such work (installation of stairs and basket ladders, etc.)
2. Implementation of work restrictions for workers found to have specific diseases, in accordance with instructions provided by industrial physicians
3. Health checks for workers before they engage in work-related duties

These countermeasures are developed laterally.

We take Safety and Health very seriously, and will continue to actively engage in appropriate safety and health activities to ensure that such accidents will not occur again.

DATA

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



1. The data for all industries (Japan) and construction and mining equipment manufacturing industry (Japan) are provided by the Ministry of Health, Labour and Welfare.
2. The scope of the Komatsu Group (Japan) includes Komatsu Ltd. and group companies in Japan.
3. The scope of the Komatsu Group (global) includes "Komatsu Group (Japan)" and overseas production plants.

The Komatsu Group has started activities to acquire ISO 45001 certification, but as of July 2018, the update status of OSHMS certification is as follows.

Occupational Safety and Health

OSHMS Certification and Renewal

(◎ : Certified ○ : Renewed)

FY	2009	2010	2011	2012	2013	2014	2015	2016	2017
Awazu Plant		○			○			○	
Osaka Plant		○			○			○	
Oyama Plant	◎			○			○		
Ibaraki Plant	◎			○			○		
Koriyama Plant			◎			○			
Shonan Plant			◎			○			○
Kanazawa Plant		◎	○			○			○
Tochigi Plant		◎			○			○	
Komatsu Castex		◎			○			○	
Komatsu NTC Toyama area					◎				
Komatsu Cabtec						◎			
GIGAPHOTON								◎	
KELK								◎	

Occupational Safety and Health

OHSAS 18001 Certified Offices

FY	2009	2010	2011	2012	2013	2014	2015	2016	2017
Komatsu America Chattanooga Manufacturing Operation				◎			○		
Komatsu America Peoria Manufacturing Operation							◎		
Komatsu Germany (Mining Division)			◎			○			
Komatsu Forest		○			○			○	○
Komatsu Germany (Construction Division)		○			○			○	○
Bangkok Komatsu							◎		
PT Komatsu Indonesia					◎				
PT Komatsu Undercarriage Indonesia			○			○			

* OHSMS: Occupational health and safety management systems

* OHSAS 18001: Occupational health and safety assessment series

Special Story: Part of our way

Part of our way

Leading the Way at Awazu Plant



Since 1938, our Awazu manufacturing plant in Japan's Ishikawa Prefecture has been a key supporter of local business and industry. One of the largest out of nine Komatsu Mother Plants worldwide, Awazu is a standard-setting facility for Komatsu operations. The first bulldozers in Japan were manufactured there, and today it is the lead facility for small to mid-sized equipment such as dozers, hydraulic excavators, wheel loaders, motor graders and transmissions. In recent years, Awazu has worked to become a sustainable community partner, as well.



Awazu plant in Ishikawa Prefecture

Following the 2011 earthquake that left millions in Japan temporarily without electricity, Komatsu leadership began to look for ways to reduce electrical consumption and become less dependent on the traditional power grid. The decision was made to consolidate two outdated plants at Awazu into one new assembly plant that was designed to cut electric power consumption drastically while supporting new business in the community. By combining leading-edge design with alternative energy sources, Awazu's new assembly plant, built in 2014, reduced electrical power consumption by 90 percent.

Special Story: Leading the Way at Awazu Plant

To pull off this exciting feat, Komatsu worked with local business partners to ensure the work supported the surrounding community, as well.

Now, customers, suppliers and local school groups frequently request tours to see the facility's innovative capabilities.

"It's such a small town, but Komatsu has a big presence," said local business owner Masayuki Itao, president of Itao Iron Works, a Komatsu business partner. "We are proud to have Awazu here." One of the facility's primary energy reduction mechanisms, a biomass power generation system, has created a microindustry in Ishikawa Prefecture; sustaining new jobs and the creation of new equipment. "This was an important aspect of the overhaul of Awazu's facility," said Yoshihiro Toi, manager of the Manufacturing Engineering Department, "We created a property that was not only environmentally sustainable, but that could help sustain the surrounding community as well."



Woodchip production at KAGA Forest Association



Assembly line at new assembly plant

Since entering into an agreement with Komatsu in 2014 to supply the necessary woodchip fuel for Awazu's biomass cogeneration system, the local KAGA Forest Association has developed a full woodchip production business that supports the area's forestry industry. The woodchips are burned at Awazu plant's Woody Biomass Power Generation facility to produce high-pressure steam that generates electricity, as well as hot and cold water used in heating and cooling the plant. To secure water resources for agricultural use and cut down on the amount of waste timber clogging up area streams and rivers, the Forest Association collects and cuts down trees from southern Ishikawa Prefecture to preserve balanced forestry environments.

This work is very important for the health of the area's natural resources, but at least 30 percent of the resulting timber was unusable for construction or commercial purposes.

Now, that resource plays a crucial role at Awazu, as leftover timber is turned into woodchips that fuel biogenerative power.

"The logs that were not used before now have a purpose," said Masaaki Shimizu, senior managing director of the KAGA Forest Association. "They help create energy and also new jobs."

Komatsu worked with local manufacturing firm Tagami Ex Co. Ltd. to develop special equipment which satisfies Awazu's woodchip needs. Yoshimichi Tagami, chairman of Tagami Ex, said that Komatsu's partnership was necessary to grow the local forestry industry.

"We are very appreciative that Komatsu is paying attention to the forestry industry," said Yoshihiro Tagami, president of Tagami Ex. "An entire local industry is benefitting."

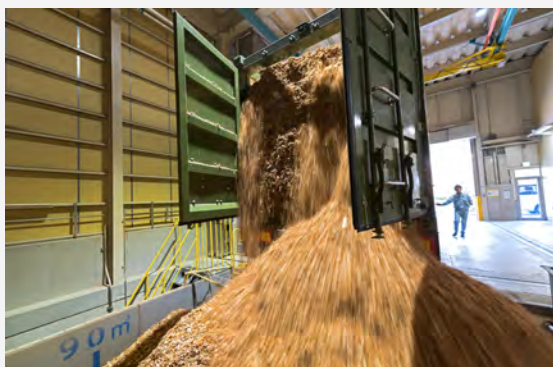
Special Story:Leading the Way at Awazu Plant

When approached by the company about developing the woodchip equipment, Tagami initially thought they wouldn't be able to support the level of business Komatsu sought to provide. But the Komatsu teams were passionate about making it work and collaborated with Tagami's teams to develop the new equipment required. That commitment as not only a business partner, but as a supporter of sustainable technologies, led to mutual success.

"It's very motivating for us, for our work," Tagami senior added, "to know the chips our machines produce are used for conservation-related activities."



Chipping equipment developed by Tagami Ex



Awazu's Woody Biomass Power Generation facility

Opting to rely on biomass power at Awazu was a strategic decision that involved considerations far beyond ease and cost. But it was a choice that brought the community along on the journey, in keeping with Komatsu's founding spirit.

"Biomass facility is very tough to control in terms of operation," said Norio Mitani, project manager of the Woody Biomass Power Generation facility. "You have to have a certain level of raw materials to make it work. And you have to think of profitability, too. It's much easier to just use fuel oil boilers. It's tough, but we wanted to contribute to the community and forestry conservation."

In keeping with the communal spirit of the project, younger generations of Komatsu employees led the design, planning and implementation efforts for the changes at Awazu. More senior employees then reviewed the suggestions and they would meet together to make decisions.

Another key way they were able to reduce energy consumption was to only heat and cool the three meters immediately above and below the shop floor. Typical facility design would have wasted energy heating and cooling the entire 18 meter height of the facility. But at Awazu, air is rotated through the six-meter loop above and below the floor using a system of fans, pumps and radiators that leverage the underground water supply and geothermal energy, requiring very little electricity.

Komatsu teams also reduced energy demands by designing the new assembly shop to maximize efficiencies.

Productivity per area unit doubled thanks to the inclusion of slowly rotating assembly line floor panels that minimize time wasted moving between tools and areas of the machine. Employees can put their tool boxes on the rotating floor and it will move with them, allowing them to concentrate on their assembly work. Installing double-sided cranes allowed the facility footprint to be shortened by 30 percent compared to prior designs. The plant's overhead cranes also contribute to the sustainability effort, generating energy (converted into electricity) with every downward movement. The concept was inspired by the energy-saving mechanics of Komatsu's hydraulic excavators.



Assembly work on rotating assembly line floor panels

Even the rollers used in the interior testing facility play a part: generating electricity that feeds back into the plant's power system. Solar panels on the roof add to the self-generated energy that has allowed Awazu to drastically reduce its public power consumption and serve as a shining example of Komatsu's commitment to sustainability.

Special Story: Leading the Way at Awazu Plant



Solar panels on the roof

With its commitment to looking at the big picture, both within the facility and in the surrounding community, Komatsu's Awazu facility embodies the Monozukuri spirit that is essential to the company's long-term success. When we speak about Monozukuri, which literally translates as "manufacturing," at Komatsu we are not referring only to activities on the plant floor. Rather, we define Monozukuri as teamwork activities performed by all members of the Komatsu family, including internal divisions and external partners.

"You cannot limit yourself to your own scope of work," said Chizuru Nakaizumi, who works at Awazu along with her daughter and son-in-law. Her husband also works for Komatsu in China. "You need to understand the overall flow." Nakaizumi said she is proud to work for a company that cares about the environment and takes its role in the flow of a sustainable society seriously.

"The biomass facility," she said, "has this good cycle of using the trees to support the creation of equipment that then helps take care of the environment."

These innovative "circles of support" in the way we operate and interact with our community and our environment are what has made Awazu plant not just a Komatsu success story, but a sustainability success story.

"The factory was able to grow along with the people in this community," said Mitani. "We were able to grow because of them. So we wanted to return that support. It's our duty. We are a global company with close ties to the community."

How the biomass facility works

- Woodchips are produced from waste timber removed from the forests of southern Ishikawa Prefecture
- The chips are delivered daily from the KAGA Forest Association site to Awazu's Woody Biomass Power Generation facility
- The main silo at the facility can hold 130 cubic meters - equivalent to about 24 hours of use
- A conveyor takes the chips to 4 sub silos from which chips are distributed to 4 boiler system units
- The woodchips are burned to produce high-pressure steam that generates electricity, as well as hot and cold water used in heating and cooling the plant

Feature Article

Feature Article:

KMC' s Environmental Sustainability Program

Achieving an Environmental Sustainability Program while eliminating environmental risk to business, minimizing our Carbon and Environmental Footprint, establishing a sound material cycling society, conservation of air, water, and waste, implementation of biodiversity projects to promote and sustain environmental wildlife and natural resources.



KMC Global Operations Introduction

Since being acquired by Komatsu in 2017, we have been rebranded Komatsu Mining Corp. and are now part of the larger Komatsu organization, which is based in Japan. The Komatsu Mining Corp. name is more of a legal entity identifier. Through ongoing integration efforts, we are part of and support Komatsu's growing mining business segment. We continue to support and invest in the Joy, P&H and Montabert brands.

Our four leading brands all have long histories of innovation and helping reshape industries. Now as one group we are focused on further innovation to move mining forward. Our four leading brands in mining are;

- For surface equipment: P&H and Komatsu
- For underground soft and hard rock; and crushing & conveying equipment: Joy
- For hydraulic demolition and drilling attachments: Montabert

Working with our customers and stakeholders, we are focused on revolutionizing mining for a sustainable future together by;

- Optimizing our business by prioritizing Safety, Law, Quality, Delivery and Cost:
- leveraging our advanced technologies to continue innovating and helping transform the mining business;
- supporting our customers through a variety of services and solutions that make us an indispensable partner.

Feature Article:KMC' s Environmental Sustainability Program

KMC Longview, Texas Operations Introduction

Komatsu Longview Operation is the mother plant for the P&H Hybrid Wheel Loader and Hard Rock Load Haul Dump (LHD's) product lines. The manufacturing center is responsible for producing a variety of mining products and parts.

Longview has a highly skilled workforce consisting of welding, fabrication, electrical, and assembly trades. The product manufacturing over past 70 years has spanned many industries including material handling, oil and gas, rail, forestry, construction and mining.

The products produced in Longview today include AC/DC/SR electrical motors and drives, the manufacture and assembly of planetary gear boxes, the fabrication of P&H shovel & loader structures, the fabrication and assembly of Joy Feeder Breakers, the assembly of the 77XR drills, and the complete manufacture of P&H Hybrid Wheel Loaders, Joy Hard Rock LHD's and P&H Mine Air systems.

Longview's campus is as historic and diverse as its product line, from the distinctive domed buildings to the vast acreage of undisturbed lakes and wetlands.

The culture at the campus is a strong reflection of SLQDC. The focus is largely process and process improvement. Their Zero Harm Culture has been institutionalized over the past several years. The facility has worked 4 million hours zero lost time injuries and has a medical recordable rate of 0.17 (94% reduction since 2011).

The zero-harm impact carries over into the facility's focus on environmental and social contributions as well. The facility boasts both a strong waste water management program and air emissions containment. The Texas Commission on Environmental Quality hosts delegations of state officials to the facility every year as the state considers it showcase site for the state.

The operation has been largely people and community centered since its inception in 1946. It has a longstanding relationship with Letourneau University, a private university that was started originally as a training center for its own employees. In addition, the operation is actively engaged in several education, adult outreach and community improvement programs. Komatsu Longview Operation is known as an employer of choice in the community and held in high esteem by local business and governmental officials.



KMC Longview, TX Facility

KMC's Sustainability Program (included as part of KMC's Environmental Compliance Management System)

KMC's global Environmental Compliance Management System (ECMS) also includes our Sustainability Program, which will be the

Feature Article:KMC's Environmental Sustainability Program

primary focus of the discussion of this Feature Article.

It should be noted that the Longview, Texas Facility is in continuous compliance with all local, state, and federal environmental regulations and is recognized by the regulatory and industrial agencies and communities as a leader in both environmental compliance, presenting no potential threat to human health and the environment, and attaining environmental sustainable achievements. Each Topic of the Sustainable Program is discussed below:

■ Elimination of Risk to Business (operations pose no threat to potential impact to human health and the environment)

Operations are conducted to minimize air emissions (including Greenhouse Gas Emissions - CO₂e) of potential airborne contaminants; both hazardous and non-hazardous waste management programs are implemented to maximize the amount of recycling and reuse or waste elimination; wastewater discharges are eliminated and storm water discharges are treated with a storm water treatment system with a 99.7% efficiency.

A release from an onsite closed hazardous waste that mildly impacted the groundwater in the 1980's has been successfully cleaned up and remediated to non-detectable contaminant levels. The facility operations pose no threat to human health and the environment.

■ Minimizing our Carbon and Environmental Footprint

During 2017, the Longview Facility emitted approximately 5,077 metric tons of CO₂e Scope 1 emissions. Projects implemented to minimize Greenhouse Gas emissions include using clean energy for processes, installing low CO₂ emitting equipment for processes, along with energy conservation measures.

The Scope 2 GHG emissions (GHG emissions produced off-site at the electric company that provides electricity to the Longview Facility) for 2017 were approximately 15,795 metric tons of CO₂e.

The KMC Sustainability Program also looks at reducing priority pollutant air contaminants including VOCs, NO_x, SO₂, CO, and PM. The Longview Facility has a state of the art Regenerative Thermal Oxidizer (RTO) that destroys 98+% of all VOCs emitted from the painting operations.

In addition, low NO_x burners are used on most natural gas fired equipment and air pollution control devices are installed on equipment generating particulate emissions. During 2017, only 11.2 tons of priority pollutants were emitted from the Longview Operations, which is extremely low for a major manufacturer.

Longview Facility GHG Emissions Summary - 2017

Scope	CO ₂ e Emissions (metric tons)
1	5,077
2	15,795

* RTO that destroys 98% of VOC emissions

■ Establishing a sound material cycling society

Operations are conducted to minimize both hazardous and non-hazardous waste. Longview is considered a Small Quantity Generator of hazardous waste, which is less than 1 metric ton per month. Of the hazardous waste that is generated, approximately 95.4% of the hazardous waste is recycled. Concerning the generation of non-hazardous waste, recycling is conducted on those wastes that can be recycled now, including scrap metal, waste oil, wood, and various non-hazardous waste streams. Currently Longview recycles approximately 25.5% of the non-hazardous waste it generates, which plans are being developed and implemented to significantly increase that percentage in the future.



Waste Recycling Station

Feature Article:KMC' s Environmental Sustainability Program

Longview Facility Waste Generation - 2017

Class	Amount Generated (Metric Tons)	Recycled (%)
Hazardous	7.20	95.4
Non Hazardous	1938.90	25.5

■ Conservation of air, water, and waste

Operations are conducted to conserve the amount of air used by capturing, cleaning, and reusing the air from various parts of the facility. Water is conserved by using a virtual closed loop system which stores, treats, and recycles both wastewater and storm water which significant reduces the amount of water that is purchased to conduct the Longview operations.

The water conservation program is extremely efficient to the point that the Longview Facility is considered a net provider of water resources for the City of Longview versus being classified as a net consumer. During 2017, the Longview Facility "provided" 269,012 m3 of water for reuse.

This amount of water was 201,163 m3 more than the Longview Facility purchased, making it a net provider of water resources. Hazardous waste conservation has been extremely successful and additional plans are being developed and implemented to increase the amount of non-hazardous waste conservation.



Longview Facility Water Conservation

Longview Facility Water Conservation - 2017

Water Resources	Amounts (m ³)
Water Purchased	67,849
Storm Water Received	2,228,504
Storm Water Discharged	1,959,492
Storm Water Captured and Treated for Use	269,012
Storm Water Recycled and Provided for Operations	269,012
Net Amount of Water Resources provided by the Longview Facility	201,163

* Water being Recycled and Reused

■ Implementation of biodiversity projects to promote and sustain environmental wildlife and natural resources

The Longview Operations has a large-scale Biodiversity Program in place which preserves the natural wildlife and nature in conjunction with its water conservation and wastewater and storm water capture, retention, treatment and recycle system to achieve a net provider status of water resources while maintaining continuous compliance and providing a haven for wildlife, flora and fauna. In addition, another Biodiversity Project was successfully completed at the KMC Troutdale, Oregon Facility which eliminated storm water pollutant

Feature Article:KMC' s Environmental Sustainability Program

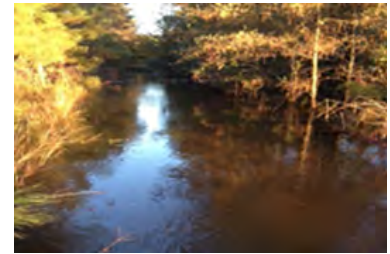
discharges, reclaim a large portion of the facility storage yard, while also promoting the preservation of the natural wildlife and species indigenous to that area.



Lake LeTourneau Clarification/Retention Treatment Unit - restoration for water fowl and fish



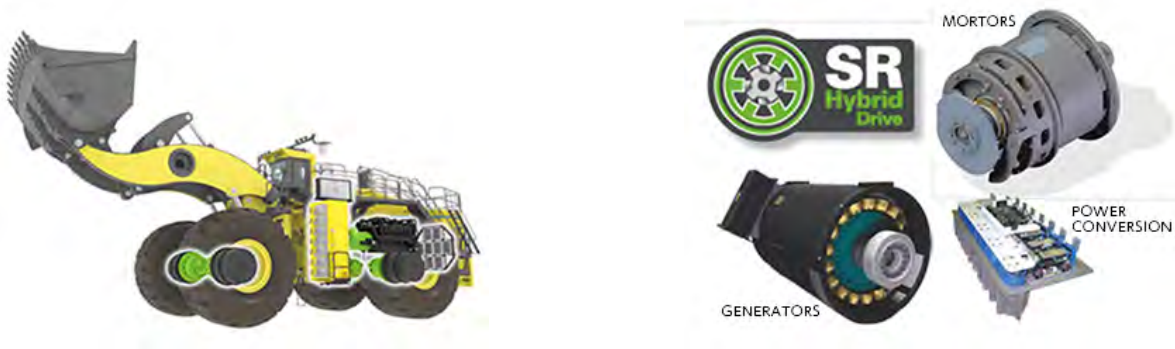
Biodiversity Project providing homes to wildlife



Storm Water and Wastewater trickling filtration unit service home to water life

■ Manufacturing environmental friendly products

he Longview Operations produces a wide array of products which are designed to be environmentally friendly, of which the SR Hybrid Drive Wheel Loaders leading the way. In addition, lower emission engines are used as well as oil hydraulic systems are replaced in applicable locations with electric drive systems. The picture below is an example of how KMC's Longview Facility continues to utilize innovation to ensure that its products are environmentally friendly in the applications they are used in.



"Environmental friendly" SR Hybrid Wheel Loaders

In Summary, KMC's global Environmental Compliance Management System which includes KMC's Sustainability Program has been extremely successful in its implementation across our worldwide facilities. The Longview Facility has enjoyed a long and proud tradition of eliminating environmental risk to the business while providing a World Class Sustainability Program as a critical element in its global Environmental Compliance Management System. While KMC and the Longview Facility can boast of many significant achievements, Environmental Sustainability is an on-going process which KMC strives for continuous improvement.

Pursuing Environmental Management

Komatsu's Relationship with the Environment

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

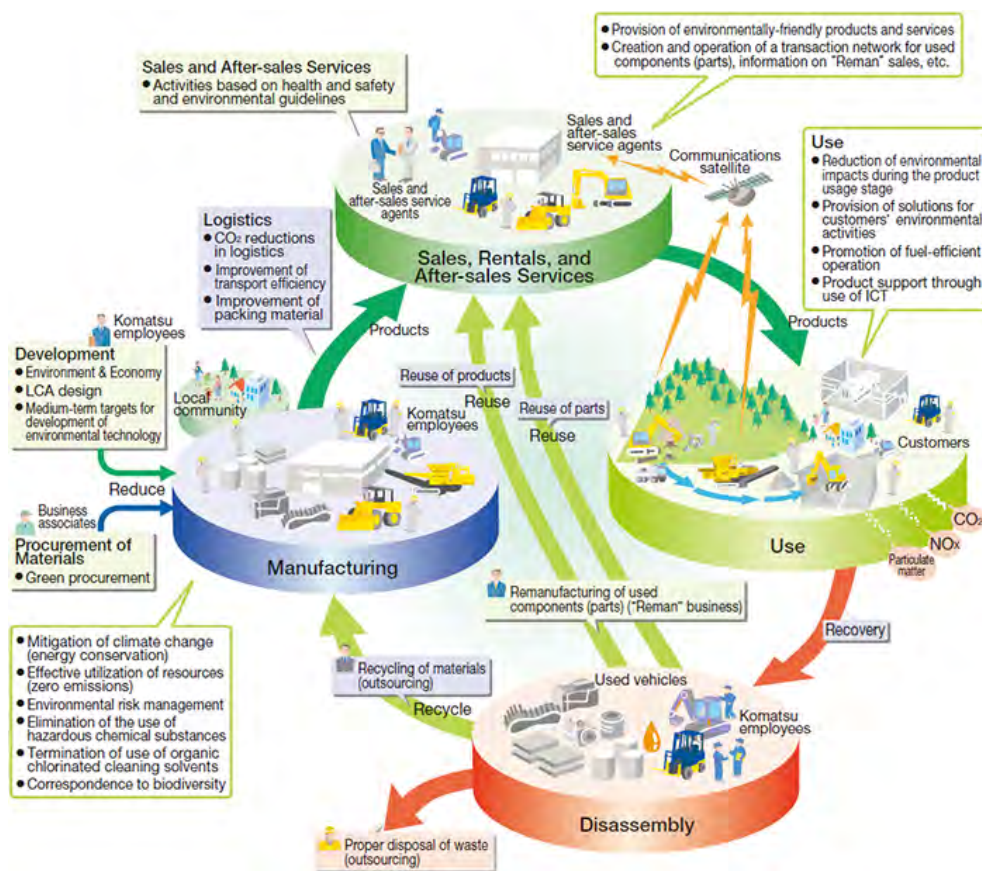
In recognition of the fact that our business activities affect the environment on a regional and global level, we, at Komatsu, have placed the focus on the following four key areas:

1. Climate Change
2. Establishment of a Sound Material-Cycle Society
3. Conservation of Air, Water and Other Natural Resources 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

- Contributions to Realization of Sustainable Society,
- Simultaneous Realization of Environmental and Economic Performance, and
- Observance of Corporate Social Responsibility.

Relationship of the Komatsu Group's Business Activities with the Environment



Komatsu Earth Environment Charter

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 CO₂ 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, procurement, 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.

Setting Mid- and Long-Term Objectives and Progress

While long-term objectives for CO₂ reduction were set for the world at COP21 in 2015, we set additional medium and long-term objectives in order for Komatsu to further contribute to climate change initiatives. We determined FY2016 as the starting point to take action based on these objectives.

Through assessing the CO₂ generated in the life cycle of our construction equipment products, we found that CO₂ emissions during the use of our construction equipment make up approximately 90% of total emissions. Therefore, we are working on reducing CO₂ emissions over the entire life cycle of our construction equipment, and have set fuel efficiency goals for construction equipment products that are to be achieved by 2030.

With regards to the reduction of CO₂ for domestic production, we have considered the electricity situation that resulted from the Great Eastern Japan Earthquake in 2011 and have set increasingly stringent objectives. In addition to the targets set for CO₂ reduction, we have also set targets for our domestic and overseas factories regarding the amounts of waste generated and the amounts of water consumption in order to promote efficient use of resources. Finally, we set Mid- and Long-Term Objectives up to 2030 for CO₂ in logistics. Furthermore, we have announced an increase in the promotion of effort towards ESG in our medium-term management plans (FY2016-2018), with Product's CO₂ emissions reduction rate per unit quantity of work set as key performance indicators.

Pursuing Environmental Management

Mid- and Long-Term Objectives

Independent Practitioner's Assurance 

Area	Object	Application	Index	Base Year	Mid- and Long-Term Objectives (reduction rate)		Progress (results) FY2017
					2020	2030	
Production	CO ₂	Japan	Improvement rate per unit of production	2000	57%	65%	39.2%
		Overseas	Improvement rate per unit of production	2010	32%	40%	26.2%
	Waste	Japan	Improvement rate per unit of production	2010	10%	20%	7.9%
		Overseas	Improvement rate per unit of production	2010	10%	20%	3.8%
	Water	Japan	Improvement rate per unit of production	2010	40%	50%	42.7%
		Overseas	Improvement rate per unit of production	2010	10%	20%	40.7%
Logistics	CO ₂	Japan	Improvement rate per unit of production	2006	32%	39%	29.2%
		Overseas	Improvement rate per unit of production	2011	13%	22%	- 5.8%*
Construction equipment products performance	CO ₂	Hybrid Hydraulic Excavator	Fuel Consumption Reduction Rate	2007	40%	45%	36%
		Normal Hydraulic Excavator (non-hybrid)			20%	25%	3-11%

* Minus indicates an increase

Pursuing Environmental Management

Additional Objectives for Mid-Term Management Plan

Independent Practitioner's Assurance 

Area	Object	Application	Index	Base Year	2025 Objectives (rate of reduction)	Progress (results) FY2017
CO ₂ during construction equipment usage	CO ₂	Construction equipment produced worldwide	Improvement rate per unit of production	2007	25%	7.4%

SBT (Science-Based Targets) Approved

Komatsu's CO₂reduction objectives have been certified by SBT as of April 11, 2017. SBT (Science-Based Targets) is an initiative that involves “setting goals that are compatible with science.”

The COP21 (Paris Agreement) marked the introduction of a new set of CO₂reduction objectives that were submitted by various countries. However, even with the summation of target values, it was found that it would be impossible for the increase of average global temperatures in 2100 to be stay within 2°C (as compared to temperatures before the Industrial Revolution).

Therefore, after a detailed examination by the businesses of the world, reduction objectives have been reassessed and SBTi (SBT initiative: CDP, Global Compact, WRI, WWF) is supporting and approving SBTs to reach the goal of an increase of less than 2°C.

Komatsu 's SBT meets the requisites of the temperature increase of less than 2°C scenario.



Komatsu 's SBT are as follows


1. SCOPE1+2: Base unit -49% (Target Year 2030; Base Year 2010)
2. SCOPE3: Total -46% (Target Year 2030; Base Year 2012)

* Note: While Komatsu's 2015 medium and long-term objectives (2020 and 2030 respectively) differ from SBTi in terms of a few requisite conditions (such as using the same base year for assessing both domestic and overseas operations) and target values, the targeted rates of reduction are comparatively equal.

Environmental Action Plan and Results for FY2017

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.

The detailed Environmental Action Plan and Results for each field are as follows

› [Environmental Action Plan and Results for FY2017 \(Full\)](#) (148KB) 

› [Environmental Management \(35KB\)](#) 

› [Research and Development \(63KB\)](#) 

› [Manufacturing \(60KB\)](#) 

› [Procurement and Logistics \(79KB\)](#) 

› [Sales and After-sales Services \(40KB\)](#) 



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Relationship between Business Activities and the Environment

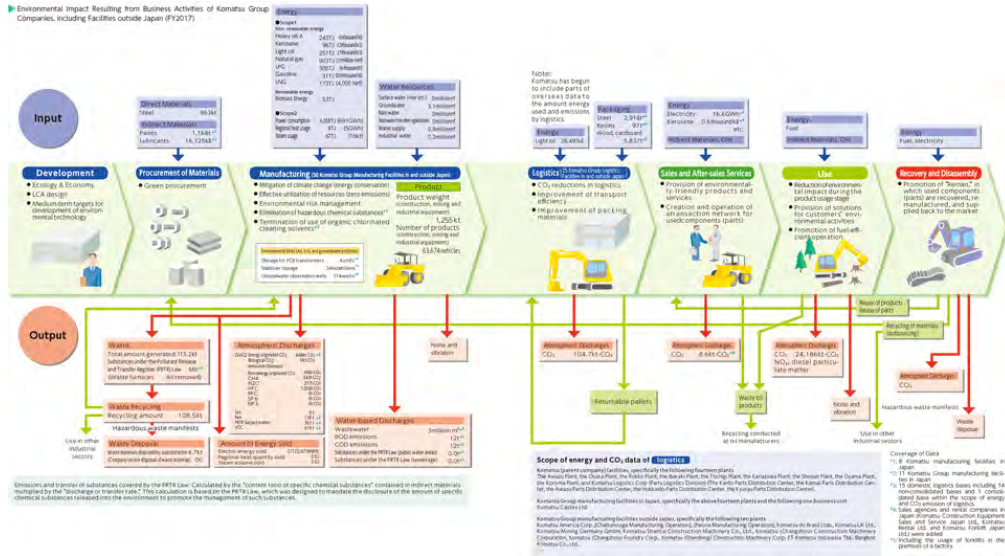
The Komatsu Group procures various parts and materials and, through the manufacturing process, utilizes the earth's resources, including raw materials, water, energy, and chemical substances, among others, to provide products to customers. Such business activities have the potential to impact the environment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

The Komatsu Group will continue to provide high value-added products and services while assessing the environmental impacts resulting from its business activities, formulating medium- and long-term objectives, and introducing measures to reduce such impacts.

Pursuing Environmental Management

Environmental Impact Resulting from Business Activities of Komatsu Group Companies, including Facilities outside Japan (FY2017)

Independent Practitioner's Assurance

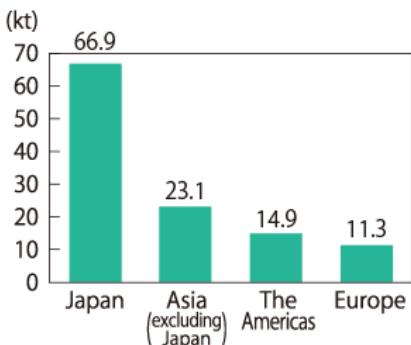


Environmental Impact Resulting from Business Activities of Komatsu Group Companies, including Facilities outside Japan (FY2017)(796KB)

Environmental Impact Indicators by Region

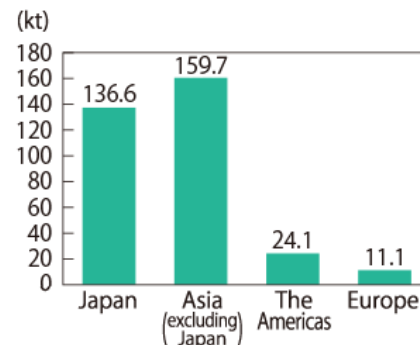
Independent Practitioner's Assurance

Scope 1 : CO₂ emitted directly by manufacturing facilities



(by using generators, boilers, etc.)

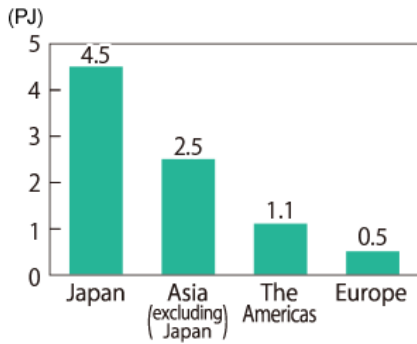
Scope 2: CO₂ emitted indirectly by manufacturing facilities



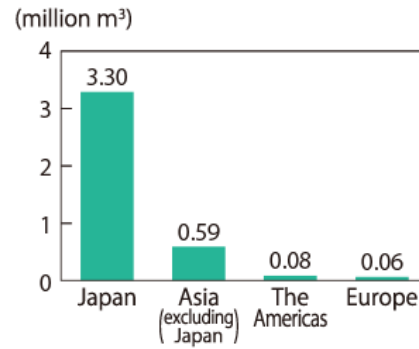
(by purchasing electricity, steam and hot water)

Pursuing Environmental Management

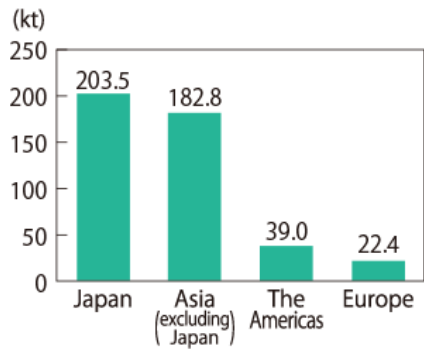
Energy



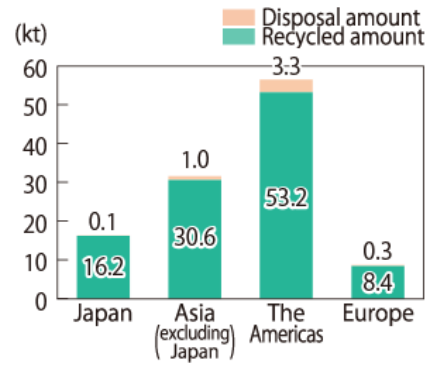
Water Resources



CO₂

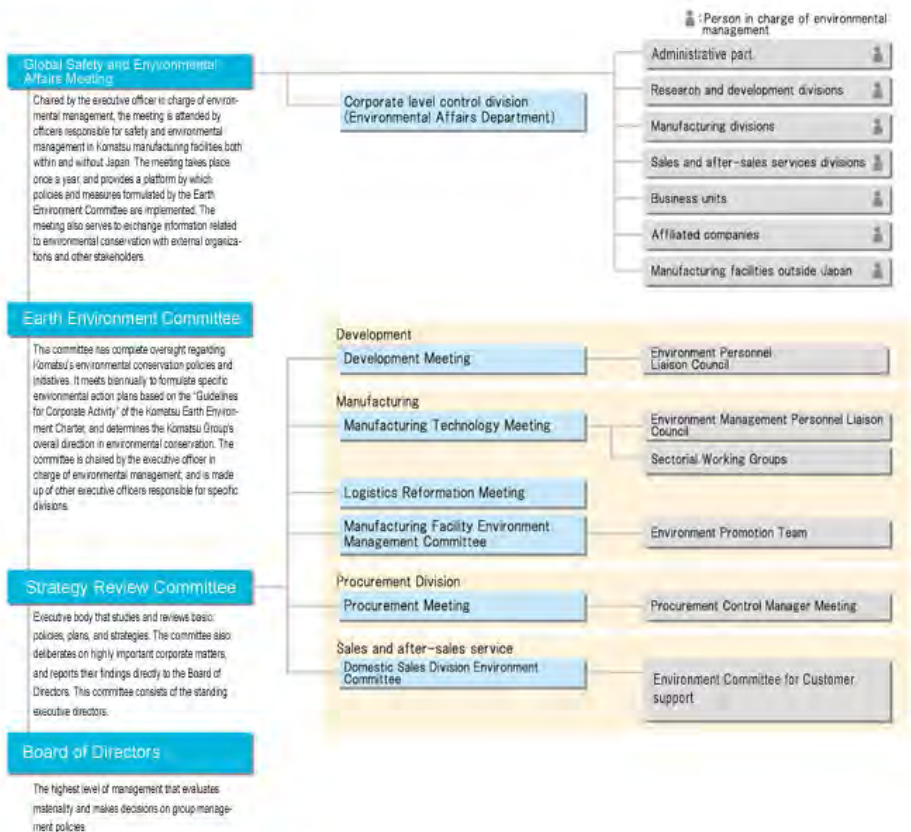


Waste



Pursuing Environmental Management

Organizational Chart of the Environmental Management Structure



Acquiring ISO14001

Komatsu has implemented a Group-wide initiative to acquire ISO14001 certification, an international standard for environmental management systems. The objective is to enhance management quality by strengthening systematic steps towards environmental conservation.

Since 1997, several of our domestic and foreign manufacturing facilities received certification. In FY2005, four plants belonging to our parent company, Komatsu Ltd. (Awazu, Osaka, Mooka, and Oyama), acquired integrated certification.

We further added to this number in FY2007, with our major affiliates in Japan and non-certified non-manufacturing facilities (notably the head Office) receiving integrated certification in May 2008, allowing us to achieve integrated certification as a Group.

From 2017, we carried out the same certification acquisition activities for our sales and service divisions, and acquired certification for the 2015 ISO 14001 standards in the Komatsu Construction Machinery Sales and Komatsu Rental divisions in March 2018.

As of FY2015, we have achieved certification for 100% of our major production sites situated overseas.

ISO14001 Integrated Certification



Scope of the Integrated Certification in Japan

[Scope of the Integrated Certification in Japan \(79KB\)](#)

Environmental Policy of Domestic plants

[Awazu Plant \(44KB\)](#)

[Kanazawa Plant \(47KB\)](#)

[Osaka Plant \(72KB\)](#)

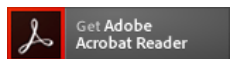
[Oyama Plant \(65KB\)](#)

[Ibaraki Plant \(13KB\)](#)

[Koriyama Plant \(50KB\)](#)

[Hiratsuka district \(14KB\)](#)

[Environmental Policy Test Engineering Center \(60KB\)](#)



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Environmental Audit

Environmental Audit of affiliate companies in Russia and China

In line with our commitment to environmental conservation, we have been conducting regularly scheduled compliance risk audits of our overseas affiliate companies since 2007. In 2017, we conducted environmental audits at our affiliates in Russia (KMR) and China (KCF).

Our comprehensive auditing procedure begins with the assessment of a check sheet that our affiliate company completes. We then begin an audit of environmental activities and compliance to legislative regulations, supported by the chief of environmental matters of our main domestic plant. In Russia(KMR), we were able to collaborate with external Russian consultants to obtain a unique local perspective in our auditing.

We continue to carry out follow-ups checks at areas where audits have already been completed, and plan to conduct further environmental audits of our affiliates in other regions.



Environmental Audit at KIPL

Past Environment Audits

Year	Area	Year	Area
2007	China	2013	United States
2008	—	2014	United States and Brazil
2009	Thailand and Indonesia	2015	Thailand
2010	India	2016	India and Indonesia
2011	Brazil	2017	Russia and China
2012	Russia and Czech Republic		

Promoting Environmental Activities at Group Sales and Rental Agencies

Komatsu continues to promote safety and environmental improvement activities for the sales and services departments. In FY 2017, we carried out activities to strengthen the awareness of environmental management and support activities for improvements centered on the company's worksites.

Acquisition of ISO 14001 Certification

To strengthen the awareness of environmental management at sales companies and other companies, we implemented activities to qualify for the international standard ISO 14001 on the environmental management system, as planned at Komatsu Construction Machinery Sales and Komatsu Rental in FY 2017, and have successfully received certification in May 2018. With the integration of three sales companies in FY 2018, we will continue with the process to add a lift business division as Komatsu Customer Support Co., Ltd. so that all sales companies can make unified environmental improvement efforts.

Activities Based on the Environmental Guidelines for Sales Agencies

Last year, we distributed our “Environmental Guidelines” to our sales and rental company sites, which summarized the matters and standards to be followed in the management of waste disposal, waste-water treatment, noise vibration, and other matters deeply related to environmental conservation. This fiscal year, we updated the information regarding the amendment of laws and regulations, and required upper-management and the representatives in charge of each company to personally visit each site to ensure compliance with environmental guidelines at the different worksites.

Appropriate Discharge of Waste

Our construction machine sales department's waste management system uses unified management for electronic manifests and a centralized management process for consignment contracts and permits to create a system of unified management that allows us to reduce the amount of man-power hours spent on management. We plan to introduce this system to our lift/rental business division by FY 2018.



Environmental education at a group sales agency

Through this multi-pronged approach, we have steadily introduced a general mindset of environmental awareness into our construction machine and lift/rental business divisions, which has rectified problems on a general scale.

Mitigating Climate Change through Products and Services

Tier4 Final Compliant Models Released

In 2017, Komatsu released one vehicle model after another that greatly reduce nitrogen oxide (NOx) and particulate matter (PM) emissions that meet Japanese (Emissions from Non-Road Special Motor Vehicles 2014 Standards), North American (EPA Tier4 Final), and European (EU Stage IV) emissions controls for Hydraulic Excavators, Bulldozers, Dump Trucks and Wheel Loaders. These models are equipped with newly developed next-generation engines that result in construction machinery that are clean and fuel efficient, with excellent durability and reliability.

Below are some examples.

Medium-sized hydraulic excavator “PC 200/210 (LC) - 11”

Komatsu has incorporated the latest advancements in technology to release a medium-sized hydraulic excavator “PC 200/210 (LC) - 11” that is compliant with the 2014 off-road law standards. These models greatly reduce the emissions of nitrogen oxide (NOx) and particulate matter (PM). In addition, by further evolving the total vehicle control (machine control) that optimizes control of the main unit, and adopting an auto idle stop function, PC200/210 (LC) - 11 achieves a high levels of efficiency in terms of productivity and fuel consumption. When compared to the fuel consumption of our previous models, test results show that fuel consumption has decreased on average by 6%. (Testing is performed according to company standards)



PC200-11

[Main Specifications]

Item	PC200-11	PC200LC-11	PC210-11	PC210LC-11
Machine Mass (kg)	19,800	21,200	21,800	22,700
Engine rated output net (kW/min ⁻¹)	123/2000	123/2000	123/2000	123/2000

Mitigate Climate Change

Medium size bulldozer “D51 PX-24”

Komatsu launched a medium-sized bulldozer “D51 PX-24” that is compliant with the 2014 off-road law standards. This model is equipped with a new generation engine that dramatically reduces emissions of nitrogen oxides (NOx) and particulate matter (PM), Electronically controlled hydraulic transmission controls low speed matching between the engine and HST pump, two operational modes (P mode and E mode), and an automatic idle stop function, etc., it achieves a high level in both productivity and fuel consumption performance. According to our test standards, using the D51 PX-24 saw an increase in productivity by 10% and a reduction in fuel consumption by 10%. This model comes with a display monitor that adopts a clear, easy-to-see high-definition 7 inch liquid crystal display (LCD), and also supports energy saving operations by displaying eco guidance etc.



D51PX-24

*1 HST : Hydro-Static Transmission

[Main Specifications]

Item	D51PX-24
Machine Mass (kg)	13,620
Engine rated output net (kW/min ⁻¹)	97.6/2200

Wheel loader “WA 200 - 8”

Komatsu launched the wheel loader “WA 200 - 8”, a model that comes equipped with a new generation engine that dramatically reduces the emission of nitrogen oxide (NOx) and particulate matter (PM). It is compliant with the 2014 off-road law standard, and utilizes a combination of its engine, a validated variable capacity pump, and an electronically controlled hydraulic transmission (HST * 1) to achieve a 4% increase in both productivity and fuel efficiency compared to our conventional machines (according to our test standards).



WA200-8

*1 HST : Hydro-Static Transmission

Mitigate Climate Change

[Main Specifications]

Item	WA200-8
Machine mass (kg)	10,135
Engine rated output net (kW/min ⁻¹)	94.0/2000

ICT hydraulic excavator “PC 200i / PC 200 LCI-11”

Komatsu launched the 2014 off-road law standard compliant ICT hydraulic excavators “PC200i-11” and “PC200LCI-11”, alongside a smart construction support contract. We are constantly engaged in the advancement of machine control technology through “intelligent machine control” systems that allow for the control of different components of a machine (boom, arm, bucket etc.). It is controlled by calculating the position of the bucket cutting edge using the Global Navigation Satellite System and correction information and collating it with the construction design data, which allows us to improve on control functions from conventional machines (such as automatic landing assistance). One of our newest functions enables bucket angle retention control, which we are confident will reduce construction time and improve productivity significantly.

Through the adoption of an after-treatment system for exhaust gas, our excavator is able to greatly reduce the emissions of nitrogen oxide (NOx) and particulate matter (PM). It also comes replete with features such as KomVision (a machine peripheral camera system), an auto idle stop system, and an automatic lock system on the locking lever. We are proud to announce the release of this state-of-the-art hydraulic excavator, and are confident in its abilities to strengthen environmental conservation, general safety, and ICT.



PC200i-11

[Main Specifications]

Item	PC200i-11	PC200LCI-11
Machine mass (kg)	19,800	21,200
Engine rated output net (kW/min ⁻¹)	123/2000	123/2000

Mitigate Climate Change

Medium hybrid hydraulic excavator “HB 205/215 (LC) -3”

Komatsu has launched a 2014 off-road law standard compliant medium-sized hybrid hydraulic excavator “HB 205/215 (LC) -3”. It is equipped with a new generation engine, which dramatically reduces the emission of nitrogen oxide (NOx) and particulate matter (PM). Advanced hybrid system features improved durability* New hybrid engine* totally electronic control of hydraulic equipment

According to our testing, this has allowed us to reduce fuel consumption by 13% when compared to our previous hybrid machine, and a tremendous 30% when compared with our conventional standard machines.



HB205-3

[Main Specifications]

Item	HB205-3	HB205LC-3	HB215-3	HB215LC-3
Machine mass (kg)	20,000	21,400	22,100	23,000
Engine rated output net (kW/min ⁻¹)	110/2000	110/2000	110/2000	110/2000

Hydraulically driven forklifts “FH100 / FH120 / FH135 / FH160-1”

Komatsu launched the 2014 off-road law standard compliant, hydraulically driven forklifts “FH 100 - 1”, “FH 120 - 1”, “FH 135 - 1”, and “FH 160 - 1”.

These four models are equipped with a new generation engine that greatly reduces emissions of NOx (nitrogen oxides) and PM (particulate matter). According to our testing, we were able to reduce fuel consumption during high-load operations by up to 30% compared with our conventional model (torque converter type vehicle) by adopting a unique FH series hydraulically driven transmission “Electronically controlled hydraulic transmission (HST * 1)”, a hydraulic system “variable capacity pump CLSS * 2” that utilizes engine output without waste, and a control system



FH160-1

*1 HST : Hydro-Static Transmission

*2 CLSS : Closed-center Load Sensing System

Mitigate Climate Change

[Main Specifications]

Item	FH100-1	FH120-1	FH135-1	FH160-1
Machine mass (kg)	13,960	15,540	16,720	18,500
Engine rated output net (kW/min ⁻¹)	100/2200	100/2200	100/2200	100/2200

Reduction in CO₂ Emissions of Construction Equipment

The main bulk of CO₂ emissions produced throughout the lifecycle of our construction equipment is centered on product operation, during which approximately 90% of emissions are produced. We have acknowledged this fact, and are working to reduce these operational emissions through three different initiatives: “Dantotsu Products”, “Dantotsu Service”, and “Dantotsu Solutions”.

- ▼ Step1: Reduction of CO₂ Emissions through Dantotsu Products
- ▼ Step2: Reduction of CO₂ Emission by Products through Dantotsu Service (KOMTRAX)
- ▼ Step3: Reduction of CO₂ Emissions for Overall Construction Work through Dantotsu Solutions (SMART CONSTRUCTION using ICT Construction Equipment)

Step1: Reduction of CO₂ Emissions through Dantotsu Products

We provide products which have been designed to operate with great fuel efficiency while reducing gross CO₂ emissions. Komatsu pioneered the creation and introduction of the hybrid hydraulic excavator, marked as the first of its kind to be introduced into the market.

These hybrid construction machines have been certified by the Ministry of Land, Infrastructure, Transport and Tourism of Japan as a “Low Carbon Type Construction Equipment.”

As of April 2018, a total of 12 of our hybrid models have received such certification, such as the HB205-2, HB215-2, HB335-3, and HB365-3.

In addition to this, another 11 of our product models (including the bulldozer D155AX-8, the hydraulic excavator PC300-11, the wheel loader WA470-8) have been certified to meet the Ministry of Land, Infrastructure, Transport and Tourism's “Construction Machines Fulfilling Fuel Economy Standards” signifying these products as construction equipment with great fuel efficiency.



HB335-3

Step2: Reduction of CO₂ Emission by Products through Dantotsu Service (KOMTRAX)

The Komatsu Tracking System “KOMTRAX” is a system developed by Komatsu that automatically gathers the operational information/health information of our construction vehicles that operate all over the world, making it possible to then monitor/manage /analyze the vehicles remotely. Information with regards to operation times, fuel consumption, and other such relevant data is communicated to our customers via the internet, which is then analyzed to create opportunities for improvement. This enhanced operational efficiency helps to reduce fuel consumption, which results in a reduction in overall CO₂ emissions.

Step3: Reduction of CO₂ Emissions for Overall Construction Work through Dantotsu Solutions (SMART CONSTRUCTION using ICT Construction Equipment)

In 2013, Komatsu introduced the world’s first automatic blade control ICT bulldozer, D61PXi-23, to the North American, European, and Japanese markets. Following this, in 2014, Komatsu developed and released a hydraulic excavator with semiautomatic control functions (PC210LCi-10 for North America and Europe, and PC200i-10 for Japan). Preliminary calculations based on in-house testing were promising, with construction data for ICT hydraulic excavators showing that fore-slope shaping work using the PC200i-10 resulted in an approximate reduction of 30% in fuel consumption. In addition, the same testing showed that ICT bulldozers (like the D61DXi-23) used in land preparation work resulted in an approximate reduction of 25% in fuel consumption. Our testing with hydraulic excavators also showcased a significant decrease in CO₂ emissions.

To consolidate our efforts in this sector, Komatsu is implementing “SMART Construction”, a system that uses ICT-type construction machines alongside drones and 3D scanners to take real-time topography measurements. This initiative helps showcase the efficiency of our machines by recording progress in construction sites and other relevant performance indicators.

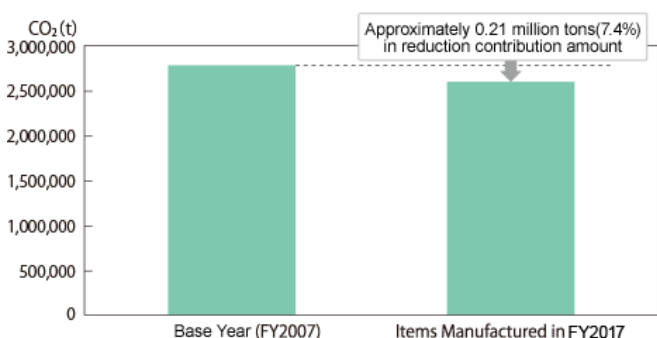
Reduction of CO₂ Emissions from Construction Equipment (Estimate of Amount of Reduction Contributions)

In Komatsu's Mid-term Management Plan (FY2016 - FY2018), we set the goal of achieving a total of 25% reduction by 2025 in CO₂ emissions per unit of work from construction equipment, compared to our base year of FY2007. In order to assess our progress towards achieving this target, we have set up a number of key performance indicators, such as CO₂ reduction resulting from fuel efficiency, work efficiency, and equipment capability as compared to FY2007.

Steady progress has been made, and we found that the machines manufactured in FY2017 achieved a reduction of 7.4% in CO₂ emissions as compared to our base year. Constant operation of these machines for a year (about 1200 hours) would result in an overall reduction of 210,000 tons of CO₂, an equivalent of approximately 45% of Komatsu's total manufacturing plant CO₂ emission in FY2017.

Independent Practitioner's Assurance 

CO₂ emissions for operation time of one year (ton-CO₂)



Operation for one year: estimated as 1200 hours

Introduction of the new medium-sized servo press “H2FM series” to the market

Komatsu Industries Co., Ltd. has developed and introduced a medium-sized servo press “H2FM630” that is compatible with productivity improvement and energy saving.

This machine enables high speed pendulum motion operation through the use of a newly developed “water cooled high torque servo motor”. When combined with a “High Speed Leveler Feeder” (Coil Supply Unit), complete synchronous operation becomes possible, thus achieving an increase of about 60% in productivity compared to current mechanical presses. (FIGS. 1 and 2)

Furthermore, by adopting Komatsu’s proprietary high-capacity capacitor energy storage system (Fig. 3), power consumption can be reduced by up to 55% (compared to a machine that does not utilize the same system). This allows users of our products to contribute greatly to energy saving initiatives.



H2 FM 630 and coil feeder

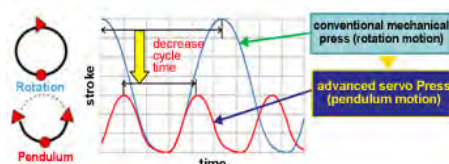


Fig. 1 Difference between pendulum operation and rotational operation

Development machine productivity

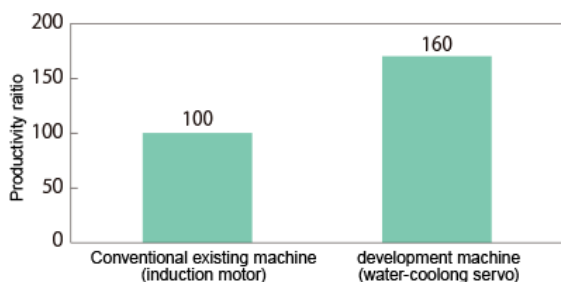


Fig.2 Comparison of production speed under the same specifications

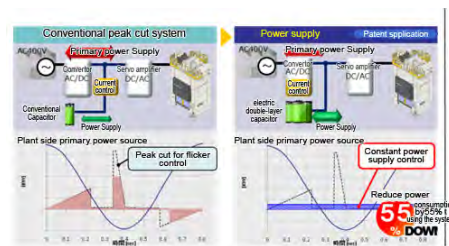


Fig.3 Komatsu energy storage system

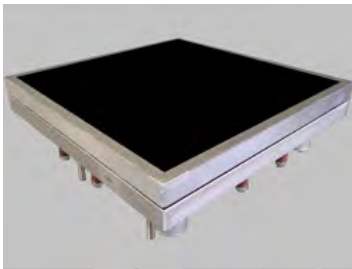
Mitigate Climate Change

Launch of Products that Apply Thermoelectric Generation

KELK Co. Ltd. began the manufacturing and selling of three types of products that apply thermoelectric generation. Through heart sources and specific application, these unique innovations are able to enhance convenience in numerous ways. The three products include: an “exhaust heat recovery unit” that generates electricity through the use of industrial waste heat from factories and incinerators while contributing to energy saving and CO2 reduction, a “self-contained power supply that can generate electricity with heat from fire and stove flames and use it to charge mobile equipment, and lastly the “Thermoelectric energy harvesting device” which can generate electricity using the minute heat of the surrounding environment simply by placing the device within a specific locale. While in the area, the device operates as a sensor, radio transmitter and monitoring device, which allows it to contribute to energy conservation and preventive maintenance by visualizing the condition of equipment and machinery.

In light of the fact that a tremendous volume of thermal energy emissions from “unused heat” is released in industrial and residential sectors, Komatsu is dedicated to ensuring the effective utilization of these emissions for the purpose of saving energy.

Through this dedication, we are thus acutely aware of the requirement for prompt responses to the needs of customers' with regards to thermoelectric conversions (across multiple situations and circumstances) more so now than ever before.



Exhaust heat recovery unit



Self-contained power supply



Thermoelectric energy harvesting device

Initiatives to Mitigate Climate Change in Business Operations

Reducing CO₂ Emissions in Manufacturing Operations

As a part of our efforts to mitigate climate change, Komatsu set mid and long term objectives in Japan and overseas operations for the amount of electricity, fuel gas, fuel oil, and other types of energy used in manufacturing operations. By using CO₂ emissions per unit of manufacturing value as our main indicator, we aim to proactively reduce the amount of CO₂ emissions per unit.

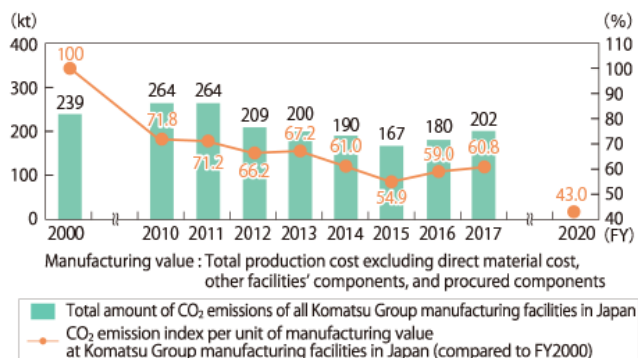
In 2010, in response to the climate change issues raised in the Post-Kyoto Protocol, we set a mid-term objective that we would see a reduction of 40% in CO₂ emission levels by 2015, as compared to levels in 1990. However, using the “cutting electricity use in half” activities that followed the Great East Japan Earthquake as an impetus, we have set an ambitious goal of a 54% reduction compared to FY2000 levels and pursued activities to reduce power consumption and achieved significant success. As a result, in February 2017, we received the “Kanto Bureau of Economy, Trade and Industry Director's Award” as a superior energy management business operator. From FY2016, we have set new mid- and long-term objectives for both domestic and overseas operations, and are moving forward with further improvement activities.

In FY2017, as a result of energy-saving activities undertaken based on the lateral spread of various production reforms, the CO₂ emissions per unit of manufacturing value was reduced by 39.2% compared to FY2000 level, up 1.8 point from the previous year. The mismatch between the increase in energy use by production rise and the increase in production cost resulted in the increase of emission per unit. CO₂ emission at Komatsu's overseas manufacturing sites have also been reduced by 26.2% compared to FY2010 as a result of fuel conversion and lateral spread of improvement examples from Japanese plants. In addition, the ratio of renewable energy including certificated electricity in power consumption up to 7.2% by installing solar power system at KIPL, India and BKC, Thailand. For FY2018, to achieve the mid-term objectives, we will add an idea for an improvement and work towards further reduction in CO₂ emissions per unit by updating buildings that are over 40 years old to building that incorporate the newest energy-conserving technology and increase the renewable energy such as solar power.

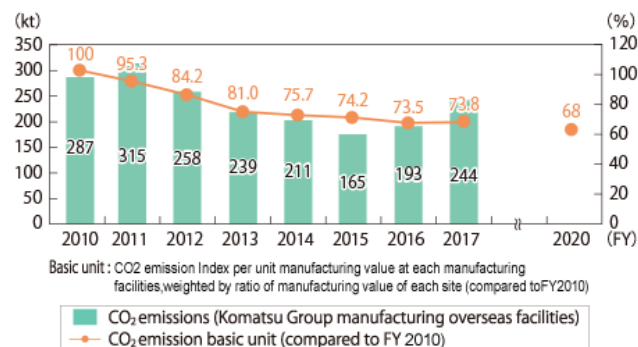
CO₂ emissions, energy indicators in production activities

Independent Practitioner's Assurance

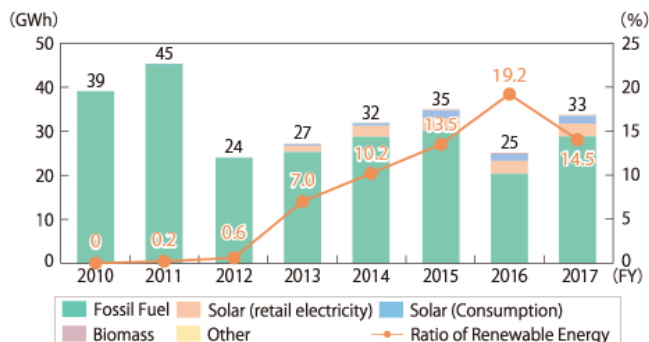
CO₂ emissions (Japan)



CO₂ emissions (Overseas)



Proportion of renewable energy for electricity self-generation



◆ Fiscal Year Energy Basic Unit Index

Region	Basic Unit Index
Japan	62.4
Asia	93.9
The Americas	83.8
Europe	76.4

* Index with base year 100

◆ Fiscal year 2017 Scope 2 CO₂ emissions (location standards, market standards)

Standard	CO ₂ (kt)
Location criteria	386
Market criteria	399

Mitigate Climate Change

Energy saving heat treatment factory (Osaka factory) that separates people and facilities, and takes safety and environment into consideration

In the Osaka factory, by concentrating the heat treatment process which had been dispersed in a new heat treatment plant, we improved energy efficiency by 38% (approx. 9,600 MWh / year) by 20% improvement in efficiency of production area and separation of heat source. It is realized. Especially in unmanned areas where heat treatment facilities are consolidated, we are saving energy and eliminating air conditioning and lighting. (However, necessary illuminance is secured for periodic furnace management) In addition, by adopting a convex roof, we promoted natural ventilation due to the temperature difference between the upper and lower sides, and we adopted indirect natural lighting from the north face. Meanwhile, we introduced geothermal air conditioning in the manned area. Since we can expect underground heat of around 18 °C throughout the year around the factory, we installed seven boreholes with depths of 100 m and exchanged geothermal energy to improve the efficiency of the water-cooled heat pump air conditioning system. In addition to sending the warm air staying in the upper part of the unmanned area to the manned area for use as a heating aid in winter, we have introduced lighting dimming control equipment using tablets.



New heat treatment plant



Unattended area viewed from manned area (production facility)



Energy saving effect by geothermal heat pump



Natural evocation utilizing lighting due to indirect nature maximum and negative pressure generated in indentations of the roof

Mitigate Climate Change

Certified as CDP “Climate Change” and “Water” A List Company

Komatsu was certified as a “Climate Change” and “Water” A list company in 2017 by CDP, an international nonprofit organization that provides environmental information disclosure system. These are given to companies recognized as global leaders in addressing climate change and water resource management. Under the request of 803 institutional investors holding assets exceeding 100 trillion US dollars, the CDP released A - D scores in the entire field of climate change, water and forest for over 3,000 major companies. In the “2017 A List”, 160 global companies were selected, among which 27 companies were evaluated as A score for both climate change and water, and only 6 companies were Japanese companies.

Komatsu has positioned “environmental activities as one of the highest priorities for management”, and the medium-term management plan “Together We Innovate GEMBA Worldwide - Growth Toward Our 100th Anniversary (2021) and Beyond - “Even with ESG (E: Environment, S: Society, G: Governance) as an important field we are active in active activities. In particular, in order to drastically reduce the CO₂ emissions of the entire life cycle, we will promote “smart construction” which makes use of “ICT construction machine” and “IoT” to realize the “future site” and production through “connection” We are committed to achieving a high level of energy conservation in the field and as the top leader in the industry, we will promote activities to realize a low-carbon society.



Reduction CO₂ Emissions in Logistics

CO₂ Emissions Reduction Conditions in Global Transport

(Basic Unit of CO₂ Emissions per Cargo Weight: kg-CO₂/ton)

In 2011, Komatsu began improving our data collection of CO₂ emissions from logistics operations for our 10 major international business locations. Combined with the improvements that were implemented in domestic locations from 2006, we have now implemented improvements in logistics operations on a globally consolidated basis at all 25 business locations.

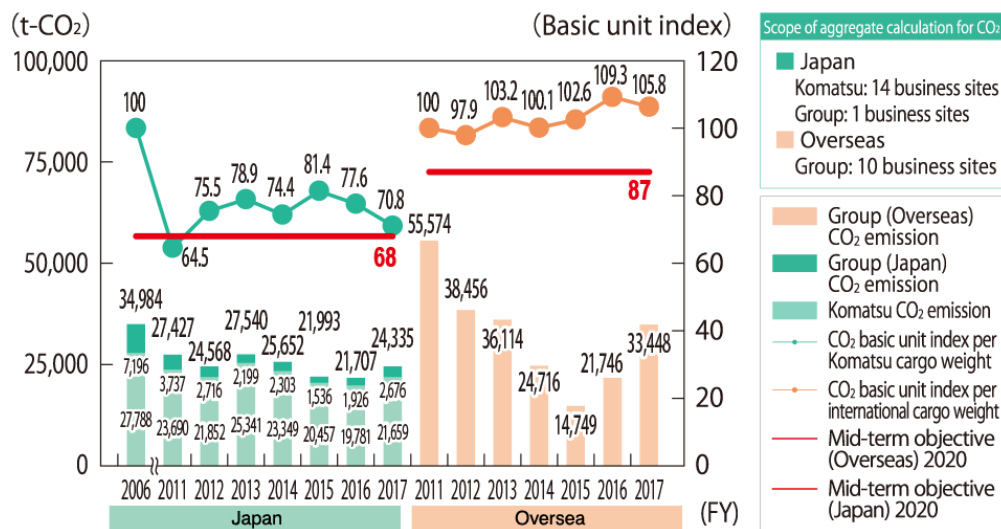
Domestically, we are continuing improvements with an emphasis on decreasing transportation distance through efficient use of the Kanazawa and Hitachi Naka Ports (which are located adjacent to manufacturing plants), as well as improving on long distance transportation by increasing the use of coastal shipping and railways (modal shift).

As a result, in FY2017 we achieved a reduction of 6.8point in CO₂ emissions per cargo weight when compared to emissions in FY2016. Our overseas operations also saw an improvement in the reduction of CO₂ emissions, with a decrease of 3.5point when compared to emissions in FY2016.

Independent Practitioner's Assurance 

Mitigate Climate Change

Global Shipment CO₂ Emissions Volume and Basic Unit



* A basic unit index is an index relative to the CO₂ emissions per cargo weight in a reference year (2006 for Japan, 2011 for Overseas) as 100.

CO₂ Improvement for Domestic Transport (Expansion of near port usage of export vehicles)

Promoting the Utilization of Kanazawa Port

Background

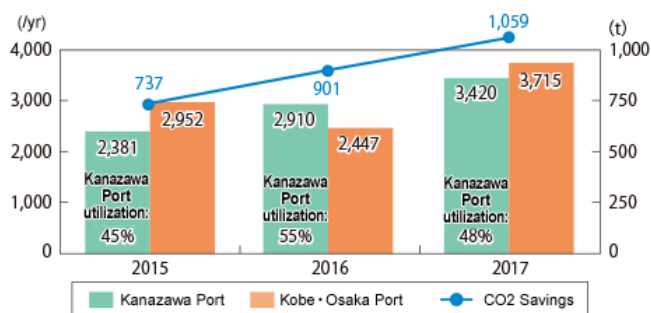
- Based on our vision for Komatsu as a company that is rooted in the local community, we initiated full scale use of Kanazawa harbor in 2008
- We engaged in activities that contributed greatly to the community while working to reduce CO₂ emissions, transportation costs, and improving the workload for truck drivers.

As a result of these initiatives, we are proud to report that activity at Kanazawa Port has increased dramatically.

In addition to this success, we were also able to reduce CO₂ emissions by 1059 tons in FY2017.



[Recent main body shipment (construction machines, presses) numbers and CO₂ suppression]



Mitigate Climate Change

Means of using Kanazawa Port

- Because the local port is located on the side of the Sea of Japan, the number of available flights and routes are limited when compared with major ports. (Number of boats to be operated: 4% of Kobe Port)
- There are three means by which Kanazawa port can be utilized, each with different characteristics. They are used accordingly depending on the cargo situation. (Utilization ratio for 2017: 48%)

	Means ①	Means ②	Means ③
	Masan Tran ship	Direct port calling together	Utilizing containers
Overview	Transport from Kanazawa Port to Masan Port (Korea)	Sail ships to Kanazawa harbor	Transport from Kanazawa Port to Busan PortSwitch to the ship at Busan Port
Route Image			
Percentage of Activity	84%	11%	5%
Type of Ship	RoRo ship (2 ship)	RoRo ship (1 ship)	Container ship
Requisites	Cargo preparation for scheduled.	Collected freight volume is required.	Small model only.
Destination	Limited area only.	Depending on the load in any region.	There are many choices.

Examples of initiatives currently underway (increase in the use of container ships)

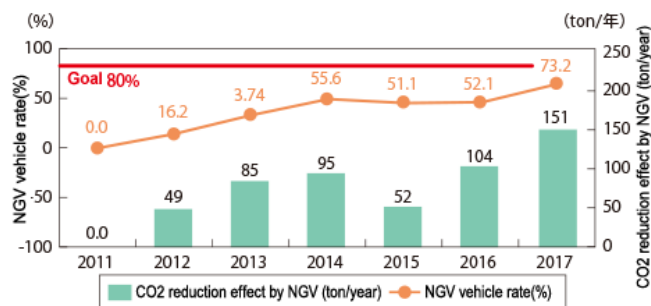


- Examples of utilization of dry containers (motor graders)

Overseas transportation • improvement in CO₂ emissions BKC (Thailand) Expansion of use of natural gas vehicles

NGV (Natural Gas Vehicles) are seeing an increase in popularity in BKC (Thailand), an overseas group company of Komatsu. The rate of NGV conversion (since its introduction) expanded to 73.2% in FY2017. Cumulative total CO₂ reduction at BKC was 536 tons - CO₂ (FY 2012 - FY 2017)
The Fiscal year 2017 CO₂ reduction amount of 151 (ton - CO₂) / year corresponds to 15.9% of BKC total emissions.

Mitigate Climate Change



Reducing CO₂ Emissions in Sales and After-sales Divisions, Main Partner Companies, and Non-manufacturing Divisions

Komatsu engages in continued efforts to assess and reduce the amounts of CO₂ emissions across all areas of operations. This encompasses not just our manufacturing plants, but also our sales and after-sales service divisions, main partner companies, and non-manufacturing divisions (like the head office and Technology Innovation Center). The table below summarizes the amount of CO₂ emissions and energy consumption in these divisions and companies.

CO₂ Emissions and Energy Consumption of Sales and After-sales Service Divisions, Main Partner Companies, and Non-manufacturing Divisions (FY2017)

Independent Practitioner's Assurance

	Main sales and after-sales service divisions			Main partner companies(96 companies)	Komatsu
	Sales of construction equipment	Rental	Lift		Non-manufacturing
CO ₂ (kt)	4.6	2.0	2.1	398.3	5.2
Crude-oil equivalent (1000k ℓ)	2.7	1.2	1.3	187.6	2.7

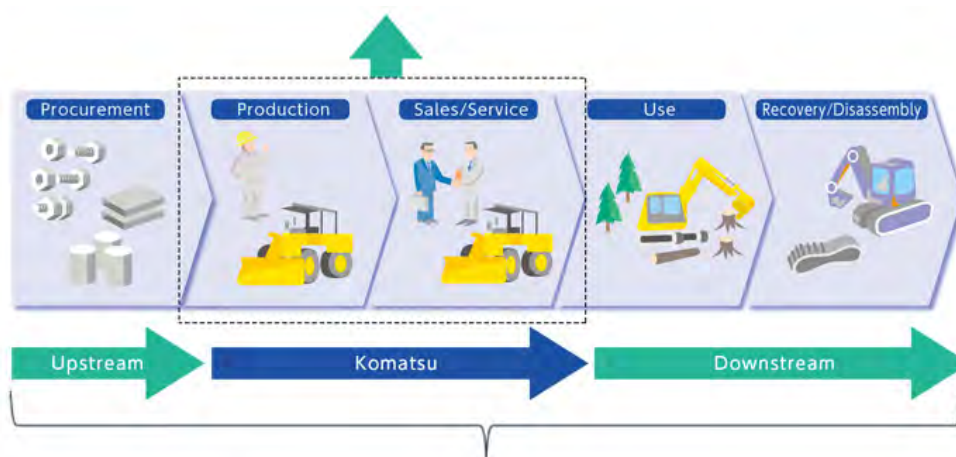
Amount of CO₂ Emissions by Scope 3

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In addition to CO₂ emissions from production / sales / service etc., Komatsu aims to collate data regarding CO₂ emissions from our entire supply chain, and reduce CO₂ emissions. For that purpose, Scope 3 CO₂ emissions are calculated each year.

Scope1:CO₂ directly discharged from Komatsu (e.g. CO₂ emissions during fuel combustion)

Scope2:Indirect emissions of CO₂ due to energy use in Komatsu (e.g. CO₂ emissions produced at power generation due to use of purchased electricity)



Scope3:Other indirect CO₂ emissions

(Example) Upstream: CO₂ etc. generated during manufacturing of purchased items Komatsu: Transportation • CO₂ emissions occurring during commuting, business trips etc.

Downstream: CO₂ emissions produced when using products, such as construction machinery

From live data gathered by KOMTRAX, Komatsu has gained perspective on the amount of CO₂ emissions (Scope 3 Category 11) produced by our products manufactured in FY2017 in operation world-wide.

The calculation was performed as follows.

Calculation of Emissions from Customer Use

Mitigate Climate Change

(1) Calculate the following by each model

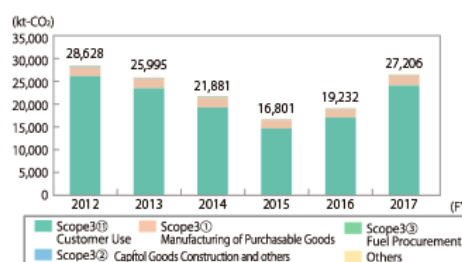
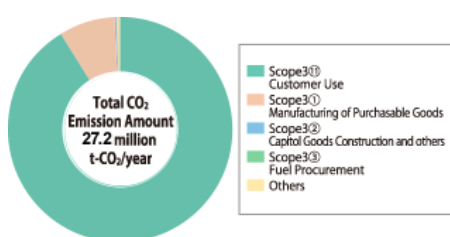
CO₂ emissions over the life of each model

$$= (\text{FY2017 Production Volume}) \times (\text{Fuel Consumption; L/kWh}) \times (\text{Engine Output; kW}) \times (\text{Engine Life; as product life; h}) \times (\text{CO}_2 \text{ Conversion Factor})$$

(2) Calculated for each model in (1) above, Total these values

* For models able to collect data on fuel consumption, KOMTRAX collected the actual values of fuel consumption and operating time from representative models of each size. We back calculated data from development for other models.

For others, including the 14 remaining categories, general CO₂ emissions was calculated. The result is shown in the pie chart below.



- *1 LCA refers to the environmental impact assessment method for individual products at each stage, from manufacture, transportation, sale, use, disposal, to reuse
- *2 Scope 1 refers to direct CO₂ emissions by operators (ex: fuel consumption)
- *3 Scope 2 refers to indirect CO₂ emissions by operators (ex: power purchase)
- *4 Scope 3 refers to CO₂ emissions by operators from within our supply chain (ex: emissions of product during operation, emissions from suppliers, transportation, business trips and commuting)

Calculating each category, the amount was calculated domestically or overseas except category(4). The amount of category (4) was total of domestic and a part of overseas. In category (3), a part of data in overseas was estimated. The amount of category (13) was included in category (11).

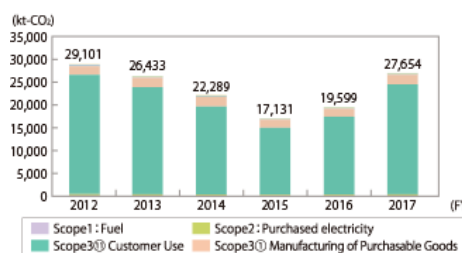
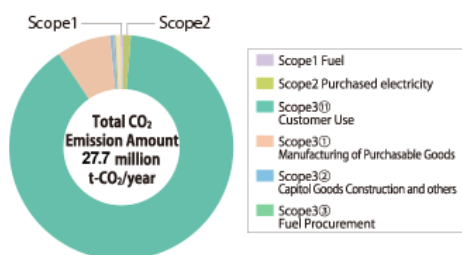
As evident from the results above, emissions during product use make up approximately 90% of total emissions.

From this, we can see that fuel-efficient products have a significant effect on reducing CO₂ emissions.

Komatsu is committed to developing hybrid construction machinery (improving fuel efficiency by 25%) and DANTOTSU products (over 10% improvement in fuel efficiency). In addition to this, we are accelerating the development and implementation of our ICT-based SMART CONSTRUCTION business.

In addition, the results of our assessments regarding LCA * 1 (Life Cycle Assessment) can be found in the pie chart below.

«Reference» Pie Chart of Scope1, 2, 3



Promoting Recycling

Development of our “Reman” Remanufacturing Business

Our “Reman” business involves the remanufacturing of used engines, transmissions, and other key components of construction and mining equipment into “Remanned” components. After confirming that these remanufactured parts are possessed of the same quality as newly manufactured components, we inject them back into the market. We currently promote the “Reman business at 12 “Reman” Centers worldwide.

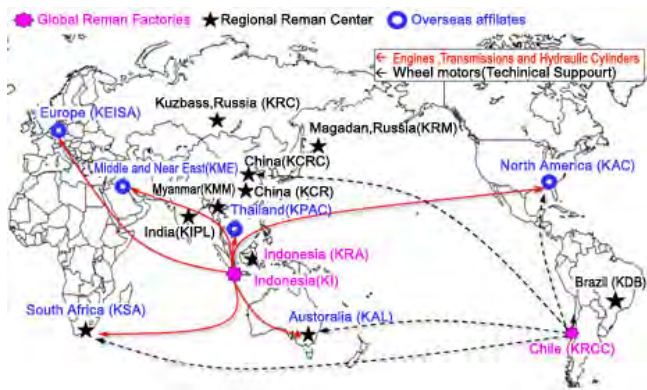
Reman (an abbreviation of remanufacturing) offers the following advantages to customers:

- Quality and performance that matches new components
- Lower cost for "remanned" components
- Reduced idle time for construction equipment because of adequate inventory of "remanned" components
- Resource conservation and waste reduction through reuse and recycling of components

We established PT Komatsu Indonesia (KI) as a global base, which supplies key components for large-size construction machinery and hydraulic cylinders like engines and transmissions. We also established PT Komatsu “Reman” Center Chile (KRCC) in Chile, which supplies components for electric dump trucks.

Additionally, Komatsu established PT KOMATSU REMANUFACTURING ASIA (KRA) in Indonesia to recycle all components of large-size construction machinery exclusively for the Indonesian market.

We have also established individual “Reman” centers for countries that are not part of our global supply chains (China, Russia, India and Brazil, Myanmar etc.).



Reman Factories and Centers map



Reman Center in Magadan of Far East Russia, established December 2016

Promoting Recycling

Providing Reman-related Information

We have constructed a system called “K-WINS”, which shares technical information about “Reman” through an interconnecting network (“Reman-Net”) of Komatsu “Reman” centers around the world. The data acquired from this system allows us to effectively develop our global “Reman” operations.

IC tags and two-dimensional bar codes are used to manage each item's remanufacturing history, and to track quality and durability information. This important information is reported to the Group, to help develop components with optimal service life.

Future Steps

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

- Developing parts for remanufacturing, oversized parts, etc
- Developing recycling-related technologies (assessment and measurement for reuse, remanufacturing worn-out parts, cleaning, heat treatment, etc.)

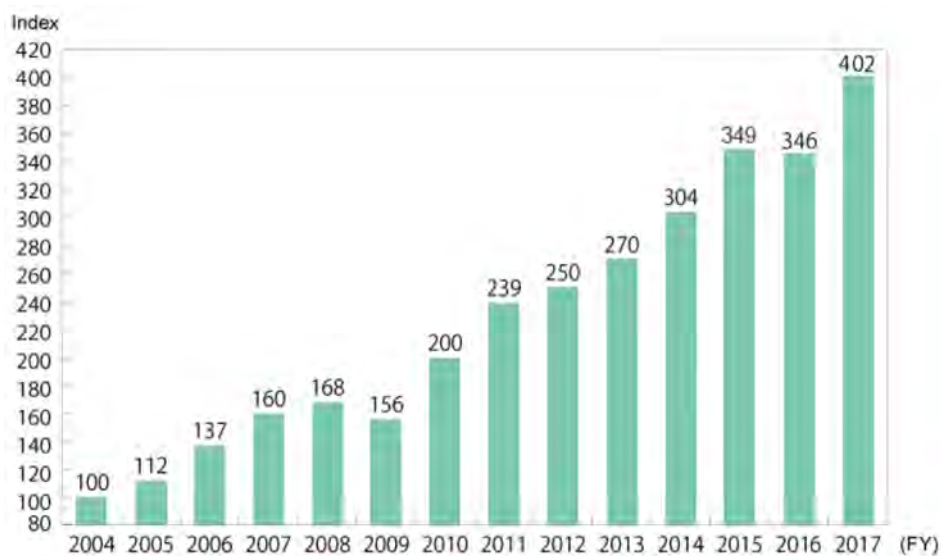
to reduce waste components, and thereby further increase reuse and recycling activities.

Reman Process



Promoting Recycling

Changes in Reman Sales (base FY2004 = 100)



Effective resource utilization activity in production

1.Waste

Komatsu's commitment to environmental conservation is not limited to “zero emissions” activities, but also extends to waste management procedures in our manufacturing operations.

Starting in FY2016, we set new mid-term objectives (refer to chart below) for both domestic and overseas manufacturing facilities pertaining to waste management. In order to meet these commitments, our operations have implemented maintenance and improvement initiatives in order to reduce the amount of waste generated per unit of production in our manufacturing facilities, as well as improving the recycling rate of our waste products.

By strict adherence to waste management policies, reducing waste production, separation of waste materials and increased conversion rates of waste materials to resources, we achieved a total reduction of 7.9% of waste generated per unit of production in domestic operations (compared to FY2010). However, due to a temporary increase in waste as a result of the reduction in inventory of roadbed materials and the temporal increase of wood debris due to growth in the production, our waste management performance has worsened compared to the previous fiscal year. Despite these setbacks, we were able to reach a record high of 99.8% in recycling rates. With regards to overseas operations, we saw an overall decrease of 3.8% in waste generation per unit of production compared to FY2010. Due to an increase in the amount of sand used for quality maintenance, this number is worse compared to our previous fiscal year. Recycling rates for overseas operations reached 95.2%, meeting our goals ahead of schedule.

We are aiming to achieve the mid-term objectives by the reduction per unit focusing the foundries accounting for almost half of waste generation both in domestic and overseas.

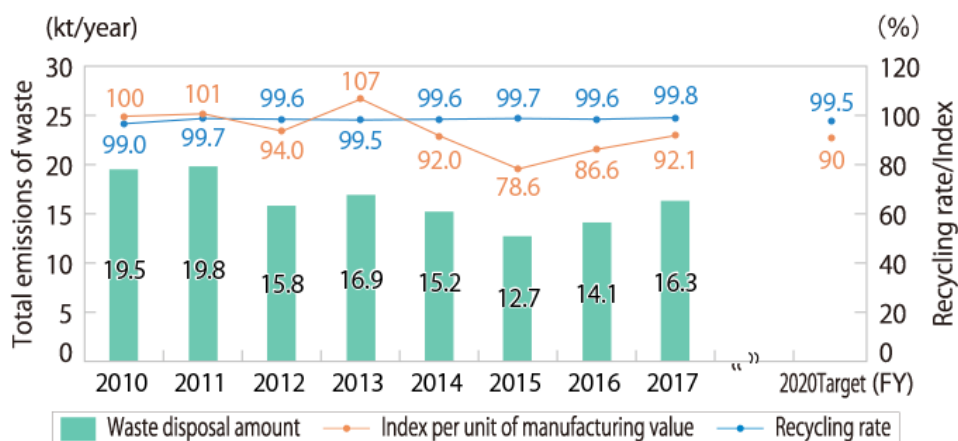
Promoting Recycling

	Sector	Base FY	Objective FY	Target Value
Reduction of Waste Generated Per Unit	Domestic	2010	2020	Over 10%
	Overseas			
Maintenance and Improvement of Recycling Rate	Domestic	-	Maintain	Over 99.5%
	Overseas	-	2020	Over 95%

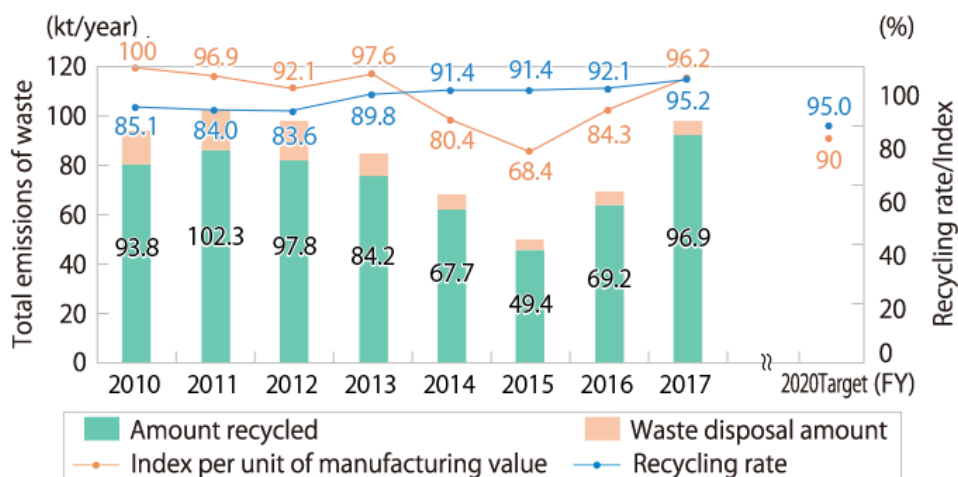
Waste indicators in production activities

Independent Practitioner's Assurance

Amount of Waste Generated in Japan (Data coverage: Komatsu Ltd. and the Komatsu Group manufacturing facilities in Japan)



Amount of Waste Generated in overseas (Data coverage: The Komatsu Group manufacturing facilities in overseas)



Promoting Recycling

2. Water Resources

In FY2016, we set new mid-term targets for water usage in our domestic and overseas manufacturing facilities, and are working tirelessly to reduce water consumption in our operations.

Our water-saving initiatives (reuse of water in processing and elimination of wasteful practices) have shown significant results in our domestic facilities, reducing water use per unit of manufacturing by a total of 42.6% compared to FY2010. These activities mostly took place in the Hokuriku region, which is possessed of a high capacity of groundwater. Despite the fact that we have satisfied our mid-term targets, our water usage worsened by 6.9 points as compared to our previous year. This was due to heavy snowfall in the Hokuriku region, which required the increased usage of groundwater for snow melting activities.

We achieved the mid-term objectives ahead of its original schedule by the effectiveness of our water manage initiatives in our overseas operations (purification of water discharges for recycling and the elimination of wasteful practice), which have reduced water use per unit of manufacturing cost by 40.7% compared to FY2010. We will continue to promote further water conservation across both domestic and overseas.

	Sector	Base FY	Objective FY	Target Value
Decrease in Water Used Per Unit of Manufacturing	Domestic	2010	2020	Over 40%
	Overseas			Over 10%

Water use indicators in production activities

Independent Practitioner's Assurance 

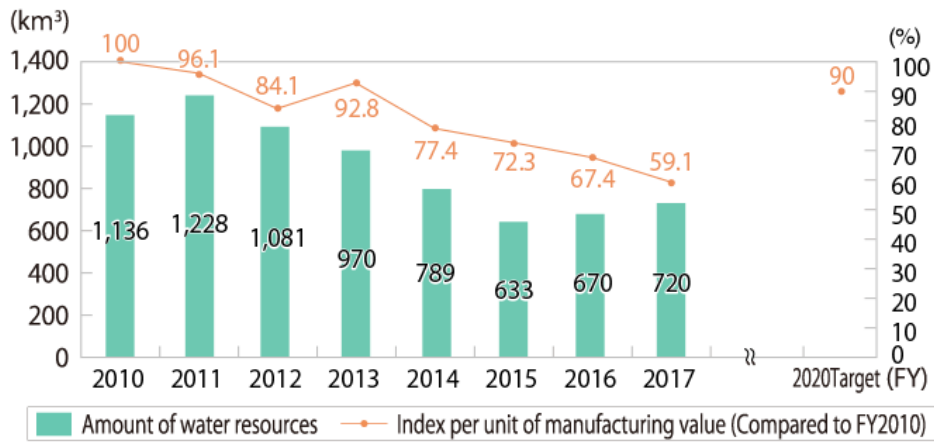
Amount of Waste Generated in Japan (Data coverage: Komatsu Ltd. and the Komatsu Group manufacturing facilities in Japan)

Amount of Water Resources Used (Domestic)



Promoting Recycling

Amount of Water Resources Used (Overseas)



Theme 2 : Developing People

96 Personnel Policy and Performance Appraisal System

102 Diversity Initiatives

107 Enhancing Work-Life Balance

111 The KOMATSU Way

114 Employee Training Structure

116 Strengthening Our "Gemba" Capability

119 Brand Management Initiatives

Personnel Policy and Performance Appraisal System

Here at Komatsu, we consider many aspects of our business to be valuable assets. Goods, money, information, and time are all irreplaceable facets of our day-to-day operations. However, the one resource that stands above all others in terms of value would be our employees. We are proud to maintain a culture that places our people at the forefront of our priorities, recognizing the importance of their roles in maintaining the quality of our products and the reputation of our company. Komatsu is thus dedicated to the development of our workforce, striving to foster an engaging work environment that provides opportunities for creativity and challenges to stimulate growth, all the while building on a relationship of mutual trust with our employees.

Global Personnel Policy

Komatsu is acutely aware of the differences pertaining to history and culture for each of the regions within which it operates. We are thus engaged in the creation of a personnel management system that tailors to the unique needs and circumstances of each region, whilst maintaining compliance with a set of basic policies as outlined below.

1. We shall respect each employee's fundamental human rights, inherent personality, individuality, and legally protected privacy.
2. We shall treat and appraise each individual employee in a fair and impartial manner. We shall not discriminate against any employee on the basis of nationality, race, religion, age, gender, physical or mental disability or other legally protected attributes that are irrelevant to his or her performance. We shall vigorously endeavor to promote equal opportunities for employment and eliminate harassment in the workplace.
3. We shall endeavor to provide employees with workplaces where they can seek a good balance between their private and professional lives, while effectively accomplishing their respective tasks with satisfaction and pride.
4. We shall endeavor to design and administer the system of human resource management in a manner that is most reasonable and persuasive to the employees. We shall make such systems open and clearly explain them to the employees to the maximum extent practicable.
5. Komatsu Group companies shall comply with all applicable laws and regulations governing employee rights in the jurisdictions in which they operate, and faithfully accommodate, wherever applicable, conversations or discussions with employees or their representatives.
6. We shall not tolerate child labor or forced labor.
7. Komatsu Group companies shall endeavor to offer to their respective employees those terms and conditions for employment that are sufficiently competitive in their respective regions..

Personnel System that Accurately Recognizes Employee Abilities and Achievements

Komatsu recognizes the importance of providing an engaging workplace environment that recognizes and accurately rewards the achievements of its employees. This allows our people to take pride in the work that they do, motivating them to strive for greater heights within and without the workplace. To that end, we have incorporated an advanced system of evaluation that disregards age, gender, or nationality while assessing individual performance and abilities in order to provide a framework for fair recompense.

Fair and Appropriate Evaluation

The most important aspect in the creation of a workplace that promotes wellbeing and effective working is the fair treatment of employees. As mentioned above, Komatsu's personnel management system accurately evaluates our employees, granting recompense based solely on merit. This system of assessment is enforced through multiple channels, such as evaluation training for both management and lower-level employees. An evaluation committee has also been established that works closely with labor unions in order to confirm that evaluations are fair and appropriately conducted. Finally, Komatsu provides individual feedback on evaluations to employees at both management and non-management positions, and has set up a consultation office through which employees can express complaints and concerns.

Condition of Labor Unions

Having signed the United Nations Global Compact, Komatsu recognizes that freedom of association and the right to collective bargaining are intrinsic human rights that must be respected. Our engagements with labor unions thus reflect this commitment, showcasing our dedication to ensuring the best for our people.

We have a labor contract with the Komatsu Labor Union, which is organized by approximately 9,500 of our employees across 7 of our Japanese branches and is a member of both the "All Komatsu Workers Union" and the "Japanese Association of Metal, Machinery, and Manufacturing Workers". 17 of our consolidated subsidiaries and affiliates in Japan have labor contracts with a labor union that has joined the "All Komatsu Workers Union", making up a total of approximately 7,200 employees.

In addition to this, Komatsu continues to comply with legislation related to labor rights, while responding in an honest and transparent manner to all dialogues and discussions with individual employees and their representatives.

Personnel Policy and Performance Appraisal System

DATA

* Above data are based on employees (Non-consolidated) except (2).

Numbers of employees for (1) are as of April 1 and all other numbers shown are as of the end of the year, except as otherwise noted.

(1) Number of employees (Non-consolidated basis)

	FY2015	FY2016	FY2017
Total	10,449	10,371	10,465
Male	9,295	9,203	9,264
Female	1,154	1,168	1,201

(2) Number of employees (Consolidated basis)

	FY2015	FY2016	FY2017
Consolidated	47,017	47,204	65,994
Non-Japanese (consolidated)	28,561	29,577	44,152

(3) Average age

	FY2015	FY2016	FY2017
Total	38.5	38.9	39.3
Male	38.5	38.8	39.3
Female	38.5	38.9	38.9

Personnel Policy and Performance Appraisal System

(4) Years of continuous employment

	FY2015	FY2016	FY2017
Total	14.3	14.6	14.1
Male	14.6	14.8	14.4
Female	12.0	12.4	11.8

(5) Annual total remuneration (average)

	FY2015	FY2016	FY2017
Total	7,111,071	7,162,627	7,387,475

(6) Number of employees by age

	Total	Male	Female
Under 30	2,267	1,932	335
30-39	3,297	3,063	234
40-49	2,752	2,372	380
50-59	2,149	1,897	252
Total	10,465	9,264	1,201

Personnel Policy and Performance Appraisal System

(7) New graduates employment

Year (April)	College graduate			Junior college graduate			High-school graduate		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
2016	161	133	28	21	17	4	52	37	15
2017	166	137	29	18	14	4	72	43	29
2018	187	163	24	26	17	9	96	68	28

(8) Mid-career employment

	Total	College male	College female	Other male	Other female
April 2015-March 2016	25	10	4	6	5
April 2016-March 2017	24	5	11	4	4
April 2017-March 2018	44	25	12	4	3

(9) Employee turnover (April 2017-March 2018)

	Total	Male	Female
Number of employee turnover	85	59	26

Personnel Policy and Performance Appraisal System

(10) Retention of new employees

	Male	Female
New employees (April 2015)	257	40
Enrollment (April 2018)	246	38

Turnover rate: 4.4%; 11 males, 2 females

(11) Diversity of management

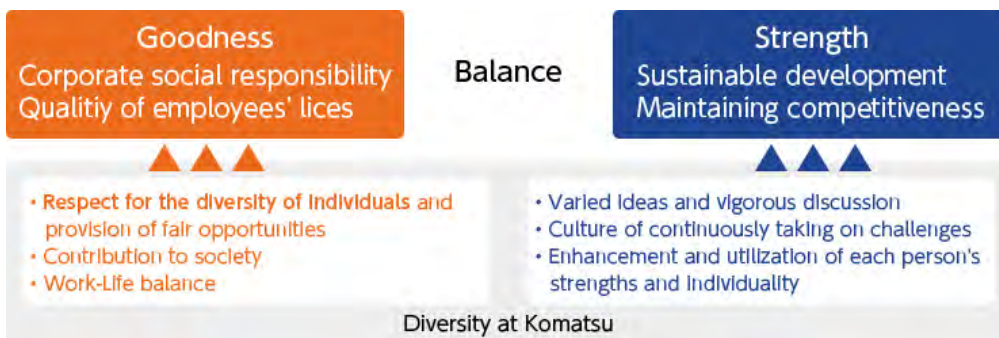
	Male	Female	Female Percentage	Foreign employees
Management position	1,606	107	6.2%	9
General managers	372	10	2.6%	0
Directors and officers	52	2	3.7%	5
Executive officers	45	2	4.3%	5
Managers, directors and officers	1,658	109	6.2%	14

Diversity Initiatives

Diversity Initiatives

Komatsu recognizes diversity as a significant corporate asset, and respects the basic human rights of every employee while striving to offer career development opportunities that enable each individual to fully demonstrate their abilities with a sense of fulfillment and pride.

Komatsu's Approach to Diversity



* Respect for diversity and individuality
 We shall respect diversity and treat and appraise each and every employee in a fair and impartial manner. We shall not discriminate against any employee on the basis of nationality, race, ethnicity, color, sex, sexual orientation, gender identity, age, religion, national ancestry, disability, marital status or other legally protected statuses. We shall vigorously promote equal opportunities for employment; (From "KOMATSU'S WORLDWIDE CODE OF BUSINESS CONDUCT")

Promoting Women's Careers

Approach and Goals

Komatsu actively promotes various measures in order to achieve a desirable level of diversity in the workplace. We have recognized that the lack of female managers compared to male managers in our employ is an issue that must be rectified, and are also providing support for work-life balance initiatives with regard to childbirth, childcare, and nursing care. These include the proactive employment of female employees, as well as the implementation of special opportunities for our female staff to hone and nurture their professional skills. We also strive to support the careers of female employees who decide to have children, ensuring that their careers are properly maintained after childbirth. With the implementation of our 3 year mid-range management plan "Together We Innovate GEMBA Worldwide: Growth Toward Our 100th Anniversary (2021) and Beyond" in April 2016, we have set and begun working towards the goal of having a percentage of women in management of 8% by April 2019 and 10% by April 2021.

Systems and Status in FY2017

Komatsu is dedicated to providing multiple avenues for female employees to develop their careers and stay ahead of the competition. Continued from FY2015 to encourage mid to long-term conceptualization of future career prospects, as well the provision of networking workshops for female employees working in manufacturing industries throughout Japan from FY2017.

We are also engaged in a number of ventures to help acclimatize prospective female



Nadeshiko Brand logo

Diversity Initiatives

employees with Komatsu. These include discussion meetings for different job categories, and holding career and networking events in cooperation with external groups and schools for female engineers.

Komatsu is widely recognized and assured by external groups with regards to our pursuits in diversity.

We have been named by the Ministry of Economy, Trade, and Industry, as well as the Tokyo Stock Exchange as a Nadeshiko Brand company for our fourth year running (since FY 2014). These accolades take into account the number of women in managerial positions at Komatsu (including executive officers), our installation of utility facilities at manufacturing sites such as toilets and restrooms in accordance with company-wide guidelines, the creation of an infrastructure which actively promotes the employment and engagement of female talent, thus guaranteeing Komatsu's position as a listed company that excels in the promotion of career development for women.

As part of our commitment to increase compatibility of Work and parenting, we are working to improve our work environment with regards to child rearing. These initiatives include the provision of childcare services at the KOMATSU WAY Global Institute located in Komatsu City, Ishikawa Prefecture (that also conducts in-house training).

From 2016, we have implemented a day for child-rearing on the 19th of each month that is co-organized by labor and management. This takes place at specific areas that we have set up for employees to take care of their offspring. In March 2017, we invited employee children to our headquarters for a "Children's Workplace Tour" to experience work from a first-hand perspective. We hold seminars by experts on compatibility with regards to nursing care, in order to provide opportunities for serious introspection with regards to nursing care and work. Stressing on the importance of creating a work-friendly environment for child-raising employees, we introduced a home teleworking system which allows employees to work from home and flexible working hours.



Children's work place tours

DATA

	FY2016	FY2017	FY2018
Number (ratio) of women employed	1,239(11.5%)	1,281(12.0%)	1,321(12.2%)
Number (ratio) of women in management positions	80(4.6%)	94(5.5%)	109(6.2%)
Number (ratio) of women in executive positions	2(4.2%)	2(4.2%)	2(4.3%)
Number (ratio) of women hired	28(17.4%)	29(17.5%)	24(12.8%)

* " All based on data acquired from Komatsu (non-consolidated). The number employed and the ratio is of new college graduates, data as of April 1.

Promoting Globalized Management

Approach and Goals

With the acquisition of JOY Global Inc. to the Komatsu Group as Komatsu Mining Co., Ltd. in 2017, a total of two third of our hired employees within the company are now non-Japanese. Komatsu is promoting the localization of management, starting with our domestic operations. Under existing regulations, national employees are currently employed in top management positions. Moving forward, however, we intend to have local employees from their respective regions take responsibility for such roles, creating a framework that supports diversity in employment practices.

Under these circumstances, Komatsu is nurturing exemplary overseas employees to become business leaders that will take responsibility for upper-level management decisions. Once these employees are ready to take on the significant responsibilities that these roles possess, our Japanese employees currently in upper-management positions in our overseas subsidiaries will pass the baton on to them, allowing them to utilize their prodigious skills to enhance our overseas holdings.

Systems and Status in FY2017

■ Human Resource Development

Since FY2006, Global Management Seminars have been conducted annually for local nationals in executive positions at overseas subsidiaries to present and discuss information including Komatsu's management policies, the KOMATSU Way and business strategies. In FY2017, the seminar was held in August with the participation of 11 executives representing subsidiaries in 7 countries: USA, Chile, Brazil, Belgium, Germany, Indonesia, and India. In doing so, we seek to understand the KOMATSU Way through Komatsu's history and our methods of production, marketing, and development, thereby aiming to enable participants to "speak in their own words" when explaining such concepts.

We also provide Global Management Training for selected employees to develop executive candidates capable of holding global leadership roles. About 10 general managers in Japan and top managers at overseas subsidiaries with potential are selected every year for enrollment in short-term courses at international business schools. In FY2017, 10 individuals attended training at business schools in USA, UK, France and Switzerland.

■ Management System

In order to effectively promote global management, Komatsu runs various global meetings, including the Komatsu Global Executive Meeting convened for the top management of all Komatsu Group companies in Japan and overseas, management committees for each region and business area, and other meetings for specific purposes, such as the Quality Meeting; Occupational Safety, Health & Environmental Affairs Meeting; and Legal Meeting.

Also, for even further development, in FY2016, a Global Officer System-composed of executives of the main overseas subsidiaries-was established. We appointed the top management of our major overseas subsidiaries as executive officers, and have requested their attendance at important Komatsu group meetings.

Diversity Initiatives

DATA

		FY2016	FY2017	FY2018
Number of Executive Officers	Total	53	55	50
	Global Programs for Overseas Employees	5	5	5
Number of Global Officers	Total	26	27	29
	Global Programs for Overseas Employees	17	16	18

* " As of April 1, 2018

Employing Persons with Disabilities

Approach and Goals

Komatsu actively seeks to employ persons with disabilities across the Group. Our goal is to achieve an employment ratio of 2.3% on a consolidated basis (the current statutory employment ratio is 2.2%) for the Group in Japan.

In March 2008, Komatsu established the Business Creation Center (BCC) within the Human Resources Department in Japan as a dedicated organizational entity for promoting the hiring of persons with disabilities. Persons with mental or developmental disabilities are employed by the BCC in nine business units in Japan. Advisors are assigned to each business unit to provide training and advice on daily tasks. Each BCC staff member meets with an advisor every six months to discuss goals, instead of simply handling a delimited set of tasks. Linking salary to individual performance assessments, we encourage employees with disabilities to work on their goals toward achieving independence and self-reliance.

Through these efforts Komatsu is not merely focused on achieving a targeted employment ratio. Rather, it is seeking to create a workplace that provides a sense of fulfillment for all individuals, where employees with disabilities work alongside other staff members.

Status in FY2018

As of April 2018, the employment ratio of persons with disabilities is 2.5% (Komatsu Ltd.). With regard to BCC, there are 101 people working at 9 business units. With the expansion of its organization, BCC has taken on matters that had previously been outsourced, as well as tasks that had been taking up time and effort internally, thereby contributing to efficiency and cost cutting for the company as a whole.

Diversity Initiatives

DATA

	FY2016	FY2017	FY2018
Employment ratio of persons with disabilities	2.63%	2.68%	2.50%
Number of BCC locations	9	9	9
Number of BCC staff members	98	103	101

* Data is for Komatsu Ltd. As of April 1st.

Promoting Hiring of Retired Employees

Approach and Goals

As the aging of Japanese society accelerates, Komatsu is committed to maintaining its efforts to hire more elderly workers. Komatsu(non-consolidate) introduced a re-employment program in 2006 and revised this system from April 2013 so that as a general rule all those who desire to do so can work until the age of 65. We also established a Second Career Support Program for employees who desire to play an active part outside the group, and provide training opportunities, paid leave and monetary aid.

DATA

	FY2015	FY2016	FY2017
Number of retired employees	207	211	184
Number of retired employees who were rehired by Group companies	159	173	146

LGBT Compatibility

Concept and system

In "KOMATSU'S WORLDWIDE CODE OF BUSINESS CONDUCT" October 2017 revision, we stipulated the prohibition of unfair discrimination against sexual minorities (not only nationality, race, religion, age, sex, presence or absence of disability, but also sexual orientation, and gender identity) as sexual harassment including discriminatory remarks subject to disciplinary action. In addition to implementing a number of initiatives, such as setting up an in-house counseling desk for LGBT individuals and the certification of same-sex partnership and expansion of scope of welfare benefits, we also worked to promote understanding of LGBT to all employees through a number of avenues like e-learning.

Enhancing Work-Life Balance

Past Endeavors and Status in FY2017

The maintenance of a healthy work-life balance is an integral component in bringing the best out of our employees. Studies have shown that individuals who are able to nurture a fulfilling personal life alongside their work commitments are both more motivated and driven, while being able to draw out the full potential of their abilities. With this understanding in mind, Komatsu is working to reduce the total number of required working hours for our personnel while introducing a number of work-life balance systems to improve workplace sustainability.

We are currently engaged in co-operative undertakings with labor unions in order to formulate specific quantifiable targets to reduce the total number of working hours for our employees. These efforts have proven to be highly productive, allowing us to establish commendable goals of less than 2,100 working hours per year, along with the provision of an average of at least 18 days of paid leave per year for each employee. As of FY2018, we have introduced an "interval system" that enforces a minimum of 10 hours of rest following long periods of work in order to promote a "safe and healthy" manner of working.

In addition, we consider the arrangement of systems for child care leave and short working hours to be a requisite in creating a sustainable work environment. Our efforts to promote work-life balance in the workplace have not gone unnoticed, and in 2007, we were certified by the Japan Ministry of Health, Labour, and Welfare with the "Kurumin" symbol. This prestigious accolade marks us as a company that supports the development of the next generation, and has encouraged us to bolster our already significant commitments. In addition to child-care leave and the reduction of working hours, we launched the "Panel on Fostering Future Generations", as well as the "Research Group on Solutions against Low Birthrate and Longevity". We have also continued to work on improving the reach and extent of our child-care support systems by extending periods of child-care leave (to a maximum of three years) in 2011. In 2018, we further expanded the system by establishing a leave system that caters to spousal relocation. Our personnel evaluation systems continue to be improved upon, and we now offer options such as temporary part-time work for employees raising children and personal goal-setting in accordance to employee working conditions. In doing so, we provide realistic motivation for employees, ensuring the continuance of their careers alongside the raising of their children.

Komatsu is also committed to providing aid to employees who are providing nursing care for family members. In 2013, we introduced an allowance for employees on family-care leave as a means of financial support, and in 2014, we rolled out a home teleworking option for employees who are required to stay home in order to take care of children/other family members. With these systems and initiatives, Komatsu is well positioned in today's highly competitive skill market, allowing us to retain skilled employees whilst enticing fresh talent to our skill pool.

DATA

* Information on this page is non-consolidated data with the exception of certain programs, which encompass not only Komatsu Ltd. but also our subsidiaries in Japan.

Main Programs and Measures Designed to Enhance Work-Life Balance

Programs and Measures		Content
Childcare support	Childcare leave program	Available for a maximum of three years from the birth of the child to the time the child enters nursery school. Also available for a maximum of three years for children up to the third year of elementary school in cases where a spouse is transferred, etc.
	Part-time work	Shortening of working hours by a maximum of three hours per day to allow for care of children up to the third grade of elementary school
	Telework program	Option to work at home in order to care for children up to the third grade of elementary school
	Allowance toward the cost of using childcare services	Allowance toward the cost of childcare for infants up to age two before entering nursery school (10,000 yen/month)
	Nursing leave	Five days for nursing care of one child up to the third grade of elementary school, and ten days for the second child onward (paid leave) Allowance granted to cover the cost of using childcare services
Care support	Family-care leave program	A maximum of three years available for employees taking care of family members (possible to take in installments)
	Part-time work	Shortening of working hours by a maximum of three hours per day (possible to take in installments)
	Telework program	Option to work at home for a maximum of three years in order to provide care for family members
	Care leave	Five days per year for attending to one family member in need of nursing care, and ten days for the second family member onward (paid leave)
Other types of leave	Life support leave	Can be used as sick leave, pregnancy leave, childcare leave or for care of family members. An employee may add five new days of accumulated leave per year. A maximum of 40 days of unused annual leave may be accumulated. Childcare leave may be used for school events for children aged up to third grade in junior high school
	Flexible leave	Provided to encourage employees to take five consecutive days of leave for mental and physical rejuvenation Employees receive an additional five days of annual leave and a travel voucher upon completion of their 15th, 25th and 35th year of continued service
	Volunteer incentive program	Long-term paid leave of up to two years, or short-term paid leave of 12 days per year
	Spousal transfer occupational leave system	Acquisition for up to three years per spousal transfer (Acquisition up to one per employee)

Enhancing Work-Life Balance

Flexible Working Style

- Flexible working hours (core time; 11:00 am-2:45 pm)
- Part-time work (child and other family-care)
- Half-day paid vacation
- Maximum of five consecutive days of paid vacation for refreshment
- System and facility for supporting childcare (nursery payment and use of in-house nursery)
- Discretionary work system (employees in development, design and R&D section)
- Telework program

Various Incentive Programs

- Subsidizing the expense of taking a certification course
- Job posting system
- Studying in domestic college or study abroad program
- Employee awards program for distinguished achievement
- In-house language school and subsidizing the expense
- Stock option (directors, officers and some executives)

Work-Life Balance Data

Parental leave

	FY2015	FY2016	FY2017
Pregnancy leaves	46	57	59
Childcare leaves	89	98	120
Male	9	10	15
Within one week leave	1	1	0
Return and retention rates	96.7%	100%	97.5%

Family-care leave

	FY2015	FY2016	FY2017
Family-care leaves	6	4	4

Enhancing Work-Life Balance

Paid vacation

	FY2015	FY2016	FY2017
Days granted	20.0	20.0	20.0
Days taken	18.4	19.2	19.4
Ratio	92.2%	95.8%	96.8%

Volunteer incentive program

	FY2015	FY2016	FY2017
Number of program users	92	95	71
Long-term leaves	1	0	0

The KOMATSU Way

Approach of The KOMATSU Way

The KOMATSU Way is a statement of values and standards that all workers at every level of management in the Komatsu Group are expected to meet and uphold. Through these shared principles, employees of the Group will be able to establish a unified framework that transcends nationality and age to enhance workplace (gemba) capability, dynamism, and the quality of work life. This in turn will serve to showcase the strength, reliability, and robust nature of our brand, thus reinforcing the trust placed in the Group by society and our stakeholders. We will further improve on our "quality and reliability".

System and Status in FY2017

The KOMATSU Way finds its roots in the corporate strengths that Komatsu has cultivated over time, culminating in a system of integrity and strength that is disseminated to group companies on a global scale. This propagation is achieved through the KOMATSU Way Global Institute, which conducts various publication and human resource development activities.

Employee understanding of the KOMATSU Way is deepened via training sessions and the creation of opportunities for exposition and group debates. We foster interpersonal communication between employees at such sessions to minimize generational gaps, allowing for a more effective "trickle-down" spread of this knowledge. We have also considered the intrinsic differences of foreign cultures, and have worked to craft the KOMATSU Way in a manner that is both easy to understand and relevant for the international community at large. This allows us to promote the KOMATSU Way in domestic and foreign settings, allowing for uniformity across the group.

In 2011, we distributed a revised edition of the KOMATSU Way to all group employees. These revisions build on the first version of the KOMATSU Way that was released in 2006, improving the ease by which values and ways of thinking are understood, increasing the number of case studies discussed, and adding a section detailing Komatsu's approach to brand management.

In FY2017, training was held in South Africa for the first time, and Europe and USA of the traditional market. In USA, as a tool to introduce the fact that the KOMATSU Way is being practiced naturally in operations in various parts of the world, we have completed and published the North American version of Komatsu Way experiences collection which was being produced from FY 2016. We will further advance the global consolidation of the Komatsu Way by developing the North American version of the experiences collection produced this time as a sample to other regions.

In FY2017, the integration of KMC further increased the number of overseas employees, and the need to have Komatsu understand more about Komatsu's thinking increased. Therefore, we established an education system to strengthen Komatsu Way and QC (Quality Control), which is the basis of Komatsu's business before transferring abroad so that Komatsu's idea can be conveyed from overseas representatives to overseas employees. Going forward, Komatsu Way and QC will continue to penetrate employees as the basis of all Komatsu Group employees both in Japan and overseas.

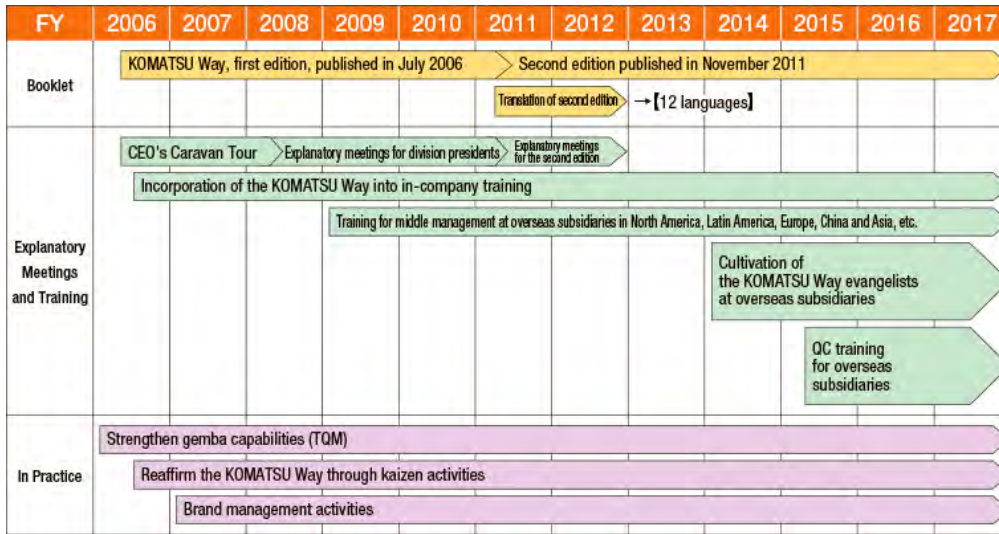
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Educational Training that pertains to KOMATSU Way

Name of Training Course	Course participants	Aim	Training dates	Number of participants/cases
Education for top management personnel of overseas subsidiaries (Global Management Seminar)	Overseas subsidiaries' management level personnel or candidates	To train managers at our overseas subsidiaries who have comprehensive understanding of the KOMATSU Way	August, 2017	11 people
Education for mid-level managers of overseas subsidiaries (KOMATSU Way Leadership Development Program)	Mid-level managers of overseas subsidiaries expected to be responsible for the core business/functions	To train up local leaders who can understand and practice KOMATSU Way	June, 2017 (South Africa) December, 2017 (Europe) February, 2018 (USA)	30 people (South Africa) 25 people (Europe) 30 people (USA)
KOMATSU Way Expert Development Program	Mid-level managers of overseas subsidiaries with aptitude	To train up 'evangelists' responsible for spreading the KOMATSU Way in our overseas subsidiaries	June, 2017 (South Africa) December, 2017 (Europe) February, 2018 (USA)	13 people (South Africa) 8 people (Europe) 19 people (USA)
QC Training	Mid-level managers of overseas subsidiaries with aptitude	To promote understanding of QC at overseas subsidiaries	June, 2017 (South Africa) December, 2017 (Europe) February, 2018 (USA)	25 people (South Africa) 20 people (Europe) 29 people (USA)
Training by Job Level	New employees, assistant managers, newly appointed executives, etc.	To promote the understanding and practice of KOMATSU Way	Year round	1,489 people
All Komatsu QC Convention	Representatives of domestic and overseas Komatsu Group companies	To present improvement activities as OJT and strengthen awareness of KOMATSU Way practices	November, 2017 (Awazu Plant)	About 2,000 people

The KOMATSU Way

The KOMATSU Way-History of Dissemination Activities



Employee Training Structure

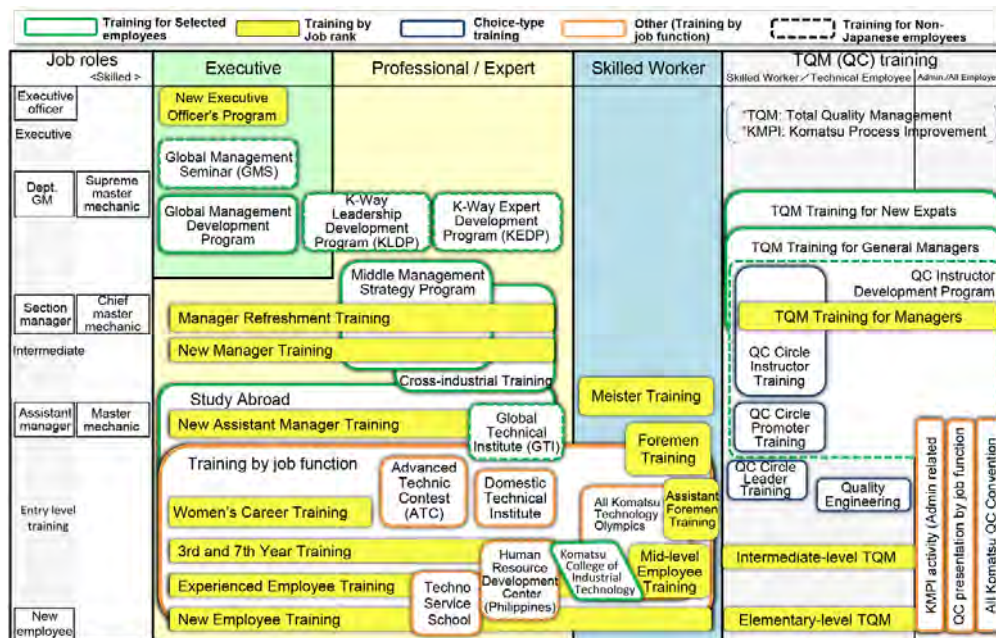
Approach and Goals

Komatsu strives for the sustainable growth of both the company and employees through human resource development. We believe that each employee is responsible for the setting of high individual goals, and the subsequent fulfillment of these goals. Each employee should thus be self-reliant and highly motivated in seeking the knowledge and skills necessary for the fulfillment of personal objectives, while relying on company support through our educational programs. Komatsu supports the career development of each employee focusing on the education required to company management and employees.

While we promote the education of professionals in a wide variety of proficiencies, Komatsu is aware of the importance for the dissemination of knowledge and skills at every level within the company. Regular explanatory sessions and discussions are convened at Group companies to propagate the KOMATSU way, ensuring that it is incorporated as an integral component of our human resource development on a group-wide scale.

System and Status in FY2017

Employee Training Structure



Please refer to the following pages for the contents of programs that were held in 2017

- | | | |
|---|--|---|
| <p>➤ Educational training pertaining to the KOMATSU Way</p> | <p>➤ Technical Capability of the manufacturing workplace</p> | <p>➤ Service Personnel HR development</p> |
|---|--|---|

Employee Training Structure

DATA

Employee Training

	FY2015	FY2016	FY2017
Average hours per FTE	96	76	58
Average spent per FTE	JPY244,000	JPY246,000	JPY255,000

* Non-consolidated data for Komatsu Ltd.

Strengthening Our "Gemba" Capability

Enhancing the Technical Capabilities of Our Manufacturing Operations

Systems and Status in FY2017

With major advancements in technologies and globalization within our production operations, the need for a high level of technical capability has become all the more relevant. As such, we have designated the third Saturday of every October as "Technical Day", holding technical competitions for employees from all areas of Komatsu. These include personnel from overseas subsidiaries and business associates, who come together to maintain and improve the overall technical capabilities of the Komatsu Group through mutual dedication to studying.

In FY2006, Komatsu established the Meister system that focuses on the passing down of technical know-how from production sites. Techniques and skills that we have judged to be worth passing on are divided into 9 fields that each comprise of 15 specific competencies, with a "First Meister" certified for each competency. Under Komatsu's Mother Plant System, production plants with product development capabilities are specified as "Mother Plants". These plants are responsible for the purveyance of product safety, quality, cost, and delivery of their "Child Plants" (plants that produce the same product). Meisters who have been certified in accordance to their high proficiency in specific technical areas are tasked with guiding and nurturing engineers at both domestic plants and overseas "Child Plants".

Komatsu also conducts vigorous improvement activities by holding all-Komatsu quality control competitions on the third Saturday of every November. Much like our technical competitions, employees from our overseas subsidiaries and business partners across our value chain are welcome to participate.

DATA

■ Status of Human Resource Development at the Manufacturing Gemba

		FY2015	FY2016	FY2017
All-Komatsu Technology Olympics	Number of participants	195	193	181
	From overseas	36(11 countries)	32(11 countries)	39(11 countries)
All-Komatsu QC Competition	Number of participants	87	98	94
	From overseas	26(12 countries)	34(13 countries)	33(14 countries)

Strengthening Our "Gemba" Capability

■ Status of Dispatching Technicians from Japan to Overseas Plants and Distributors

— 2017 Main Countries of Dispatch

USA, UK, India, Indonesia, Iran, Sweden, Thailand, China, Chile, Denmark, Germany, Brazil, Republic of South Africa, Russia

Service Personnel Human Resource Development

Construction of a Framework that Outsources the Promotion of Human Resource Development

Our service personnel take direct responsibility for customer support during the operation of our products, ensuring that the Komatsu values of "Quality and Reliability" are adequately satisfied. We have committed large investments into the human resource development of our distributor service personnel on a global scale, having created two training programs for the development of these service personnel (internal human resource development for services support and distributor human resource development).

We have created an internal training program called "Techno Service School" for training our Japanese staff, constructed the Komatsu Human Resource Development Center in the Philippines for training essential service personnel who will be working at customers' sites in the future, and conduct planned training within departments and at overseas sites through a rotation system.

Depending on the content, distributor human resource development is either created or supported by Komatsu who provides the curriculum, training materials, and site training (at local companies and distributors) for basic courses on products and services. We also provide advanced courses by inviting senior managers and mechanics to Japan to conduct training sessions, compounded with technical training by the local company's training center (mother training center) for more specialized training. Having set up this educational environment, we will conduct tests to assess knowledge levels in order to gauge the competitive capabilities of the distributor while develop a practical training program that is combined with sales promotion activities.

TOPICS

Asia Training & Demonstration Center in Thailand

Komatsu enhances trainings at the Asia Training & Demonstration Center in Thailand to strengthen its training capabilities for distributors in Asia. Training sessions officially began there in November 2016.

Komatsu has a network of 13 distributors across 20 different Asian countries, and has attained the top market share*1 in Asia. As part of bolstering the strength of our Asian holdings in our mid-range management plan, we have opened the "Center for Asian Distributors" to further support human resource development for our distributors. This will allow us to reinforce our business foundations in preparation for the future, thus paving the way for strength across our Asianic operations.

The latest center to be established is located in the Chachoengsao Province (about 60km east of Bangkok), and occupies an area of about 77,000 square meters. The Center offers a wide variety of training programs that cover topics such as sales, parts, service, and machine operation, which are essential for the distributors of our construction equipment and forklift trucks. Equipped with over 20 different models, the Center boasts a wide range of utility, from product and technical training for distributors to machine demonstrations and trials. Our center even provides operator training for end-customers to promote sales. In FY2017, we used approximately 3,000 agents and customers in total.

Komatsu operates 18 training centers in 15 countries worldwide. Through these investments, we will engage in the transference of our prodigious training acumen to our Asianic distributors. Having been nurtured in both our domestic and foreign operations, these transferred competencies will ensure the sustained growth of our distributors in Asia.

* 1 Based on Komatsu's research

Strengthening Our "Gemba" Capability



[Overview of Asia Training & Demonstration Center]

Name	Asia Training & Demonstration Center
Address	10/9 Moo 5, TambonTha Sa-An, Aumphur Bang Pakong, Chachoengsao, Thailand 24130
Grounds area	77,392m ²
Main facilities	Workshop (for technical training of maintenance and repairs of actual products), machine demonstration and operator training area, actual products, classrooms, multi-purpose hall, viewing seats (for machine demonstration), and lounge
Investment	JPY2.5 billion
Number of employees	18

* Note: Asia Training & Demonstration Center is affiliated with Komatsu Parts Asia Co., Ltd., a Komatsu subsidiary in Thailand

Brand Management Initiatives

What are Brand Management Initiatives?

Becoming Invaluable to Our Customers, who Both Create and Assess Our Corporate Value

Komatsu embodies this concept in our statement "our corporate value is the total sum of trust given to us by society and all stakeholders." With this in mind, Komatsu's basic management policy is focused on increasing our corporate value through customer engagement initiatives. Having grouped our various stakeholders into two distinct categories, while the former is responsible for employees, affiliate companies, sales / service shops, etc, the latter includes society, shareholders, investors, media, etc. We have come to the conclusion that it is only our customers who take on both of these roles. Customers create corporate value by purchasing our products, and assess our corporate value through the use and evaluation of our products (which returns to us via feedback). We have thus redefined the meaning of "heightening the trust placed in us from our customers", into a commitment to "increase the trust placed in us to a degree at which our company is indispensable to our customers, in order to guarantee complete customer loyalty and retention". As of FY2007, we have begun initiatives designed to mold our brand into one that conceptualizes this vision.

Realizing Our Customers' Vision and Mission "from the Customer's Perspective"

Our brand management(BM) activities are built on the fundamental principle of "from the customer's perspective". One of the most common misconceptions regarding marketing activities is that such initiatives involve finding means to differentiate a product from the competition, or about finding a unique position within the market. Komatsu believes, however, that the crux of marketing involves working from the customer's perspective, discovering what customers want and responding specifically to those needs. To realize this grand vision, we are engaged in activities designed to create sustained development and refinement in our management resources and capabilities. In the past, these initiatives tended to rely on experience and intuition, but in the context of Komatsu's BM activities, we have replaced them with a variety of tools and methods designed to develop case studies and accumulate validated experience that can be disseminated to a new generation of employees.

Through discussions over time with our clients, we clarify their Vision(the ultimate future ideal state),Mission(Requirements that must be achieved in realizing the Vision), and Goals(specific items that need to be accomplished). Once we have a good grasp of what our customers are looking for, Komatsu implements a plan that utilizes our management resources and abilities efficiently to achieve said goals. Ultimately, we believe that strong determination is the key aspect in governing the implementation and subsequent success of our BM initiatives.

This chart serves as a summary for the flow of processes involved

Brand Management Initiatives

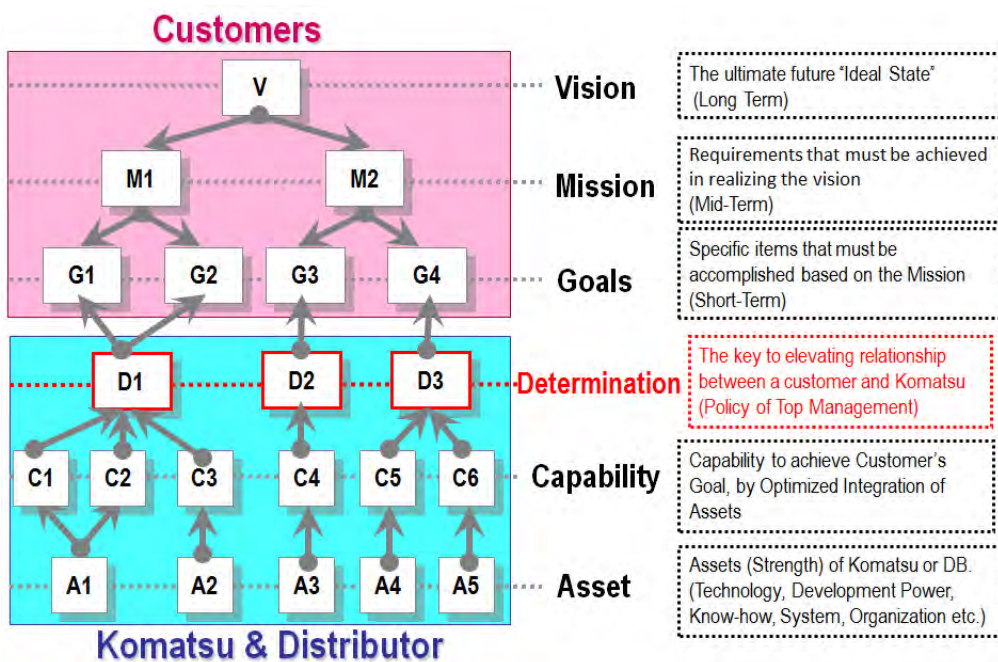


Figure 1:Customer relationship chart

In addition, as a way to confirm the results of our activities, we have developed an evaluation tool (Figure 2) that evaluates the relationship between customers and Komatsu, separating them into seven different categories. These seven categories range from "no use for us (Level 1)" to "Komatsu is indispensable for us (Level 7)". As a company, we strive to create good relationships with our customers and are thus using this tool to provide a clear indicator of what we must do to climb towards a higher level of satisfaction. With that said, we are aware that the levels on this chart make use of self-evaluations based on the subject matter provided by local agents, and thus take that fact into consideration when evaluating the rise and fall of relationship levels with individual customers. We continue to improve on our customer relationships while carrying our daily BM activities, so that komatsu will become an indispensable partner of customers' continuous choice.

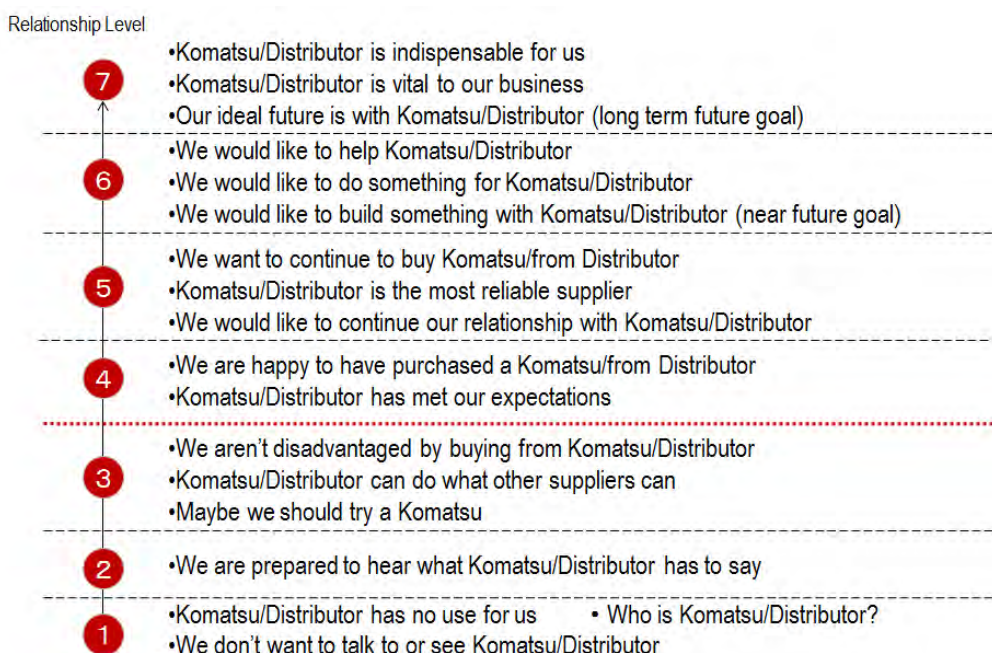


Figure 2: Relationship level model

Brand Management Initiatives

Recent Activities and Future Plans

When we began in FY2007, the scope of our activities was limited to Japan, North America, Chile, South Africa and Australia. By FY2013, we had expanded these activities to include China, Southeast Asia, Europe, Brazil, Oman, the Commonwealth of Independent States, and the forestry business. In FY2011, we officially declared our approach as the KOMATSU Way of relating to customers, compiling the "KOMATSU Way of Brand Management."

In FY2017 (more than 10 years since the start of our initiatives), we developed a customer needs stratification sheet to further deepen our insight into "customer perspectives". Through this useful tool, we have become able to review customer needs in a clear, hierarchical format, enabling us to perceive what customers wish to achieve. We also hold workshops on a global scale, focusing on the theme of customer needs.

Brand management activities that began with a focus on stakeholders by our marketing department have expanded into company-wide activities that involve our production and development divisions. Owing to the positive strengthening effects it has on our various departments and human resource development circles, Komatsu will continue to promote brand management activities for the foreseeable future.



European BM Workshop (Brussels, June, 2017)

Theme 3 : Growing with Society

123 Communication with Stakeholders

127 Compliance

130 Risk Management

134 Support for CSR Initiatives of Business Partners

138 CSR Procurement Guidelines

140 Environmental Impact of Suppliers

141 Environmental Risk Management

150 Biodiversity

Communication with Stakeholders

Communication with Shareholders

Operating within our commitment to high managerial transparency, Komatsu discloses information in a proper and timely manner through interactive dialogue and constructive approaches to investor relations on a global scale.

1. Activities for Corporate Investors and Securities Analysts

On the same day that quarterly business results are announced, the company holds explanatory sessions for corporate investors and securities analysts (we also release this information on our website). Corporate representatives visit institutional investors outside Japan (primarily in USA and Europe) to explain recent business performance statistics and other critical information.

2. Informational Meeting for Individual Shareholders

To create the opportunity to communicate with individual shareholders, Komatsu convenes shareholders' meetings in major cities in Japan twice a year, with top management explaining the company's performance statistics and management strategies. In 2017, we held meetings in Wakayama City and Osaka City in December, during which the president and CEO provided insight into the business environment and corporate performance data. Many questions were raised during the Q&A session, which covered a wide range of topics such as mining, machinery business, environmental response, and corporate governance.

Since launching in 1997, our shareholder meetings have been convened 45 times, with about 14,000 shareholders participating in attendance to date.



Shareholders' meeting held in Wakayama City



Shareholders' meeting held in Osaka City

Communication with Stakeholders

3. Plant Tours for Individual Shareholders

Komatsu holds plant tours for individual shareholders to further deepen their understanding of the company. Tours were held at the Osaka Plant (Osaka), Awazu Plant (Ishikawa) and Ibaraki Plant (Ibaraki) in September - October 2017 , then Osaka Plant (Osaka), Oyama Plant and Tochigi Plant (Tochigi) in February - March 2018 for twelve days in total.



Plant tour for shareholders at the Awazu Plant



Plant tour for shareholders at the Osaka Plant



Plant tour for shareholders at the Ibaraki Plant

4. Techno Center Tours for Individual Shareholders

Komatsu offers Techno Center tours (Izu City, Shizuoka Prefecture) in August 2018 for two days for shareholders and their children or grandchildren. We demonstrate the use of equipment such as dump trucks, hydraulic excavators and wheel loaders, and also provided tours during which visitors could observe machinery in operation to help them become more familiar with our products. Our employees also taught crafts and science classes, and held stamp rallies.



Construction machinery at the Techno center tour



Demonstration and actual tour

5. Meetings for Individual Investors

Komatsu holds meetings for individual investors to explain our business and management strategies as well as to cultivate a deeper understanding of our company. In FY2017, these meetings were held in 11 cities in Japan.



Meetings for individual investors

Events for Shareholders in FY2017 (in Japan)

	Location	Approximate Number of Participants
Shareholders' Meeting	Wakayama, Osaka	984
Plant Tours for Shareholders	Awazu Plant, Ibaraki Plant, Osaka Plant, Oyama and Tochigi Plant, etc.	526
Techno Center Tours	Komatsu Techno Center (Shizuoka)	212
Meetings for Individual Investors	11 cities in Japan	1,045

Communication with Employees

Within Komatsu, the president convenes a “Meeting with the President” periodically at each business site in Japan. At these meetings, the president directly explains the business environment and related issues, and also takes part in a Q&A session held for employees and upper management. 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 the information with Group employees around the world.

We are currently proactively engaged in holding employee meetings at our overseas subsidiaries in order to provide a place for communication to take place with local Group employees.

In addition to these measures, we launched an intranet bulletin board, entitled “Virtual Office of President,” in January 2014 to share the questions and answers exchanged during the meeting with the president with employees around the world. The site is updated each week with new questions, and as of March 31, 2018, a cumulative total of 204 questions on specific topics, along with the president's answers, explanations and messages to employees, have been published in Japanese and English.



Employee meeting held at the main office



“Virtual Office of President” on the intranet

Communicating with the Local Community (Efforts in Japan)

We regularly open our plants to the public and hold various events during “Plant Fairs” to cultivate an understanding of our business among local residents. The events were held at eight plants in FY2017 and were attended by about 56,350 people.

To celebrate the 10th anniversary of its relocation, the Ibaraki plant held a project to launch the vehicles of the Hitachinaka Seaside Railway, a routinely used railway which runs through the streets from the nearest stations. This project involved the decoration of the vehicles, wrapping them up with decorations that participants of the fair had colored themselves. In addition to this event, we also held a construction demonstration at the testing center alongside a demonstration by the Komatsu Women’s Judo Club. All in all, it was a grand anniversary ceremony.

Communication with Stakeholders

Date	Plant	Number of Visitors (approx.)
May 27	Oyama and Tochigi Plant	10,000
June 4	Ibaraki Plant	10,000
August 6	Awazu Plant	12,000
August 26	Kanazawa Plant	6,000
September 23	Koriyama Plant	8,000
November 11	Test Engineering Center at Notsu	350
November 12	Osaka Plant	10,000



Ibaraki Plant



Oyama and Tochigi Plant



Kanazawa Plant



Awazu Plant



Koriyama Plant (Judo class)



Osaka Plant



Test Engineering Center at Notsu(40th anniversary fair opening)

Compliance

Promoting Compliance

Komatsu considers the maximization of corporate value with the pursuit of Quality and Reliability as a core component of our management principles. The Company believes its corporate value is the total sum of trust given to the Company by society and all our stakeholders.

In order to raise the total sum of reliability, it is necessary not only to improve business performance and to enhance the soundness and transparency of management, but to also become a company that has acquired societal trust. Thus, it is increasingly important for any company to comply with the rules of business society.

Frameworks for Promoting Compliance

To make certain that the entire Komatsu Group complies with the rules of the business community, Komatsu has appointed an executive officer at the head office 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 Worldwide Code of Business Conduct

The company has formulated Komatsu's Worldwide Code of Business Conduct (established in 1998 and revised nine times to date) as a compilation of best business practices to be observed by officers and employees of Komatsu Group companies around the globe. Rules of business society include not only laws in a narrow sense, but also outlines rules that are generally respected in society. Also, today, as the importance of roles to be played by company in society is increasing, it is important for each and every employee to be fully aware of "corporate social responsibility" and to act in a manner that gains society's trust. Komatsu's Code of Conduct, which shows the basic principles, policies and philosophies that should be observed anywhere in the world, is an excellent guide to living in accordance with the rules of these broad business societies.

Komatsu considers CSR as a key responsibility, which is shown by Komatsu's Worldwide Code of Business Conduct clearly focusing on the importance of CSR. The pillar of Komatsu's compliance activities is based on constant repetition of the following process, outlined in the Code : (1) Formulate the Code, (2) Implement the Code, (3) Determine the Code's current status, and (4) Address inadequacies. Komatsu's Worldwide Code of Business Conduct is available at:

[▶ Komatsu's Worldwide Code of Business Conduct](#)

Process for Compliance Activities

1. Formulate the Code:
Formulate the Code as a foundation for compliance activities and revise the Code (currently in its tenth edition) as required to reflect social change.

Compliance

2. Implement the Code:
Implement the Code through education that corresponds to employee rank and their respective duties, and by communicating information in accordance with the Code.
3. Determine the Code's current status:
Determine the level at which the Code is being applied by having all business units regularly report on their use of the Code and by conducting audits and enhancing Komatsu's internal reporting system.
4. Address inadequacies:
Any issues identified during the above activities will be addressed in accordance with the Code and be rectified through implemented preventive measures.

Upholding Thorough Compliance

So that employees remain continuously aware of compliance, the Group is working to cultivate their consciousness of best business practices by displaying business unit posters in every Komatsu Group listing The Five Principles of Compliance (a condensed version of Komatsu's Code of Worldwide Business Conduct). The Group engages in awareness-raising initiatives, with a page dedicated to compliance on its intranet as well as well-developed compliance-related education and training that corresponds to each employee rank and their respective duties. The Group strives to detect risks early and implement reforms at Komatsu business units and Group companies through monitoring during financial audits and compliance and risk audits. The monitoring covers compliance in highly important areas such as safety and environmental practices.

Internal Reporting System

Komatsu has established the "Compliance Hotline" consultation office both internally and externally at Komatsu Group companies to respond to consultations or reporting from Group company employees that pertain to best business practices or questionable actions. The Group actively encourages consultations and reporting through Komatsu's Worldwide Code of Business Conduct, the Five Principles of Compliance, and Group companies' workplace rules, making it clear that employees who use the system for appropriate reporting will not be treated unfairly in any way as a result of their action.

Status in FY2017

No incidents of note occurred during 2017.

DATA

1. Number of Internal Reports

	FY2015	FY2016	FY2017
Number of Internal Reports (number of serious cases)	68 (0)	95 (0)	105 (0)

Compliance

2. About Komatsu's Worldwide Code of Business Conduct

Established	January 1, 1998
Last revised	October 1, 2017 (10th edition)
Languages	20 languages Japanese, English, Chinese, Spanish, Portuguese, German, Dutch, Italian, Polish, French, Swedish, Finnish, Indonesian, Thai, Russian, Turkish, Persian, Tamil Taiwanese, Korean

3. Compliance Education in FY2017

Class Learning	Approx. 1,800 people
e-Learning	Approx. 16,000 people

4. With regard to anti-corruption

Number of employees who were dismissed because of conflict with Komatsu's anti-corruption policy (global)	Fiscal Year 2017: Zero
Fines imposed on Komatsu related to corruption / Amount of penalties (global)	Fiscal Year 2017: Zero
Number of employee training sessions on anticorruption prevention (in Japan)	Fiscal year 2017: 11 times Target audience: Approximately 60 (planned to be transferred overseas)
Establishment of internal reporting system related to corruption (global)	Prevention of corruption is specified in "Komatsu's Worldwide Code of Business Conduct" as a key priority issue. If there is any suspicion or concern involving corruption or the violation of business society rules, concerned parties are invited to use the Compliance Hotlines established at the Komatsu Head Office or within each region to report the problem.

Risk Management

The Komatsu Group recognizes all uncertainties that could threaten the Group's sustained growth as risks, particularly compliance issues, environmental issues, product quality concerns, accidents, information security problems, and elimination of anti-social forces. The company has adopted the following measures to counter these risks.

Basic Principles and Structure for Risk Management

- In addition to the basic policy for risk management to ensure business continuity and stable development, Komatsu has established Risk Management Rules to correctly recognize and manage risks.
- Komatsu has established a Risk Management Committee to devise relevant policies for the entire Group, review the risk management system, and evaluate and improve upon response measures in place for each risk, as well as to take control of risks when they arise. The 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.

Risk Management Structure



Systems and Status in FY2017

Implementing a Business Continuity Plan for Komatsu

In order to quickly confirm the safety of employees and their families in the event of an accident or disaster, and to be able to continue or quickly restart important business operations, Komatsu has formulated a business continuity plan (BCP). In addition, at our head office buildings and all production plants, we assume the possible occurrence of earthquakes and conduct regular training so that in the event of a disaster everyone will be able to act quickly and appropriately. Furthermore, at our production plants, we are working on seismic strengthening for buildings and equipment, as well as reinforcement against damage from torrential rains, according to the production plant's plans. Also, in case of an outbreak or epidemic of a new type of influenza, we will establish a special committee and take appropriate measures. For our employees we have compiled a manual with information regarding preventative measures and what actions to take in case of infection, and we also provide training sessions to promote a thorough understanding of these measures.

Himi Plant BCP Training



Promoting Risk Management throughout the Group

To reinforce the risk management structure across the Group, including overseas subsidiaries, Komatsu is establishing channels for risk reporting, creating a risk management manual, etc. In addition to this, Komatsu is conducting BCP initial response training at the sales and service bases in Japan to raise the level of risk management and response to disasters. Finally, Komatsu is strengthening its Group-wide system for contacting employees during an emergency by introducing safety confirmation systems, broad-area wireless devices, and conducting regular training for safety reporting and communication.

Conducting Compliance and Risk Audits

As a part of its risk management activities, Komatsu has been conducting compliance and risk audits (CR audits) since FY2008. These cover areas are not included in the J-SOX audits, which are conducted in accordance with the Financial Instruments and Exchange Act of Japan to evaluate internal controls related to financial reporting and identify potential compliance risks within the company, with a particular focus on confirming and evaluating the status of legal compliance. Our internal specialist team conducts the internal audits at Komatsu and its Japanese/overseas affiliates, as well as independently-owned distributors and Midori-kai member companies.

The audited items are: 1. Field instructor ;2. Safety; 3. Environment; 4. Labor; 5. Finance and Treasury; 6. Audit of sales office base business operation;7. Quality Assurance and Recall; 8. Vehicle Inspections and Specific Voluntary Inspections (inspections done on construction equipment, similar to vehicle inspections); 9. Export Control; 10. Information Security; and 11. Anti-monopoly Act.

Through these audits, we strive to raise the control and compliance awareness levels at each company and in every department. Going forward, we would like to improve our case-by-case audit method and raise the operational level of CR audits as a part of risk management functions.

Strengthening Information Security

Komatsu is developing an information security structure for the entire Group, placing the Information Security Committee at its center. As one component of this structure, an Information Security Guidebook has been distributed to all employees. In conjunction with this, Komatsu provides education and awareness-raising activities based on the Guidebook, with the belief that raising individual employee consciousness of information security is essential. Komatsu implements the basic education on information security with e-learning for the employees using PC of the Group companies. The company actively develops a structure to protect information from being falsified, leaked or lost, even in cases of negligence or outside intrusion. In addition, it is conducting information security audits to ensure that these measures are working effectively and to detect and address any problems.



Human Right Management Issues

Komatsu signed the United Nations Global Compact in 2008. In an effort to apply its major principles for protecting human rights, Komatsu utilized the help of external experts (BSR, or Business for Social Responsibility) to conduct a human rights risk assessment for all of its construction/mining equipment and forestry machinery businesses worldwide in 2014 and once again in 2017, taking guidance from the Universal Declaration of Human Rights and the U.N. Guiding Principles on Business and Human Rights.

The results showed that the degree of urgency for problems occurring is low, while the degree of effect if a problem does occur is moderate. However, the human rights risk might not be removed depending on the business, area and contractors, so we will respond flexibly as needed.

Risk Management

Corresponding to the Modern Slavery Act (UK)

In response to the "Modern Slavery Act 2015" (a law preventing the system of slavery in the current era) being enacted by the UK in October 2015, Komatsu UK Ltd. revised its "Slavery and Human Trafficking Statement for the Financial Year 2015." disclosed on the web site. Recognizing the possibility of the risk of human rights violation occurring in Komatsu's business operations and its supply chains, this statement reports how such an issue will be properly managed.

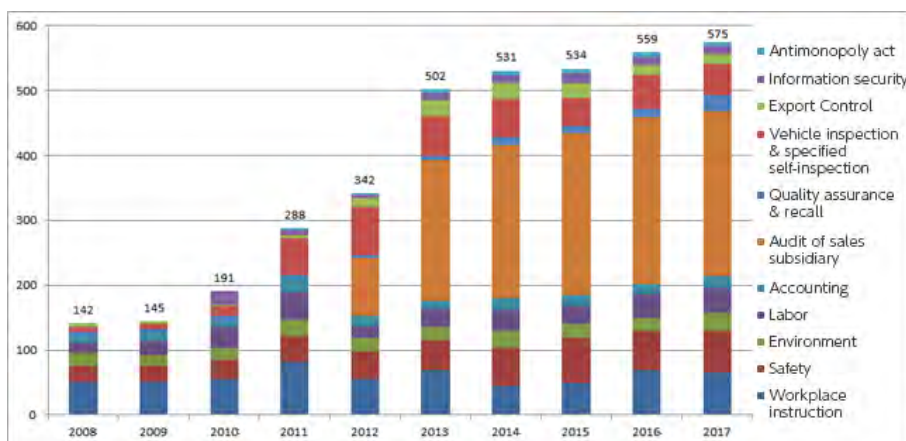
[" Komatsu UK Ltd. website \(link\) !\[\]\(e2376d476d06eb31946dc01a69a4403a_img.jpg\)](#)

DATA

Record of BCP Training

Content of Training	Business Site
Earthquake initial response training BCP training Communication training with Broad-area Wireless Devices (Communication training between contiguous business sites, communication training to the head office)	Major business sites in Japan
Safety Reporting	All group companies in Japan

Implementation of Compliance and Risk Audits



[Risk Management](#)

Employee Education (Information Security)

Name of Course	Target
New Employee Training	New employees (both new graduates and experienced hires)
e-learning Information Security (Basic Course)	All employees who use PCs at work
e-learning Information Security (Management Course)	All managers (line managers such as GMs and section mangers)

Support for CSR Initiatives of Business Partners

Our business partners are important members of our value chain who supply the materials, parts, and components necessary for the continued operation of our manufacturing enterprise. Komatsu believes that collaborative efforts with our partners in CSR initiatives will contribute significantly to corporate success and subsequent expansion, and thus endeavors to commit to this undertaking.

Approach and Policy

Komatsu's Procurement Policy

Our basic production policy is to produce products directly within areas of demand. Out of the 39 plants that manufacture construction and mining machinery, 27 are located outside of Japan, which has caused the overseas localization of a number of our products. In response to this, we have begun actively sourcing for parts and materials in the areas of operation of our foreign facilities. With the exception of engines and main components that are shipped from Japan, and specific parts that must be supplied by specialized manufacturers, overseas plants must procure materials from within the local communities that they are located at. In this way, we stimulate the growth of local economies, while ensuring optimal procurement for requisite materials (such as sheet metal).

CSR Procurement Guidelines

In 2011 we formulated the CSR Procurement Guidelines, which lay out key compliance and CSR information for all our business partners. These guidelines are available on both our Japanese and English sites, and we have begun engaging our partners to ensure strict adherence to the requirements detailed within them.

The Guidelines are available at:

▶ [Komatsu Group CSR Procurement Guidelines](#)

Coverage of the CSR Procurement Guidelines



Our Support for Komatsu Midori-kai in FY2017

Komatsu Midori-kai

Komatsu Midori-kai is an organization that consists of our business partners, with domestic membership totaling a number of 156 member companies. Given the scale of this organization, it comes as no surprise that 75% of our domestic procurement is sourced through these firms. We engage the management of these companies through multiple avenues, such as the general assembly, general meetings, and New Years' special meetings. In these discussions, Komatsu executives take the chance to explain our policies, emphasize the importance of CSR management, and request that awareness be raised with regards to CSR policies.

Midori-kai companies are grouped into 5 different categories by their specific item of production, with each group collaborating with

Support for CSR Initiatives of Business Partner

Komatsu to promote CSR improvement initiatives for each of the shared themes of safety, the environment, and state-of-the-art technologies. Case examples regarding improvement in these areas are shared within the companies of the group through a system that promotes the lateral dissemination of information.

Midori-kai organizations are not limited to Japan, but exist in North America, Europe, and China as well. These organizations are made up of Komatsu's major business partners within the region, and take the same steps to improve on CSR activities in accordance to specific regional characteristics.

Support to Member Companies

Komatsu supports Midori-Kai member companies in a variety of ways, making effective use of the initiatives of each group while promoting improvement activities.

Our main support activities are described below.

■ Safety



Safety and health education for managers at Sekigahara Seisakusho Ltd.



Emergency Safety Patrol at Houzumi Gear

As part of the effort to strengthen safety and health activities, we conduct continuous safety patrols for 99 companies, share information on labor accidents, and execute lateral sharing of safety measures through safety activities presentation meetings. These activities have a significant impact on increasing company safety levels, ensuring an appropriate working environment for personnel.

We promote friendly competition between each group of companies, and encourage our members to perform mutual spot-checks to acquire data and investigate potential areas of improvement.

We have also opened safety training centers in each Komatsu plant, which can be used by our business partners to provide their employees with a way to simulate workplace hazards and receive anticipatory training for potential dangers.

■ Environment

We enforce the acquisition of a number of certifications, such as ISO14001 and Eco Stage. We are proud to report that as a result of our commitment to this mandatory implementation, all 156 domestic companies within the Midori-kai have received certification.

We are committed to the reduction of energy consumption, and have set a target to reduce the consumption of electricity by at least 15% as compared to FY2010. This target was achieved in FY2016, with an average reduction of 20%, as a result of the horizontal deployment of know-how that Komatsu has cultivated through the 50% power reduction activity in supplier.

As of FY2017, we have also started working on initiatives to reduce water usage.

■ Personnel Development

We promote the development of young individuals in management positions at our business partners through the implementation of "Management Salons". Through these engagements, Komatsu executives exchange views with their less-experienced counterparts to

Support for CSR Initiatives of Business Partner

nurture and guide them in their vocations. This creates a “win-win” situation, allowing us to align our respective management policies and implement PDCA cycles while enhancing the skills of our treasured partners.

Komatsu routinely selects model companies to serve as exemplars through which other companies might learn and improve. This increases the effectiveness by which knowledge and skills are disseminated across our business partners, and capitalizes on Komatsu know-how to strengthen their organizational capabilities.

Management Systems

Checks and Balance System for New Business Transactions and Agreements

Owing to our strict regulations regarding quality, cost, delivery, environmental conservation, and personnel development, Komatsu engages in rigorous checks before beginning any sort of working relationship with a new supplier. After the data garnered from these checks has been assessed and found to comply with our guidelines, we require our suppliers to sign a basic agreement (in accordance with our CSR Procurement Policy) which determines clauses related to environmental protection and compliance.

Risk Management Preparation for the Potential Occurrence of Natural Disasters

Considering the potential risk of natural disasters, we have engaged in the bolstering of our risk management systems for procurement. As of FY2012, we have begun conducting assessments in Japan to promptly determine the status of partner companies in the event of a natural disaster (such as an earthquake or tsunami). This will allow us to continue procurement activities in spite of a catastrophe, minimizing negative impacts on our production. We have acquired the location and production content for all approximately 20,000 sites of our partner companies to create a data base for “visualization” and assess the degree of risk. By identifying partner companies with higher levels of risk, we are able to evaluate a number of preventive measures for their benefit. Our procurement staff is also able to use this information to increase the coverage of our assessment systems, specifically targeting risks that have been found to be more common amongst partner companies.

In the event of an emergency (like the Great East Japan Earthquake), security maintenance personnel from our plants are dispatched to aid recovery efforts at our partner companies.

Policy and Actions Regarding Conflict Minerals

In line with our corporate social responsibilities, Komatsu does not condone the use of conflict materials produced by the Democratic Republic of Congo (DRC), or its neighbors (Angola, Central African Republic, Republic of the Congo, Rwanda, Southern Sudan, Tanzania, Uganda and Zambia).

This policy has been disseminated to our suppliers through our regular Komatsu plant meetings, who have been made aware of our stance and related requirements. Working hand-in-hand with suppliers, we conducted a country-of-origin survey to determine the location of origin of our minerals to ensure that none of them are sourced from areas of conflict.

Moving forward, we will continue to take steps to enforce strict adherence to this policy, which will serve to restrict funding for military groups situated in such areas. Any conflict materials discovered to be within our supplier chain will be immediately discontinued from use.

Other Initiatives

Procurement Education in Human Resource Development

Procurement Education in Human Resource Development

[Support for CSR Initiatives of Business Partner](#)

Komatsu conducts employee training at all levels within the company through group educational sessions and e-learning. We place a strong emphasis on safety, the environment and compliance with regulations.

DATA

Business Partner Association Midori-Kai

	Number of Companies	Procurement Coverage
Japan	156	75%
North America	40	20%
Europe	40	30%
China	59	72%

Item	Content	Results
Human resources development and edification	Participation in Komatsu's Executive Development Education (selected each year)	21 companies in all
	Participation in All Komatsu QC Convention and Technology Olympics	23 companies in total
	Publishing "CSR Communication" (FY2011-)	118 issues in all
	CSR study groups held	23 companies
	Support in Management Salon	28 companies in all
	Held an Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors Education	181 companies in total (312 people)
Occupational Safety and Health	Safety Patrol	All 99 companies
	Mutual Safety Patrol (between companies)	87 companies, 154 times
	Risk Assessment Education	99 companies
	Held a Special Committee on Safety	64 times
Environment	Support of reduction activities for electricity use	All 96 companies
	Education on water-related risks	111 companies, 135 people

CSR Procurement Guidelines

Komatsu Group CSR Procurement Guidelines : What we would like to ask our business partners in the supply chain

(Established on August 30, 2011)

1. Operations for Sound Management

1. Build a system or operational structure designed to meet various risks.
2. Establish legal and transparent decision-making processes concerning management.
3. Conduct appropriate accounting procedures, tax filing and settlement of accounts.
4. Place importance on communication with stakeholders (customers, shareholders, business partners, employees, etc.).
5. Ensure that top management will be notified promptly when any abnormal condition develops and that your company will be able to promptly and accurately respond to the situation(s).

2. Thorough Enforcement of Compliance

1. Engage in business operations while complying with the laws and regulations as well as the rules of the Business Community of the host countries and regions.
2. Develop a corporate climate under the leadership of top management, which places top priority on compliance.
3. Build up compliance-responsive operations, according to the scale and characteristics of your company, designed to prevent your company, executives or employees from wrongdoings and to respond to any compliance-related problems promptly when they occur.

3. Product Safety, QCD and Technology Innovation

1. Comply with the laws and regulations concerning product safety and deliver products and services which will offer safety and peace of mind to customers.
2. In addition to maintaining the quality and cost competitiveness of products and services which your company delivers to customers, stand by the agreed upon date of delivery and supply your products in a stable manner.
3. Establish quality control operations.
4. Constantly engage in technology development and provide innovative, safe and environmental-friendly products and services.

4. Considerations for the Environment

1. Continue efforts to reduce environmental impact resulting from business operations.
2. Appropriately manage chemical substances contained in products.
3. Build up environmental management systems such as the ISO14000 series and "Eco Stage."

5. Measures to Respect Human Rights, Appropriate Labor Conditions and Occupational Safety and Health

1. Respect human rights.
2. Never get involved, directly or indirectly, in any child or forced labor.
3. Create a work environment where there is no discrimination or harassment in any aspect of employment.
4. Build up an occupational safety and health operational structure under the leadership of top management and create a work environment where all employees can work in safe and healthy conditions.
5. In addition to establishing a fair and just personnel system, pay attention to human resource development and employee education as well.
6. Give consideration to improving communication between top management and employees.

6. Fair Business Practices

1. Comply with all related laws and regulations and engage in free and fair competition and business transactions.
2. Respect intellectual properties of other parties and work to prevent infringement thereof. Appropriately handle information (including personal information) of your company and other companies.
3. Never accept inappropriate cash, gifts or other favors.
4. Carry out proper foreign trade transactions (goods and technologies) while complying with the related laws and regulations.
5. Never have any relationship with antisocial forces or groups.

7. Social Contributions and Co-existence with the Local Community

1. Engage in social contribution activities based on your company's management principle(s) and support employees' volunteer activities.
2. Place importance on co-existence with local communities which is the foundation of your business, and proactively support the growth of local communities.

* These guidelines will be revised as needed.

Environmental Impact of Suppliers

Support for Suppliers to Construct an Environmental Management System

In order to bolster the strength of our supplier's environmental management systems (EMS), we have tasked Komatsu Midori-kai (which accounts for approximately 75% of our procurement amount) with obtaining certification for supplier EMS.

In FY2017, 156 companies (that were targeted for the acquisition of environmental management systems) acquired certification such as "ISO 14001" and "Eco Stage", and are now engaged in the promotion of environmental management activities.

Support for Suppliers in CO₂ reduction activities

In order to increase the efficiency of supplier CO₂ emissions reduction initiatives, we are outsourcing a portion of Komatsu's energy conservation activities (50% reduction in energy consumption through production reforms) to major suppliers. As of June 2012, we have begun further expansion of our energy-saving initiatives within model companies, as well as production reform activities.

We have also initiated education programs for managers and facility personnel, and set in place development plans that visualize potential improvements for each company for lateral dissemination amongst our suppliers.

Continuing in this trend, we will introduce energy saving-related seminars conducted by external third-parties to bolster our energy consumption reduction activities.

Support for Suppliers in Water Consumption Reduction Activities

In order to promote water consumption reduction activities amongst our suppliers, we have promoted the development of our water use reduction initiatives to major outsource suppliers. This promotion was carried out alongside the release of various educational activities in FY2016.

We continued our efforts towards water consumption reduction in FY2017 by selecting ten model companies for inspection. We later then used this data to disseminate advice on improvement that was specifically tailored to each company's needs and circumstances.

In FY2018 (with the exception of model enterprises), we distributed 25 examples of case studies that centered on Komatsu's water use reduction initiatives. These helped tremendously in visualizing areas in need of improvement for our suppliers, who will subsequently take the chance to refine their water consumption practices. We are proud to be a part of this commitment, and look forward to working with our suppliers to create a better, more sustainable world.



Environmental Risk Management

Promoting Legal Compliance, and Pollution Mitigation and Prevention

Komatsu Group companies periodically report and archive environmental measurement results, in compliance with the applicable laws and regulations of national and local authorities.

In FY2017, there were four minor instances of violations with regards to environmental regulations. All four cases have been summarily dealt with and resolved.

There were no major environmental accidents which might pollute the environment on the boundary of our site during this period.

Addressing Soil and Groundwater Contamination

Komatsu has established guidelines for testing soil and groundwater in our domestic operations, and continues to ensure that appropriate investigative measures are in place to determine strict compliance to laws and regulations regarding the selling, closing, or destruction of business units. Should any contamination be discovered, Komatsu works alongside local authorities to take appropriate measures.

We voluntarily perform investigations on in-operation business units, in order to test for contamination stemming from VOC's in the cleaning solvents that we use.

We have been carrying out surveyance of soil and groundwater for VOC contaminations at domestic business units since 2005, and have implemented countermeasures at any sites that have been found to be contaminated. Komatsu is committed to the prompt resolution of any issues, and works to ensure that all clean-up processes are executed with speed and efficiency.

Our clean-up of the Oyama plant was completed in FY2009, with clean-up operations for other sites currently ongoing. To assure the quality and haste by which these operations are completed, we continuously assess and refine the effectiveness of our clean-up procedures.

Moving forward, in addition to the management of clean-up operations, Komatsu has committed to ensuring that our off-site outflow of ground water meets regulatory standards through meticulous monitoring systems at the site boundaries.

Status of Soil and Groundwater Cleanup in Japan

Business unit	Cleanup method	Cleanup status
Awazu Plant	Excavation and removal, soil vapor extraction, groundwater withdrawal and aeration, bioremediation	In process
Komatsu Plant (formerly)	Excavation and removal, groundwater withdrawal and aeration, bioremediation	In process
Osaka Plant	Soil vapor extraction, air sparging, groundwater withdrawal and aeration, bioremediation	In process
Shonan Plant	Excavation and removal, groundwater withdrawal and aeration	In process
Tochigi Plant	Excavation and removal, bioremediation	In process

*1 Bio-remediation is a purification process whereby hazardous materials are purified using micro-organisms. This return the soil to a non-hazardous state.

* Investigative surveys revealed zero contamination in the Koriyama Plant, Technology Innovation Center in Hiratsuka, Techno Center in Izu and Field Testing Department in Oita.

Managing PCB (Polychlorinated Biphenyl) Waste

Komatsu stores and disposes PCB-containing waste (such as transformers and fluorescent stabilizers), in accordance with Japan's "Law Concerning Special Measures Against PCB Waste" and the "Waste Disposal and Public Cleansing Law."

We have entrusted matters of PCB disposal to the Japan Environmental Safety Corporation (JESCO) since FY2008.

We intend to continue our commitment to managing PCB waste even including low-concentrated in FY2018.

Number of High Concentration PCB-containing Transformers and Stabilizers in Storage

Independent Practitioner's Assurance 

Company	Site	Transformers		Stabilizers	
		Number of units disposed of in FY2017	Number of units awaiting disposal	Number of units disposal of in FY2017	Number of units awaiting disposal
Komatsu Ltd.	Head office	4	0	0	30
	Awazu Plant	2	0	78	0
	Osaka Plant	0	0	0	284
	Oyama Plant	0	4	0	3
	Shonan Plant	0	0	0	3
	Field Testing Department	0	0	4	0
	Construction & Mining Equipment Marketing Division	0	0	131	0
Subtotal of Komatsu		6	4	213	320
Komatsu NTC Ltd.		2	0	46	56
Komatsu Construction Equipment Sales and Service Japan Ltd. Komatsu Rental Ltd.,Komatsu Forklift Japan Ltd.		0	4	0	138
Subtotal of Komatsu group		2	4	46	194
Total		8	8	259	514

* The share from the former Komatsu Plant was transferred to the Awazu Plant. The share from the former Mooka Plant was transferred to the Oyama Plant.

Management of Chemical Substances and Pollution Prevention

Reducing the amount of PRTR-related substances

In FY2017 the number of substances specified by PRTR* with a handling volume of 1 ton or more (0.5 tons or more for Class I specified) was 27 with an increase of 4 substances from the previous year.

Out of all PRTR-listed substances, xylene, ethyl benzene and toluene account for approximately 93% of the emissions from Komatsu and Komatsu Group manufacturing facilities. Most of these emissions are released into the atmosphere.

In FY2017, the amount of xylene, ethylbenzene and toluene handled has been reduced from 2016, as production is increasing as the switch to coatings and thinners with less PRTR type 1 designated chemical substances progresses.

We will continue to make efforts to switch to less paint containing PRTR type I designated chemical substances, thinner, high solids of paint, improve coating efficiency, and reduce the coating film thickness. Emissions in fiscal 2017 were reduced by about 4% from the previous year.

* 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 (The notification system based on the PRTR Law)

Reducing the amount of VOC released

The majority of VOC (Volatile Organic Compounds) emissions are from VOC contained in paint, such as Xylene and Ethyl benzene. Despite a slight increase in emissions in FY2017, we have managed to maintain a 50% reduction (as compared to FY2005) in the amount of VOC emissions per units of manufacturing value.

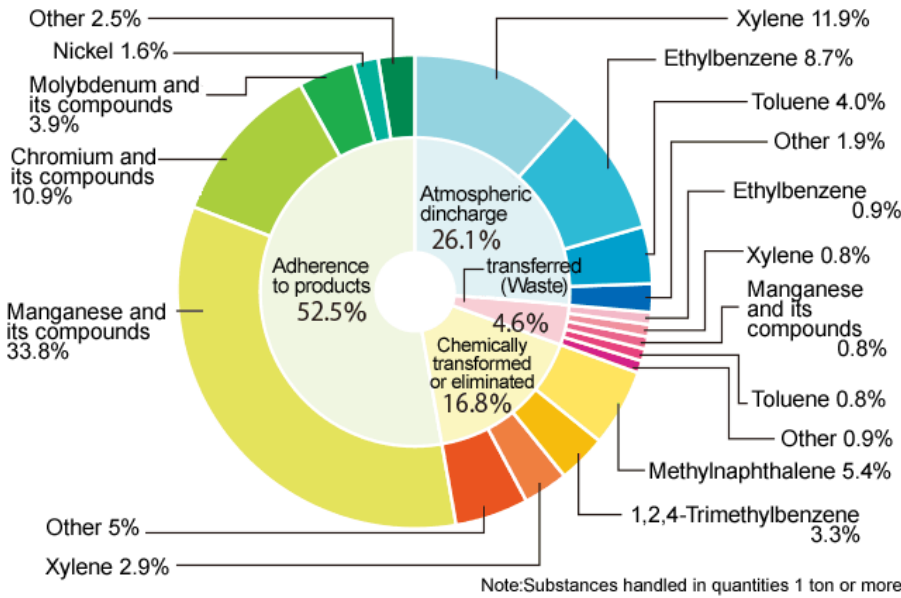


Komatsu Cabtec Co., Ltd.'s Painting Line

Environmental Risk Management

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

Independent Practitioner's Assurance



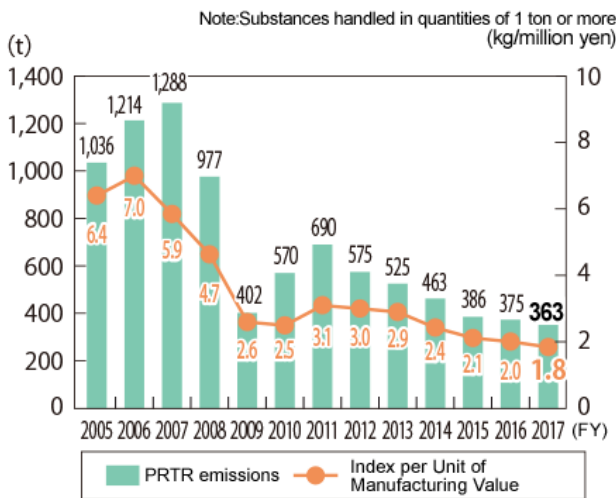
Amount of PRTR-related Substances Released into the atmosphere

Independent Practitioner's Assurance

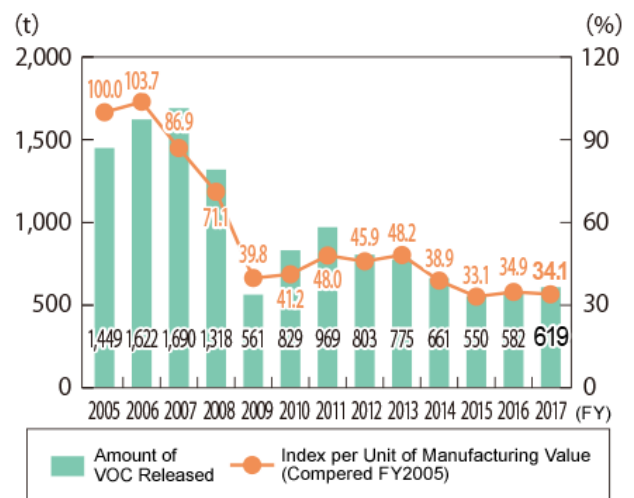
Amount of VOC Released

Independent Practitioner's Assurance

Komatsu Group Manufacturing Facilities in Japan



Komatsu Group Manufacturing Facilities in Japan



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

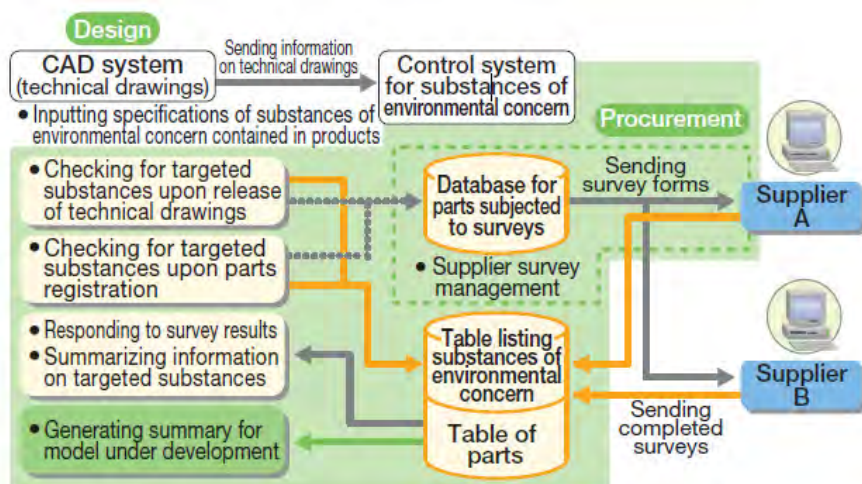
Komatsu is aware of the harmful environmental impacts that certain materials possess, and has made continuous efforts from an early stage to reduce the use of a number of such substances. These included asbestos, lead, and other such items. In FY1999, we created our own list of banned and limited-use substances ([Refer to “Substances of Environmental Concern Banned or to Be Reduced for Use in Products”](#)), which was based in part on Japanese legislation (Japanese Law Concerning the Examination and Regulation of Manufacture of Chemical Substances Control) that banned a number of chemical materials as well as regulatory measures in other countries.

We have also implemented more stringent measures in the control of substances that raise environmental concerns. In compliance with REACH, we began revisions of our FY1999 listing of banned and limited-use substances. We have also collaborated with suppliers to create a regulatory system that strengthens control of potentially harmful materials being used for production. We have rolled this system out in Japan and Europe, with plans to continue implementation in other areas of operation.

Through the use of this system, we identify SVHC (substances of very high concern) in vehicles currently in production and in newly developed vehicles. Furthermore, we also regularly check for new SVHCs to be added to the list.

There are currently 181 SVHCs registered, with the list being revised on a bi-yearly basis. We expect this number to increase to about 1,500 in the future. We have also devised a workflow to monitor control of these substances.

Control System for Substances of Environmental Concern



Substances of Environmental Concern that are Banned, or are to see Reduced Use in Production

Rank	Number	Chemical Substance
Banned	17	<ul style="list-style-type: none"> ▪ Hexavalent Chromium ▪ Cadmium ▪ Mercury ▪ PBB/PBDE/HBCDD *³ ▪ Tri-substituted Organostannic Compounds ▪ Sulfur Hexafluoride *³ ▪ PCB ▪ Asbestos ▪ Specified CFCs/Alternative CFCs (HCFC) ▪ Trichloroethylene ▪ Triethanolamine ▪ Hexachlorobenzene ▪ PFOS (Perfluorooctanesulfates) ▪ RCF (Fire-Resistant Ceramic Fibers) (Alumina and Scilica Types) *³
To be reduced (Subject to limited use)	15	<ul style="list-style-type: none"> ▪ Lead ▪ Arsenic ▪ Selenium ▪ Alternative CFCs (HFC) ▪ Specified phthalate ester (DEHP/DBP/BBP/DIBP) *² ▪ Specified Chlorinated Flame Retardents (TCEP) ▪ Polycyclic Aromatic Hydrocarbons (PAH) ▪ Methanol ▪ DZ ▪ BNST ▪ DOTE ▪ UV327
Substances of Very High Concern (SVHC) under EU REACH Regulations	(181)* ⁴	<p>Komatsu controls the use of the following substances, which might be used in Komatsu products.</p> <ul style="list-style-type: none"> ▪ DEHP/DBP/BBP/DIBP etc (5 substances) ▪ HBCDD/DBDE/Trisphosphates (2-Chloroethyl) ▪ RCF ▪ Specified Lead Compounds (4 substances) ▪ DOTE ▪ UV327

*1 REACH: EU regulations for the Registration, Evaluation, Authorization and Restriction of Chemicals

*2 Diethylhexyl phthalate, dibutyl phthalate, benzyl butyl phthalate, diisobutyl phthalate

*3 Review for stricter limits due to regulatory trends.

*4 The number of substances registered up until April, 2017 (progressively updated). Includes materials that are not contained in Komatsu construction equipment.

Water Related Risk Management

In accordance with our Earth Environment Charter, the first half of FY2015 saw the Komatsu Group focus on two salient areas:

1. Promoting reductions in water-usage (input), and increasing the recycling (circulation) of water.
2. Activities centered on water quality conservation

However, in response to the frequency of weather abnormalities and societal demands (2015/1 Water Crisis named as the number one risk at Davos Forum etc.), Komatsu has since established the “Water-Related Risk Evaluation Committee” in the second half of 2015. This committee engages in the study of water-related issues, and conducted a “Water-Related Risk Survey” after half a year of learning. This survey engaged both our domestic and foreign affiliates, seeking to understand business-related water impacts and improve upon Komatsu's water policies.

Results from the Water Related Risk Survey (conducted at 45 global affiliates/divisions in January 2016)

Komatsu Group Water-Related Risks:

1. Effect of heavy rain on operations/business
2. Risk of pollution from drainage
3. Effect of river flooding on the supply chain

Our water-related policies for FY2016 onwards have thus been changed to reflect the result of this survey. In addition to the continuation of previous initiatives and activities, we are now newly promoting “Water-Related Risk Reduction Activities” in order to minimize the impacts of water-related risks within our business operations.

Domestic Case Studies (Oyama and Tochigi Plants)

We have initiated the construction of multiple safety measures against the risks imposed by heavy rain. These include the building of three reservoirs (capable of holding up to an hour's worth of 100mm/h rainfall), installation of heavy rainfall water pipes, the construction of underground reservoirs, and the widening of rainwater drainage ways. In addition to this, we have installed water block walls and stop bars to prevent water from flowing outside of the premises.

* Our reservoirs also serve to alleviate the surrounding district's lack of drainage capacity.

Current Status of Reservoirs:

1. Oyama Plant 20,000 ton and 10,000 ton reservoirs (completed)
2. Oyama Plant 4,000 ton reservoir (under construction) and Tochigi Plant 12,000 ton reservoir (planning stage)

International Case Studies (KI: Komatsu Indonesia)

The following measures have been implemented to prevent the entry of river flood water into KI premises.

1. Installation of concrete wall
2. Installation of emergency door for employees
3. Installation of floodgate
4. Installation of new drainage system
5. Installation of drainage gate
6. Installation of pump for floods

We have engaged elements of our supply chain to collaborate with our water-related risk initiatives. Our “Water-Related Risk Survey” was conducted at the operations of one of our main supply chain companies (Midori-kai). Komatsu is proud to report that as of FY2017, Midori-kai has begun collaborative efforts in our “Water-Related Risk Reduction Activities”.

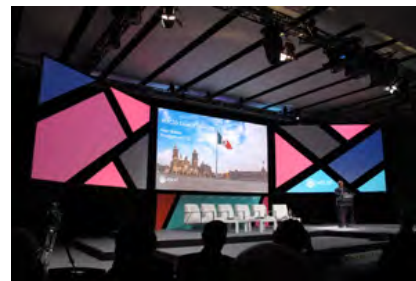
Topics

Participation in the World Business Council for Sustainable Development

Komatsu has been participating in the activities of the World Business Council for Sustainable Development (WBCSD) since 2010. The WBCSD was founded in 1995 by the CEOs of around 200 companies worldwide, in order to anticipate problems, propose global environmental policies, and create free markets on an international scale.

In recent years, however, our goals have not been limited to just the environment. We have thus set in place a long-term vision for ourselves, aiming to create “a world where all 9 billion people can live healthily” by 2050. We are also engaged in concrete activities to bring the SDGs (Sustainable Development Goals, launched by the United Nations in 2015) to fruition by 2030.

Komatsu participated in the WBCSD general meeting held in Mexico City in October 2017, and is dedicated to creating a sustainable world that considers climate change and resource recycling to be key material issues.



WBCSD General Meeting

Biodiversity

Recognizing the potential impact of our business activities on our ecosystem, we have taken steps to maintaining our commitment to protect biodiversity in our areas of operation.

Initiatives that Deal with Biodiversity

With the establishment of Komatsu's "Declaration of Biodiversity" and "Biodiversity Guideline" in January 2011, Komatsu business units worldwide began activities designed to preserve biodiversity.

Komatsu promotes initiatives to preserve biodiversity on two levels.

First, the Company continues to promote ongoing efforts to reduce the environmental impact of Komatsu's business activities. Komatsu also considers biodiversity when deciding how land is to be used, such as when building factories.

Second, Komatsu is becoming directly involved in the preservation of biodiversity, and at the same time expanding our "one-site, one-theme activities" to raise employee's awareness of the need to preserve local ecosystems.

Declaration of Biodiversity by Komatsu

Komatsu recognizes that its business activities are dependent on and influence benefits from the ecosystem through its biodiversity.

Based on this understanding, Komatsu strives to take actions in accordance with the policies described below, as it shares a sense of responsibility regarding the biodiversity crisis, and strives to conserve diverse resources.

I (Recognition by Management)

Komatsu recognizes that conservation and promulgation of biodiversity are important management tasks.

II (Initiatives)

Komatsu shall promote biodiversity through the following two perspectives

1. Komatsu shall reduce its environmental impact, which is affecting biodiversity, through its business activities.
 - (1) Reduction of environmental impact of products
 - (2) Reduction of direct environmental impact from products throughout lifecycle.
 - (3) Consideration of biodiversity when using land.
2. Komatsu shall work for conservation and promulgation of biodiversity through its social contribution activities.

III (Operation)

Komatsu shall promote activities by means of a step-by-step approach.

IV (Cooperation with the community)

In order to protect the biodiversity rooted in regions, Komatsu will undertake activities in coalition with administrative agency, local citizens, NGOs and other entities; by doing so we aim become a corporation communities can be proud of.

Biodiversity

V (Full participation activities)

Komatsu will promulgate the importance of biodiversity to all employees and undertake activities with their full participation. We will involve corporations related to the lifecycle of Komatsu products and representative agencies as well as customers in these activities and promote our initiatives on a global group-wide scale.

VI (Communication)

Communication: Komatsu will strive to educate and disclose related information to employees. In addition, Komatsu will actively disclose information on activities being undertaken and work to contribute in heightening the level of societal awareness on the importance of biodiversity.

Initiatives from Specific Business Facilities (one-site, one-theme activities)

Testing Department Test Engineering Center

Fully utilizing the different aspects of naturally abundant land while maintaining the habitats of rare flora and fauna unique to the local area

Oita's rich natural environment is home to one of our testing sites, where we conduct quality confirmation tests for our construction machines. Komatsu is aware of the potential negative impacts our site might have on the surrounding area, and we have thus conducted an investigation of animals and plants in FY2011 across each of the four seasons. We found that the animal and plant species unique to this region have not suffered any negative impacts, and are instead growing and thriving.

We have continued this commitment to biodiversity through a number conservation activities involving the waterside environment and the reparation of devastated forests etc. Of the animals involved in our investigation, we found that the majority of them consisted of birds, amphibians, and insects who inhabited locations near to bodies of water. The conclusion can be drawn that the waterfront plays a pivotal role in the sustainable living of these creatures, which makes it doubly as important for us to ensure the continued quality of water in the surrounding regions. We have made efforts to improve upon these habitats through the use of natural materials in our testing site, which has allowed us to enhance the topography of the area while ensuring that the travel routes of these animals are not compromised.

We have worked hard to ensure the maintenance of devastated forest regions near our site to create an ideal "Satoyama" (undeveloped woodlands near populated areas), where natural light is in abundance. This provides plants that are low-growing (such as Kinran) with an environment that encourages their propagation, enabling them to grow and thrive.



Salamander



Kinran

Biodiversity

In order to ensure appropriate accountability and compliance with our commitment, we have created a distribution map of amphibians and Kinran through yearly censuses. The results from these surveys have proven favorable, with an increase in population statistics across the board. With this success in mind, we will continue to maintain and improve on our conservation efforts to ensure that the whole test site is managed appropriately.

Komatsu engages external lecturers on a regular basis to train our employees in order to create a culture of environmental conservation amongst our workforce. These training efforts afford personnel at all levels with an understanding and awareness of the importance of biodiversity conservation activities, which has thus far led to excellent results in the maintenance of the environment in our test site. In FY2017, employees will learn the tree cutting method known as “Yamazakura”, which will prove extremely beneficial to woodland conservatory efforts. Following this trend of woodland conservation, we also hope to have our employees engage in tree-planting activities for the local community in the future.

Our conservation activities are not limited to within the test site, but encompass much of the surrounding areas as well. We clean the neighboring Onogawa river four times a year, and have established a dedicated corner at a business establishment fair that teaches local residents about the importance of biodiversity. In order to create a sustainable environment for the future, it is imperative that we not only engage in internal initiatives, but in external ones as well. Through the continued enactment of these co-operative measures, we believe that we can create a system of advancement that protects the natural environment while disseminating important environmentally friendly values throughout society.



Education by external lecturers



Scenery of the Onogawa Cleanup

Social Contribution Activities

154 Accomplishments and Approaches for Social Contribution Activities

156 Komatsu's Initiatives for the Social Issues

158 Developing People Needed by the Community

161 Disaster Relief

162 Special Story: Part of our impact

166 Clearing Anti-Personnel Landmines and Reconstruction Support

172 Promoting Sports—The Komatsu Women's Judo Club

Accomplishments and Approaches for Social Contribution Activities

While much of a business's responsibilities lie within the corporate sphere, it is nonetheless equally as important that a business take responsibility for local engagement within the social sphere. Komatsu is thus acutely aware of the importance for "Social Contribution Activities" that help nurture and develop the local communities in our areas of operation. We emphasize themes in our social contributions which utilize the business acumen and know-how that we have cultivated in our business operations. This in turn allows us to make use of our existing expertise to greatly increase the beneficial impact and reach of our contributory activities.

Basic Approaches to Social Contribution (from "Komatsu's Worldwide Code of Business Conduct")

CSR (Corporate Social Responsibility) is a multi-faceted topic, of which specific elements pertaining to the different aspects of its implementation are subject to change according to country, region, or business practices. However, regardless of these variations, the underlying axioms that drive these initiatives remain the same: companies must co-exist in harmony with society, responding to expectations and building a relationship of mutual trust. As mentioned in other sections of this report, one of the principles that guides the Komatsu Group on a global scale is the understanding that Komatsu should fulfill its corporate social responsibilities through integration of CSR into our business operations. We further build on that belief by defining clear requirements for good corporate citizenship: a company should live up to societal expectations by promoting harmony and making real contributions for the benefit of the community in which it operates. Komatsu is proud to report that we live up to these high standards, and are proactively engaged in social contributory activities across multiple regions.

5 Basic Principles for Social Contribution (from "Komatsu's Worldwide Code of Business Conduct")

Aims:

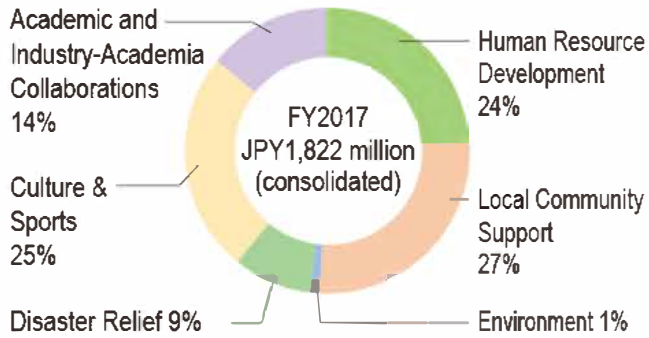
To clarify the responsibilities of Komatsu Group and its employees as members of the local community and guide their activities for social contribution accordingly.

Principles: Activities for social contribution should:

- have continuity;
- contribute to the advancement of public welfare;
- be voluntary (not forced);
- be reasonable to employees; and
- not be designed to advertise our products or services.

Social Contribution Expenditures of the Komatsu Group

We have divided and summarized the results of our social contributions into 6 general categories. These can be found in the infographic below:



Komatsu's Initiatives for the Social Issues

The world has various social issues depending on each area.

As Komatsu develops business on a global scale, we listen to the opinions of the people who live in each area and conduct support activities to improve the living standards of the people in the local community. We believe that conducting such social contribution activities is the responsibility of those doing business in that area.

USA

Support for housing improvement (Komatsu Mining Corp.)

Employees of Komatsu Mining Corp. (KMC) participated in volunteering activities for the Non-Profit Organization(NPO), Habitat for Humanity. Habitat for Humanity is an NPO that aims to support a range of home building and community projects, focusing on practical support that makes a real, tangible difference to the lives of those most in need. We support Habitat for Humanity's efforts in improving and securing housing by setting up sanitation facilities, spreading construction technology, building a community that is strong against disasters, supporting the development of the entire community, and providing building support for houses. A total of 110 KMC employees have participated in tangible activities thus far. In September 2017, 11 employees of Komatsu America Corp. (KAC) came together to jointly support housing improvement near Milwaukee, where KMC headquarters are located.



Support for Habitat for Humanity activities

South Africa

Human Resources Development Program (Komatsu South Africa)

In July 2014, Komatsu established the Komatsu Development Trust (KDT), which provides human resource development programs that aim to improve the status of black and colored people who have historically been disadvantaged in the Republic of South Africa. KDT currently offers scholarships to college students majoring in mining technology, provides support for educational improvement in mining areas, and collaborates with Cummins to provide community human resources development programs (* see "Collaboration with Cummins Inc." for more details). We have also established the Komatsu Transformation Trust (KTT), that carries out cooperative programs with customers. It is part of the program that worked together with Denron (quarry business) to establish the Komatsu / Denron Community Center. This center combats the talent shortage of skilled workers and operators by providing basic education opportunities. In an effort to improve the status of people who have been placed at a disadvantageous position by unfair discrimination, Komatsu will continue to support activities focusing on human resource development.



Komatsu / Denron Community Center
Graduation Ceremony

Oceania

Employee engagement program for community support (Komatsu Australia & Komatsu Mining Corp.)

In Oceania, Komatsu Australia (KAL) is focused on employee engagement activities to support the resolution of local community issues. We shared various challenges that employees are focusing on throughout the company, asking them to come up with potential solutions to these problems known as "DREAM"s. We received a total of 42 entries from employees within a time frame of 3 months (from September 2017), from which 8 winners were selected. These winners were provided with grants from the company, as well as the freedom to carry out their plans independently. Owing to the diverse nature of these issues, such as "Revegetation of salt and soil affected areas back to a healthy eco system" and "Supporting families affected by domestic and family violence", we have also opened up the possibility for collaborative efforts with local NPOs involved in the resolution of such issues.



LIVE YOUR DREAM

Indonesia

Reclamation of deforestation site (Komatsu Marketing & Support Indonesia)

Until the early 1990s, forestry was one of the main industries in Indonesia. As a result, there were widespread logging practices throughout the natural forests of the country. Komatsu started tropical forest reclamation activities in 1994, cooperating with the Indonesian Ministry of Forestry in order to regenerate logging sites and turn them back into tropical forests. A symbol of the Southeast Asian tropical forest, the species of tree known as the Dipterocarpaceae (Melanti) is known to be difficult to use for afforestation due to its irregular fruits and difficult-to-preserve seeds. We were able to overcome this issue by collaborating with the research facility of the Ministry of Forestry in Bogor, West Java to engage in research regarding environmental conditions for cuttings. Through this, we have successfully mass-produced seedlings for the use of seedling production by cuttings.

Using the seedlings we produced, more than 200,000 trees of the Melanti species have been planted since 1997 in the test plantation areas the Ministry of Forestry in West Java Province. Currently, employees and families of the Komatsu Group in Indonesia participate in afforestation (which has become a common activity within the area), and have planted over 15 variations of the Melanti species.

The test plantation areas, which are focused on tree species of the 20th grade, have become not only experimental forests that provide valuable data, but have also transformed into beautiful tropical forests in their own right. They have become a core for eco-tourism activities, serving as a major tourist hotspot with amazing spots for photography that attracts many tourists. This has created new employment opportunities for the local community through the construction of popular eateries and souvenir shops. Komatsu Marketing & Support Indonesia continues to work closely with the Indonesian Ministry of Forestry to support this plantation area.



Current Bogor scenery



Entrance of plantation site

Developing People Needed by the Community

When we asked ourselves: "What sort of social contribution activities would meet the needs of regional communities and make the best use of Komatsu's strengths?" We arrived at the answer: "developing people." We are working in cooperation with several entities (such as national and local governments as well as schools), to carry out human resource development programs that are tailored to each region's needs and enable participants to acquire skills that will open up various employment opportunities.

Various Areas and Forms of Support

Developing Human Resources Tailored to Regional Needs Worldwide

Using the know-how cultivated through our core business, Komatsu supports the development of skills in people that are needed not only internally by our company, but by local communities as well.

Expectations for human resources can vary greatly from community to community. At Komatsu, as we do business on a global scale, we try to understand what each community needs and work on providing that support accordingly in various areas and in different forms.

The pyramid graph below shows the different areas in which Komatsu is supporting human resource development. It also shows that the closer you get to the top of the pyramid, the more closely linked the program is with Komatsu businesses. The base of the pyramid shows our active support of activities such as science classes in elementary schools, mainly in different parts of Japan, USA and Europe. The next level up is to provide basic education, which is support given to people who cannot or were not able to receive the level of education necessary to find employment, due to circumstances specific to their country or region. We currently run such programs in Chile and South Africa. At the next level, we support universities and vocational training schools in many regions by providing Komatsu's curriculum and equipment, as well as instructors. At the top of the pyramid, we are working with national and local governments and with our customers to develop human resources, particularly in regions where human resource development is a social challenge.

The actual content of the support given includes Komatsu providing instructors and trainers; providing teaching materials, equipment and facilities; accepting apprentices; and various other means through which our daily cultivated know-how can be best put to use.

Support for Developing Human Resources



Developing People Needed by the Community

Dispatching instructors



Providing teaching materials and equipment



Providing facilities and supporting operations



Accepting apprentices



Collaboration with Cummins Inc.

We believe that collaborative CSR activities are more effective than activities conducted alone, due to the sharing of valuable requisite resources and know-how. In promoting social contribution activities in the past, Komatsu has collaborated with entities like NPO organizations that have their own unique know-how of CSR. And in 2016, we have entered into a contract with our business partner, Cummins Inc. of U.S., to collaborate on the development of local human resources.

Komatsu and Cummins' Common Objective

Komatsu and Cummins Inc., a major engine manufacturer in USA, have built a strong relationship of trust over the years as partners in the engine business.

Our two companies have already expended much energy into supporting human resources development in local communities as part of our social contribution activities, and have already collaborated in several areas. Based on this contract, we will globally expand our development of human resources through the comprehensive utilization of each other's resources and best practices.

Cummins Profile

Corporate name	Cummins Inc.
Established	1919
Headquarters	Columbus, Indiana, U.S.
Business segments	Engine, Power systems, Components, Distribution
URL	http://www.cummins.com/

Collaboration program of both companies - (1) Case of South Africa -

Komatsu supports the technical education program (Technical Education for Communities: TEC) that Cummins is developing in various countries around the world, and has developed various joint programs. Our activities in South Africa, which took place in March 2018, are a good example of this program. Through a three-year program at the local vocational training school Sedibeng College, we aim to develop human resources capable of repairing and maintaining both engines and construction machinery.



Vocational training school supported by Cummins and Komatsu



Students attending the school

The shortage of skilled technicians has become a serious problem all over the world, especially in the manufacturing industry. Due to the massive lack of both hands-on and soft skills, we are currently experiencing a severe labor shortage. TEC provides various tools to vocational training schools for young aspirants to fully acquire the skills necessary for employment and to participate actively in society, building a better country for the future.

Collaboration program of both companies - (2) Case of Peru -

Komatsu has also developed a TEC program in Peru, South America in collaboration with Cummins. We started a program to support the SENATI (Servicio Nacional de Adiestramiento en Trabajo Industrial) Arequipa (a local vocational training school) from FY 2016, and are working to provide the training of mining and construction machine skills in the 3 year course. While Peru has social issues such as economic disparity and inequality in education, we believe that investments in the mining industry are expected to cause it to expand further. As a result of this, the training of mining and construction machine skills is an urgent issue.



SENATI Arequipa



Students talking about future resolutions

More than half of the mine sites in Peru are located in the southern region, of which Arequipa city is the center. Since many mining companies are developing businesses in the suburbs, graduates who have studied at the school will not need to leave their local communities, even if they are employed in neighboring mining companies in the future. We will continue to make use of our business acumen and equipment to develop support activities that create a good number of job opportunities in the area.

Through these programs, Komatsu will continue to promote TEC as much as possible, thus enabling young aspirants who have acquired the sufficient knowledge and skills to select their own career paths in the future.

Disaster Relief

Many of Komatsu's products (especially construction equipment) are vital for recovery and reconstruction in the wake of a natural disaster. Should such a catastrophe occur, we support disaster recovery efforts through a number of practical methods. These include prompt area assessments and provision of the necessary equipment and supplies. A full report of recent support provisions can be found below:

Assistance to America • Hurricane disaster area

Komatsu America Corp. provided a \$250,000 cash donation to the American Red Cross to support Hurricane Harvey relief efforts. Komatsu America also matched dollar-for-dollar, all contributions made by Komatsu America Corp. (KAC) and subsidiary-company employees. Subsidiary companies include Komatsu Financial, Komatsu Mining Corp., Modular Mining Systems, Inc., Hensley Industries, Inc., NTC America Corp., Komatsu America Industries, LLC, Gigaphoton USA, Komatsu Forklift USA, Komatsu Equipment Company, Komatsu SouthWest, F&M Equipment, Ltd., Komatsu do Brasil Ltda., Komatsu Cummins Chile Arrienda S.A. and Komatsu Holding South America Ltda.

Between manufacturing and foundry plants, distributors and other support functions, there are more than 1,000 Komatsu-affiliated staff members and their families in the state of Texas alone.

"Speaking on behalf of the Komatsu family of companies, we have been moved by the stories of loss, courage and comradery coming out of the storm-damaged areas in the wake of Hurricane Harvey," said Rod Schrader, CEO of Komatsu America Corp. "We are pleased to support the American Red Cross in their efforts to help families and communities begin the journey towards recovery and rebuilding," Schrader said.

Special Story: Part of our impact

Part of our impact Fostering Community Growth in Cambodia



In western Cambodia, a land peppered with as many gleaming temples as tin roofs, there's a destructive threat buried just beneath the surface of everyday life: active landmines left from the Cambodian Civil War. In certain areas - generally known to locals but not secured- one wrong step can mean devastation. The anti-personnel mines still lurking in Cambodia's rural countryside were designed to maim or kill a person. Less common but more powerful are the anti-tank mines, strong enough to destroy heavy machinery. These areas of danger are overgrown with bushes and trees, as residents have learned where they cannot farm or live safely. But in a country where 90 percent of impoverished residents live in the countryside, most have no choice but to continue to farm the land in and around these areas of threat.

Special Story: Fostering Community Growth in Cambodia



Female mango farmer and her husband

Since 2008, we have been supporting a unique community development project undertaken by the Japan Mine Action Service (JMAS) in cooperation with the Cambodian Mine Action Center (CMAC), to remove these landmines and redevelop villages where families can live, work and play without fear.

By donating special equipment designed by Komatsu engineers to safely remove anti-personnel landmines, we have supported the clearing of about 1,400 mines spread across more than 1,700 hectares of land.

"Before the landmines were cleared," said one female resident in Battambang Province, "it was like a forest. All the people were scared to come into the forest. Now the land is safe for people to live," she said. The woman lives with her husband on a plot of land in one of the redeveloped areas. They farm the land where they built their own home, growing mangos and other food.

As a valued community partner, we work with CMAC and JMAS to respond to local governments' requests to clear areas of known landmine activity. Using a Komatsu bulldozer to cut brush and a specially designed demining machine, these teams clear areas for residents to live and work.

"We developed these machines special for this [purpose]," said Atsushi Nagira, General Manager, Demining and Reconstruction Project, Construction Equipment Marketing Div., Komatsu Ltd. "Not for sale, but for society." We first started designing the demining machine in 2002 when redevelopment initiatives gained momentum in Afghanistan and Cambodia. Eager to help unite as global citizens and provide a service to areas in need, we tested the first machine in Afghanistan with support from the Japanese government and later handed it over to a local NGO (non-governmental organization) for use there utilizing Japan's ODA (Official Development Assistance) funds. The machines are modified versions of Komatsu bulldozers, featuring specially designed roller pulverizers in front of the equipment and bulletproof, soundproof operator cabins that keep safe those working to clear the fields. The deminers are painted white, one of the official colors of the United Nations.

In 2008, we joined JMAS in their efforts to build upon CMAC's ongoing manual efforts to remove landmines in Cambodia. The "Project for Developing a Safe Village" in Battambang District includes landmine removal and community reconstruction in areas suffering from the impacts of anti-personnel landmines.

Komatsu provided free of charge a demining machine for removing landmines, and related equipment including a hydraulic excavator and bulldozer for earth excavation and ground leveling work. Today, there are four Komatsu demining machines in Cambodia. Residents who are part of CMAC operate the equipment.

When asked what it's like to drive the deminer and detonate deadly landmines, one operator said "this is heavy duty equipment, so it's no problem. We feel very safe."

According to Nagira, "Not only the people, but also our equipment is very tough."



Road construction using Komatsu equipment

Since 2006, the area has seen an 82 percent decrease in landmine accidents. During a March visit to the Battambang Province villages where we are providing aid and partnering with local communities, peace and happiness radiated on residents' faces in areas where the land has been cleared.

"We are so happy and so grateful that the mines are cleared," said the female farmer.

Special Story: Fostering Community Growth in Cambodia



Students at Chror Narb Phes Komatsu Primary School

Komatsu has also done much more to empower the villagers than just remove active landmines. Together with these government organizations, community partners and local residents, we are building communities: clearing the land of overgrowth, building or rebuilding roads, and constructing primary schools. "There is a great need here," Nagira "Many schools are needed and the work must continue after the schools, too. Employing people and giving them places to live." We have now helped redevelop 10 villages in areas previously riddled with active landmines.

Komatsu equipment was used to build local roads for more than 60 kilometers, connecting villages that previously were difficult if not impossible to access during monsoon season. We provided a bridge for one village particularly cut off during monsoon season, and helped build 46 ponds for the villages, which previously had no water supply. And eight new primary schools now serve nearly 600 local students.

"Most students want to go to school and now they can," said a teacher at Chror Narb Phes Komatsu Primary School, built in 2011. "Komatsu's vision and leadership have helped make this project a reality."

Young children in these villages now aspire to become doctors, nurses and teachers because they have a place to learn and thrive.

Older local schools have dirt floors and tin roofs that make the monsoon rains incredibly loud. Some of these schools have to close during the rainiest days as students and teachers cannot hear one another and the ground floods.

At Chror Narb Phes Komatsu Primary School, happy schoolchildren now sit at desks under a sturdy roof with solid floors beneath their feet. Reciting their lessons in unison, they learn math and writing, dreaming of growing up to be like the teachers they so admire.

"Many children's parents are farmers, which is hard work," said one of the school's teachers.

"The students come to school and learn about other jobs. It opens the world to them."

Asked what they wanted to be when they grew up, the children added policemen and carpenters to the list.

Through a cultural exchange with Japanese schoolchildren, the students also experience the kindness of peers thousands of miles away. Classrooms are decorated with Japanese pieces of art such as calligraphy and origami (paper folding), and a library bearing the Komatsu name is comprised of items donated from Japan for the school. Growing up in areas now free of the threat of landmines, these children will help shape Cambodia's future. Living with their families on redeveloped land distributed to residents free of charge through an application process, this new generation doesn't have to know the fear of trying to make a living on land that is unsafe.

"When we provide aid, we have to enable those we are aiding to be self-sustainable," said Nagira. "The project is to foster people. We must do more than clear the land. We must work with the government ... to make life sustainable." For the female mango farmer and her husband, the plot of land they received 10 years ago through the Battambang Province Demining and Reconstruction Project is truly special, because it's theirs.

"I'm so happy," she said. "It's a small land but I have my own. I am happy to live here."



Classroom under sturdy roof with solid floors

Special Story: Fostering Community Growth in Cambodia

Cambodia Demining Project Schedule

We currently support three ongoing redevelopment projects in Cambodia:

- Battambang Province Demining and Reconstruction Project: started in 2008
- Banteay Meanchey Providence Demining and Reconstruction Project: started in 2017
- Kampong Tom Providence Comprehensive Demining(Landmines & UXOs) Project: started in March 2018

Clearing Anti-Personnel Landmines and Reconstruction Support

As of 2008, Komatsu has engaged in collaborative efforts with the Japan Mine Action Service (JMAS) to support the demining of anti-personnel landmines. In addition to removing mines, we also provide reconstruction work as part of a community development project. Through the technical expertise and manufacturing knowledge our company has gained through our business operations, we are well positioned to provide machines that excel in demining and construction.

Click the box to see past activities.

> [Special Story: Part of our impact](#)

> [Efforts to remove anti-personnel landmines \(past activities\)](#)



Cambodia Minefield



Blast procedure

DATA

Results of Demining and Reconstruction Support Activities in Cambodia (Cumulative)

Item	Result (Cumulative Total by FY2017)
Demined area	1,735ha
Total removal count	1,360landmines
Road construction / maintenance	61.8km
Schools constructed	8 (about 600 school children)
Ponds constructed	46

Clearing Anti-Personnel Landmines and Reconstruction Support



Komatsu's demining machine



"KOMATSU" bridge in Cambodia

We started support of unexploded bomb disposal activities in 2016. in Laos.
 In Laos, about 36% of the land is riddled with unexploded bombs, many of which are cluster sub-munitions. This is a problem on a massive scale, with children and farmers suffering bomb-related injuries on a yearly basis. Komatsu plays its part by offering the necessary equipment to UXO-LAO (a Lao unexploded bomb disposal squad) and the Japan Mine Action Service (JMAS) free of charge, alongside engineering support for the machines it provides. Following the success of the demining machine for anti-personnel landmines we have used komatsu's past experiences and techniques to develop removal machines for processing unexploded ordnance based on hydraulic excavator PC130-8, and continue the disposal activities.

DATA

Results of unexploded ordnance removal in Laos (cumulative total)

Item	Result (Cumulative Total by FY2017)
Demined area	200ha
Total removal count	1,436 bombs




Machine developed based on hydraulic excavator (for processing unexploded ordnance)

Clearing Anti-Personnel Landmines and Reconstruction Support

As part of the "Visiting Lecture" initiative, Komatsu employees visit schools in Japan and introduce these activities to a wide range of students from elementary to university levels. As of today, we have carried out lessons for about 4,500 people over a total of 50 classes. We had the pleasure to attend a "Visiting Lecture" at a primary school for 6th graders. One of the students had this to say: "I heard KOMATSU's Story today. I realized that there were many landmines yet to be left and Komatsu helped remove landmines to move them somewhere safe. I was surprised to see that the machines Komatsu provided did not break, even after rolling over landmines. Please keep up the good work until all landmines have been removed in the world." Through this initiatives, Komatsu will continue to nurture children, giving them opportunities to consider their future and ways of living.

私は地雷除去プロジェクトの講演を聞いてすごくよかったですと思いました。最初に、ばくだんのあるところをふんだら手足がふっ飛ぶと聞いたから、映画の「この世界の片隅に」も土の中のばくだんをふむ場面があったなと思いました。木で作ってあったばくだんを持てたら、ちょっと重くて思っていた形とは全然ちがっていたから、ばくだんはこうゆう形なんだと分かりました。外国でまだ土にばくだんがうまっている国があってそれを日本の技術でばくだんを無くならせようとかんばっているから、すごいなと思いました。2時間以上歩いて着く学校をリフォームしたり、道路を作ったりしてえらいなと思いました。日本のヤモリは小さいけど、外国のヤモリは30cmくらいたし、外国はわにをからあげに学校したり、お湯でゆでたバナナを食べたりするから、くらし方は国それぞれだと思いました。



Letter from elementary school fifth grader after school delivery



A scene of a visiting lecture at an elementary school

Efforts to remove anti-personnel landmines (past activities)

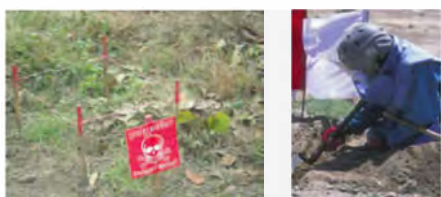


First model of the D85MS-15 demining machine being tested in Afghanistan

Anti-personnel Landmines: A Semi-permanent Source of Terror

With the advent of numerous conflicts in various areas around the world, an enormous quantity of anti-personnel landmines came to be laid. Despite the restoration of peace in these conflict zones, the still-armed mines continue to be a massive threat. Un-deactivated mines claim over 20,000 victims annually, many of whom are ordinary people going about their daily lives or children playing in fields. The Ottawa Treaty was forged in 1999 in order to resolve this ongoing issue, which provides comprehensive prohibition of the use, stockpiling, production, and transfer of anti-personnel landmines. With this treaty being signed by over 150 nations (including Japan), we can see validated proof that momentum for the abolition of anti-personnel landmines has spread throughout Japan and the world. It takes an inordinate amount of time and meticulous attention to detect and remove anti-personnel landmines manually. Cambodia is an excellent example of this fact; of the 6 million landmines laid during the civil war, only about 350,000 have been destroyed in the 15 years after the end of the war (1992 to 2006, according to the Cambodia Mine Action Centre). Going by this rate of progress, the complete removal of landmines would require more than 240 years, which would continue to put both citizens and manual removal workers at great risk.

With this considered, Komatsu believes that using a machine for this manner of work would minimize the danger of potentially fatal accidents while dramatically increasing the speed and efficiency of mine removal. This would involve a demining machine that can crush or explode landmines buried near the surface by scratching at or pounding on the ground. Such a machine would often utilize a structure or functions that are similar to the chasses and attachments used by construction equipment. We are thus confident that the specialize technology and experience in manufacturing we have acquired through our business operations in manufacturing construction equipment will prove invaluable in the development of a demining machine for anti-personnel landmines that is both efficient and safe.



(left) An anti-personnel landmine has been discovered. Although it was laid almost 20 years ago, many of them are still explosive (Cambodia). (right) Workers from local NGOs continue to be engaged in extremely dangerous clearance operations (Afghanistan).

Starting along the Path to Development

Back in 1998, Komatsu began development of machines to perform requisite pre-demining tasks, such as the removal of shrubbery. In 2002, the Japanese government approved exports of demining machines for anti-personnel landmines, and in 2003 Komatsu applied for the public offering of subsidies of Japan's Ministry of Economy, Trade and Industry and The New Energy and Industrial Technology Development Organization (NEDO), embarking on the full-scale development of demining machines. In December 2003, we completed the production of our prototype.

The base of the machine is a bulldozer with a chassis weight of about 27 tons. In addition to excellent reliability and durability, such a machine has the ability to cover rocky terrain, damp ground, and sloping land quickly and thereby clear even large areas effectively. Replacement parts are easy to obtain, and by changing the vehicle's front attachment, the machine can also be used as a bulldozer for ground leveling operations. It can be used in road construction work and other operations in the future.

Moreover, this machine features remote control technology for construction equipment that has been already proven to have practical applications in disaster recovery areas. Through remote operation, the operator's safety can be further enhanced.

Since many countries have now completely abolished the use of anti-personnel landmines, demonstration testing of demining machines' capabilities must take place in actual minefields. Komatsu has engaged in thorough testing of the capabilities of our developed machines in Afghanistan since 2004.

About 80% of Afghanistan's land is arid and mountainous, and during the long period of conflict approximately ten million anti-personnel landmines are estimated to have been laid around the country. Furthermore, antitank landmines can be found in minefields in addition to anti-personnel landmines. Demining machines must be able to withstand these even larger explosions while protecting their occupants, and must be able to extricate themselves from minefields safely. Tests to confirm the functionality and reliability of the vehicle were conducted repeatedly with great caution, also making use of remote operation technologies.

Field tests began in Cambodia in 2006. The objective was to verify the machine's capability to clear terrain, which, unlike Afghanistan, features mud flats and areas covered with bushes. The results of the testing showed great promise, with the Komatsu anti-personnel landmine demining machine succeeding in demonstrating clearance capabilities of 500 square meters per hour on average. This is from 25 to over 50 times the speed of manual clearance (although this varies according to conditions during the clearance operations).

Operation of our demining machine for two or three days can produce one hectare of safe land. In Cambodia, converting that land into fields will enable two or three families to support themselves.



(left) Komatsu's demining machine for anti-personnel landmines rotates rollers with spikes attached (rotary cutters) to crush and explode anti-personnel landmines in the ground. It operates over a large area of land, tearing up bushes and weeds and transforming the land to look as if it were a field (Cambodia, 2006).

(right) Practicing wireless operations (Cambodia). The worker operates the machine from behind a protective shield.

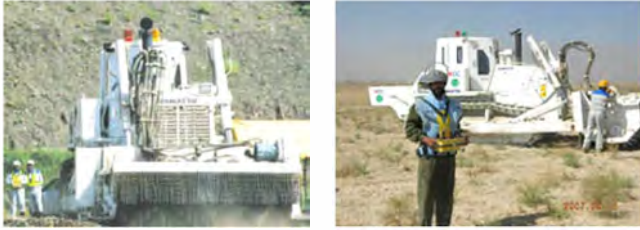
The First Machine in Service

What is essential for safe and efficient antipersonnel landmine removal operations is not only the development of vehicles but also technical training of local operators of the equipment. In the spring of 2004, Komatsu invited people from landmine removal NGOs operating in Afghanistan to Japan for the first time and conducted technical training.

Through a single one of our demining machines, we have enhanced interaction among people centered on demining operations. In addition, through getting to know the countries now working towards reconstruction and interacting with the local communities, a new commitment has been born within Komatsu that drives us to redouble our already significant efforts.

The demining machine for anti-personnel landmines has had its capabilities and reliability thoroughly verified and has been deployed by a local NGO in Afghanistan through ODA funding from the Japanese government since September 2007.

Clearing Anti-Personnel Landmines and Reconstruction Support



(left) In May 2007, people involved in the clearing of landmines in Afghanistan were once again invited to Japan to participate in training. In Afghanistan, there are many people from NGOs who participate in the landmine removal program under the United Nations umbrella.
 (right) The first machine has been deployed by a local NGO in Afghanistan and it has been in use since September 2007.

Further Efforts by Collaboration with JMAS

January 2008, Komatsu and the Japan Mine Action Service (JMAS), a nonprofit organization of Japan, signed an agreement to jointly demine anti-personnel landmines in the contaminated regions and reconstruct local communities after demining. JMAS is a nonprofit organization staffed mainly by the retired individuals of Japan's Defense Agency. Owing to their previous vocation, these retirees are possessed of a wealth of technical expertise and experiences. Since 2002, JMAS has engaged in clearing landmines and unexploded ordnances (UXOs), as well as digging wells and providing educational programs. Its zealous efforts also include the provision of technical personnel in cooperation with the governments of Cambodia, Laos and Afghanistan. Komatsu believes that the combination of our demining machine technologies and JMAS' experiences and know-how should enable faster reconstruction of devastated local communities and thus make very effective social contributions. Based on this agreement, the first reconstruction project for local communities was launched in Battambang, Cambodia in May 2008. Specific plans for this project call for our demining equipment to be rented at no cost to JMAS for speedy demining, and then, the safe development of agricultural land, digging of wells, building of schools, and repair and building of roadways and bridges. In addition to lending the demining machine and construction equipment required for use in building such infrastructure, at no cost, Komatsu has agreed to pay the operating expenses of ¥50 million and transportation cost to Cambodia. Komatsu will also supply replacement parts at no cost. For our next project, Komatsu is considering a reconstruction project in Africa. Komatsu positions community reconstruction (which begins with demining) as one of its core activities in social contribution. In addition to continuing this activity, Komatsu hopes to expand its efforts to other areas by collaborating with other companies, NGOs, governments, international organizations and local people.



Kunio Noji (left), President and CEO of Komatsu, and Mr. Mitsuo Nonaka, President of JMAS, at the signing ceremony

Click the box to see latest activities.

› [Clearing Anti-Personnel Landmines and Reconstruction Support](#)

Promoting Sports—The Komatsu Women's Judo Club

Founded in 1991 as part of social contribution activities during the 70th anniversary of the company founding, the Komatsu Women's Judo Club is celebrating its 27th year. Since its establishment, a total of 86 athletes have participated in competitions worldwide. The club has actively engaged in teaching judo at home and abroad, and in welcoming foreign judo competitors, with the goal to develop and popularize this sport.

Results of Club Activities in FY2017

At the 2017 Budapest World Judo Championships, the success of young athletes looking at the Tokyo Olympics in 2020 was prominent. From Komatsu Women's Judo Club, Tsukasa Yoshida, who first participated in the World Judo Championships, brought the opponent to a final in judo with her spontaneous moves. In the final, against the Rio Olympic silver medalist Dorjsuren (Mongolia), the two athletes showed no mercy against one another fighting beyond 13 minutes which undoubtedly attracted both world judo fans. Despite being defeated in the final, Tsukasa Yoshida became a finalist with the first appearance of the World Judo Championships and became a silver medalist nearly gold medal.



57kg-weight class
Tsukasa Yoshida winning the silver medal



Tsukasa Yoshida engaging in a 13-minute-or-more death fight (left)



Tsukasa Yoshida demonstrating her sharp inner thigh throw

Also, at the Budapest World Judo Championships, the first mixed group tournament was held. Nae Udaka who became the captain of the Japanese team, and Tsukasa Yoshida following the individual match, participated as a forerunner in the group match. Both players won the fight contributing to the victory of the Japanese team.



Nae Udaka holding the winning trophy



The Japanese team becoming the first group champion



Supporters from Japan cheering

In addition, the Komatsu team, winning all matches, became the first champion at the 1st CISM East Asia Judo Championship held in Mongolia. At the Judo Grand Slam Tokyo 2017, Yoko Ono, Miku Tashiro, Tsukasa Yoshida won the championship 3 years in a row. At the Masters tournament, Miku Tashiro has won three consecutive victories, and Yoko Ono and Ruika Sato won at the Grand Slam Dusseldorf tournament making it a remarkable year with outstanding performance in the international convention.

Promoting Sports—The Komatsu Women's Judo Club



Victory at 1st CISM East Asia Judo Championship



Miku Tashiro winning 3 consecutive years (second from left)



Yoko Ono, first win of the Judo Grand Slam Tokyo

In addition, Komatsu employees rushed to cheer around the world such as France, Germany, Russia, Mongolia, Azerbaijan. In Tokyo, Fukuoka, Toyama, Hyogo and Chiba where each player participated, employees and their families from neighbor factories and sales offices within the area joined the cheering. Supporting Judo spreading all over the world is helping not only to promote judo but also to strengthen a sense of corporate unity (global teamwork). Regarding the guidance of athletes, the Komatsu Women's Judo Club has accepted overseas players from more than 10 countries since its inception. Players who studied judo at Komatsu Judo Club are active in many countries around the world, including the Olympics held in Athens, Beijing, London, and Rio de Janeiro as well as winning medals at world championships. In the future, we hope to see athletes who have trained at Komatsu Judo Club to match against our team players in the finals.

You can see details of tournament records and player profiles and more.

[> Komatsu Women's Judo Club](#)

Social Contribution Activities through Judo

The Komatsu Women's Judo Club has continued to coach the Komatsu Kids Judo Club at the Eitai Dojo (in Koto-ku, Tokyo), while also directing and coaching at judo classes in different places around the world, including Japan, in order to popularize this sport and educate the next generation. In FY2017, Judo classes continued to be held mainly in areas where Komatsu production sites are located. The class in Yaroslavl, Russia, was conducted for the seven consecutive year, under the instruction of Coach Haruna Asami and judo athlete Nae Udaka. About 150 participants, mainly children belong to the local Judo Club "Arenal," aged from 6 to 15 years old, worked in earnest in sessions of technical guidance and hands-on practice directed by the world champions.



Komatsu Judo Club coaching youths in Yaroslavl

Promoting Sports—The Komatsu Women's Judo Club

Month	Place	Number of Participants
May	Hitachinaka (Ibaraki)	30
September	Koriyama (Fukushima)	20
October	Yaroslavl (Russia)	150
September	Sao Paulo, Susano (Brazil)	700
September	Sanchecho (Chile)	280

Data

176 Environmental Education

179 Environmental Accounting

183 Site Data

184 Amount of CO2 Emissions by Scope3

185 PRTR first Class Designated Chemical Substances data

187 Scope of Environmental Data, Calculation base of typical environmental data

190 Independent Practitioner's Assurance

Environmental Education


Komatsu is committed to employee education with regards to good environmental practices. Under our basic framework, provision of education is divided according to two unique categories according to type; Dissemination of common knowledge falls under the oversight of the Head Office, whereas specific vocational training is managed by respective divisions.

Training pertaining to the standard amendment of ISO14001 (2015 Revision) was held again in FY2017, and plan to engage in further training sessions during FY2018 in order to increase the effectiveness of our cross and internal environmental auditors.

We have updated our FY2014 environmental education program for newly appointed managers, which is now conducted through an e-Learning platform.

Despite the fact that we already meet the legislatively mandated quota of personnel with environment-related certification, we intend to implement further training in order to increase this number.

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

Independent Practitioner's Assurance 

Head Office

Komatsu and Komatsu Group manufacturing facilities in Japan
(including Technology Innovation Center, Field Testing Department)

No.	Course name	Target	Participants			
			FY2014	FY2015	FY2016	FY2017
1	Advanced environmental education (held every two years)	Environmental specialists (Komatsu and affiliates)	-	21	-	-
2	Overview of the ISO14000 series	Managers (Komatsu, affiliates, and business associates)	53	-	80	73
3	ISO14001 Standard Amendment (2015 Revision)	Stakeholders regarding ISO14001 amendment	-	281	79	-
4	Training of internal auditors / Refresher courses	Environmental auditors (Komatsu, affiliates, and business associates)	35	-	61	89
5	Development and manufacturing (introductory)	Development and manufacturing staff (for second-year employees)	341	334	287	189
6	Environmental training for manufacturing engineers	Assistant foremen/ foremen/ manufacturing engineers/ students of Komatsu Institute of Technology	242	252	230	226
7	Training new employees	New Employees (Komatsu and affiliates)	261	333	322	329
8	Lectures on the environment, experience-oriented education	Komatsu Group employees	1,527	2,729	1,662	1,796
9	Education to refresh environmental understanding (e-Learning)	Komatsu Group managers and employees	154	181	229	-
10	Newly appointed manager training	Komatsu Group newly appointed managers	155	168	193	161

Divisions overseeing environmental management at plants

No.	Course name	Target	Participants			
			FY2014	FY2015	FY2016	FY2017
1	Education in the basics of auditing	Managers and employees	100	185	120	90
2	Overview of the ISO14000 series	Managers and employees	1,464	996	1,093	559
3	Training of internal auditors	Environmental auditors	38	28	13	61
4	Training new employees	New Employees	700	1,618	1,270	1,866
5	Regulatory education and personnel exchange	Employees (and other participants)	1,245	467	217	835
6	Specialist training	Environmental conservation practitioners (persons involved in regulatory affairs, etc.)	355	428	435	328

* 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

Independent Practitioner's Assurance 

Komatsu and Komatsu Group manufacturing facilities in Japan
(including Technology Innovation Center, Field Testing Department)

Certificate name	Number of persons with certificate*			
	FY2014	FY2015	FY2016	FY2017
Pollution control administrators	249 (33)	247 (31)	223 (31)	220 (35)
Energy administrators	50 (10)	41 (9)	41 (9)	39 (9)
Environmental management system auditors	4	4	2	2

* Figures in parentheses indicate the number of officers required.

Environmental Accounting

Komatsu fully reports on the content of our environmental accounting systems in order to obtain an objective and accurate evaluation of our environmental conservation activities.

Environmental Costs (Investments and expenses)

Independent Practitioner's Assurance 

Komatsu and Komatsu Group manufacturing facilities in Japan (including Technology Innovation Center)

Category		Investment			Expenses		
		FY2016	FY2017		FY2016	FY2017	
		Investment *1 (millions of yen)	Investment *1 (millions of yen)	Contents	Expenses *1 (millions of yen)	Expenses *1 (millions of yen)	Contents
1. Business area cost		1,281	1,198		2,344	2,316	
Breakdown	(1). Pollution prevention cost	93	115	<ul style="list-style-type: none"> Investment for installation and conversion of pollution mitigation / prevention facilities 	447	420	<ul style="list-style-type: none"> Cost of maintaining equipment for mitigation / prevention of air and water pollution and for noise and vibration prevention (labor and depreciation costs)
	(2). Global environmental conservation cost	1,167	1,052	<ul style="list-style-type: none"> Investment for implementing energy conservation measures (installation of energy saving facilities, etc.) 	1,116	919	<ul style="list-style-type: none"> Cost of maintaining energy conservation facilities, such as cogeneration systems (labor and depreciation costs)
	(3). Resource circulation cost	21	31	<ul style="list-style-type: none"> Investment for reducing the volume of waste materials 	781	977	<ul style="list-style-type: none"> Waste material processing cost

Category	Investment			Expenses		
	FY2016	FY2017		FY2016	FY2017	
	Investment *1 (millions of yen)	Investment *1 (millions of yen)	Contents	Expenses *1 (millions of yen)	Expenses *1 (millions of yen)	Contents
2. Upstream/downstream cost	0	0	<ul style="list-style-type: none"> Additional investment needed to provide eco-friendly product services 	295	307	<ul style="list-style-type: none"> Reduction of the environmental impact of mass-production units
3. Administration cost	90	21	<ul style="list-style-type: none"> Investment for beautifying manufacturing sites 	787	790	<ul style="list-style-type: none"> Cost of maintaining environmental management systems Cost of creating green spaces and beautifying manufacturing sites
4. R&D cost	204	356	<ul style="list-style-type: none"> Investment in research facilities for reduction of environmental impact 	16,896	19,514	<ul style="list-style-type: none"> 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		11	17	
6. Environmental remediation cost	0	7		383	178	<ul style="list-style-type: none"> Cost of conducting surveys and remedial countermeasures related to soil and groundwater contamination PCB disposal costs
Total	1,575	1,581		20,714	23,122	

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

Environmental Effects

Independent Practitioner's Assurance 

Environmental impact reduction effects

Komatsu and Komatsu Group manufacturing facilities in Japan (including Technology Innovation Center)

Items of environmental impact	Reduction amount (t/year)	Rate of year-on-year changes (%)
CO ₂ emissions	22,872	12.6
Water consumption	613,625	22.8
Waste materials generation	2,353	16.8

Economic benefits

Komatsu and Komatsu Group manufacturing facilities in Japan (including Technology Innovation Center)

Tangible benefits			Avoidance benefits of environmental risks*2	Contribution to profits*2
Type	Monetary value*1 (millions of yen)	Major activities		
Energy conservation	320	Installation of energy-saving facilities	* In FY2017, there were no major accidents or legal infractions that would contaminate the environment. * No litigation costs were required in Japan during FY2017.	<ul style="list-style-type: none"> ■ Proceeds from mobile recycling equipment ■ Proceeds from value added due to reduced environmental impact of products (engines)
Resource conservation	31	Saving heating and cooling cost by biomass utilisation		
Waste materials reduction	31	Promotion of recycling through thoroughgoing sorting		
Gain on sale of valuables	354	Sale of scrap, used paper, waste oil, etc.		
Other	15	-		
Total	752			

*1 Figures are rounded off to the nearest million yen.

*2 Komatsu used statements instead of numeral figures to describe the "Avoidance benefits of environmental risks" and the "Contribution to profits". We will give further consideration to the interpretation and the understanding of efficiency. The sales amounts of businesses for content presented in "Contributions to profits" in FY2017 are as follows:

■ **Mobile recycling equipment business**

1.9 billion yen

■ **Engine business**

186.4 billion yen

(Total for intra-Group sales from the Engine Business Division)

Effects on Society *1

Environmental impact reduction effects


- Environmental impact reduction resulting from on-site recycling methods
- Environmental impact reduction resulting from product operation
- Waste components reduction resulting from "Reman" business

Tangible benefits

- Reduction of expenses for processing waste materials
- Savings in operating and maintenance costs
- Reduction of repair costs

*1 We are aware of the potential impacts on society that could arise from the use of our products. Qualitative information regarding the most significant effects are referenced here.

Site Data

Independent Practitioner's Assurance 

Japan

[> Site Data \(Japan\) \(2.66M\) !\[\]\(4688aadfd656ded00cd6bdfae55089a9_img.jpg\)](#)


- Awazu Plant
- Osaka Plant
- Oyama Plant
- Shonan Plant
- Development Division, Technology Innovation Center
- Komatsu NTC Ltd.
- Komatsu Construction Equipment Sales and Service Japan Ltd.
- Komatsu Forklift Japan Ltd.
- Kanazawa Plant
- Ibaraki Plant
- Koriyama Plant
- Tochigi Plant
- Komatsu Castex Ltd.
- Komatsu Cabtec Co., Ltd.
- Komatsu Rental Ltd.

Overseas

[> Site Data \(Overseas\) \(65KB\) !\[\]\(2b17f17ebbacc911bb0ff784ab641779_img.jpg\)](#)

- The Americas
- Asia
- Europe

Amount of CO₂ Emissions by Scope3

Independent Practitioner's Assurance 

Category	Rate (%)	Summary Data kt-CO ₂
Scope3 (11)Customer Use	88.9	24,186
Scope3 (1)Manufacturing of Purchasable Goods	9.6	2,625
Scope3 (2)Capital Goods Construction and others	0.4	109
Scope3 (3)Fuel Procurement	0.4	104
Scope3 (4)Upstream Transportation disposal	0.1	34
Scope3 (5)Waste Transportation	0.1	15
Scope3 (6)Business Trips	0.1	38
Scope3 (7)Commuting	0.1	23
Scope3 (8)Upstream Leased Assets Operation	0	0
Scope3 (9)Downstream Transportation	0.2	58
Scope3 (10)Processing Sold Products	0	0
Scope3 (12)Product disposal	0.1	15
Scope3 (13)Downstream Leased Assets Operation	-	-
Scope3 (14)Franchise Member Companies	0	0
Scope3 (15)Investment Management	0	0
Total CO₂Emission Amount (kt-CO₂/year)	100.0	27,206

Note: When the figures in each category are rounded or truncated . the amount may not
Coincide with the aggregate of the relevant figures.

PRTR first Class Designated Chemical Substances data

Independent Practitioner's Assurance 

(Handling of 1 ton or more, or 0.5 ton or more for Class I Specified Chemical Substances) (applicable PRTR substances from April 2010)

(Unit: t)

Number under the PRTR Law	Name	Amount handled	Amount released				Amount transferred		Chemically transformed or eliminated	Amount Contained in Products
			Air	Water	Soil	Buried	Sewage	Waste		
412	Manganese and its compounds	477.4	0.7	0.0	-	-	-	11.3	0.0	465.4
80	Xylene	221.6	163.6	-	-	-	-	11.4	40.2	1.0
53	Ethylbenzene	148.2	119.6	-	-	-	-	12.2	15.5	0.9
87	Chromium and chromium (III) compounds	150.8	0.0	-	-	-	-	1.3	-	149.5
300	Toluene	76.1	55.1	-	-	-	-	11.1	9.8	-
438	Methylna phthalene	74.4	0.3	-	-	-	-	-	74.1	-
296	1,2,4- trimethyl benzene	60.7	13.3	-	-	-	-	1.4	45.9	0.1
453	Molybdenum and its compounds	53.7	-	-	-	-	-	0.0	-	53.7
448	Methylenebis (4,1phenylene) = diisocyanate	30.0	-	-	-	-	-	0.0	29.8	0.2
308	Nickel	22.5	0.0	-	-	-	-	0.0	-	22.5
88	Chromium (VI) compounds *1*2	6.6	0.0	-	-	-	-	1.6	-	0.0
321	Vanadium compounds	11.2	-	-	-	-	-	0.1	-	11.1

Number under the PRTR Law	Name	Amount handled	Amount released				Amount transferred		Chemically transformed or eliminated	Amount Contained in Products
			Air	Water	Soil	Buried	Sewage	Waste		
132	Cobalt and its compounds	8.9	-	-	-	-	-	1.1	-	7.8
207	2, 6-Di-tert-butyl-4-cresol	7.4	-	0.0	-	-	-	1.3	0.0	6.2
297	1,3,5- trimethyl benzene	6.1	3.4	-	-	-	-	0.3	2.5	-
7	Butyl acrylate	4.1	4.1	-	-	-	-	0.0	-	-
188	N,N- dicyclohexylamine	4.0	0.0	0.0	-	-	-	3.7	0.2	0.0
460	Phosphoric acid tricresyl	3.9	0.0	-	-	-	-	0.0	0.0	3.9
392	n-hexane	3.6	0.5	-	-	-	-	0.0	3.0	-
349	Phenol	2.9	0.0	-	-	-	-	0.0	2.9	0.0
302	Naphthalene	2.6	1.3	-	-	-	-	0.2	1.1	-
405	Boron Compounds	2.1	0.0	-	-	-	-	0.4	1.3	0.4
277	Triethylamine	2.0	0.4	-	-	-	-	0.0	1.6	-
258	1,3,5,7- tetraaza tricyclo[3, 3,1,1(3,7)] decane *3	1.8	-	-	-	-	-	0.0	0.0	1.8
83	Isopropyl benzene	1.3	0.9	-	-	-	-	0.1	0.4	-
355	Bis(2-ethylhexyl)phthalate	1.1	0.0	-	-	-	-	0.7	-	0.5
400	Benzene *2	0.5	0.0	-	-	-	-	-	0.5	-

*1 During chrome plating, chromium (VI) compounds become chromium compounds. Therefore, the amount transferred and the amount contained in products are entered as chromium and chromium(III) compounds.

*2 PRTR Class I Specified Chemical Substances

*3 Although the amount contained is below the minimum amount that requires registration with the PRTR, we still report the data because the amount released exce

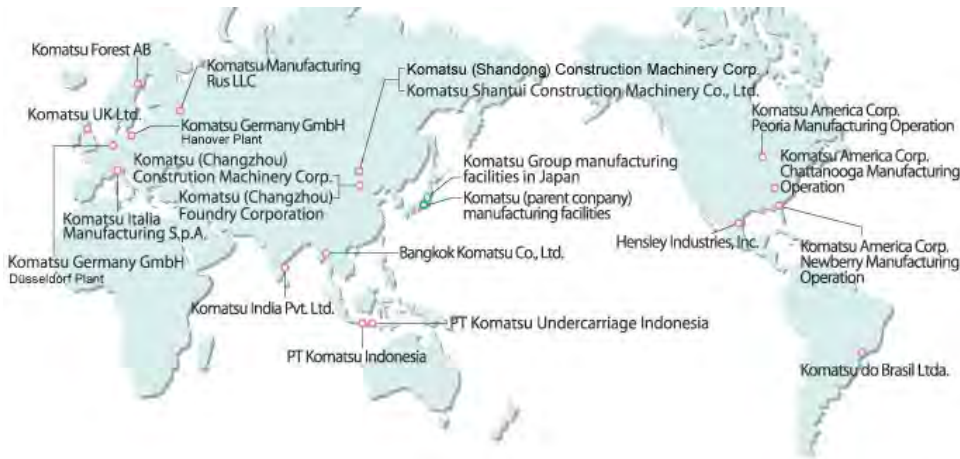
Scope of Environmental Data, etc

Komatsu Group Manufacturing Facilities in Japan

- Komatsu (parent company) manufacturing facilities, with a focus on the following eight plants
The Awazu Plant, the Kanazawa Plant [including the Kanazawa-Daiichi Plant and the Kanazawa-Daini Plant], the Osaka Plant [including the Rokko Plant], the Ibaraki Plant, the Oyama Plant [including Komatsu Cummins Engine Co., Ltd., Industrial Power Alliance Ltd. and GIGAPHOTON, Inc.], the Koriyama Plant, the Shonan Plant [including KELK Ltd.], and the Tochigi Plant.
- Komatsu Group manufacturing facilities in Japan, with a focus on the aforementioned eight plants and the following three business units
Komatsu Castex Ltd., Komatsu Cabtec Co., Ltd., Komatsu NTC Ltd.

Komatsu Group Manufacturing Facilities Outside Japan

- Komatsu Group manufacturing facilities outside Japan, specifically the 19 business units appearing on the world map below.



- Komatsu Group manufacturing facilities, both foreign and domestic: Pertaining to all 30 of the offices mentioned above.

Guidelines

- “Environmental Report Guidelines 2012” (Ministry of the Environment of Japan)
- Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain Ver 2.5 (Ministry of the Environment and Ministry of the Economy, Trade and Industry of Japan)
- Database on Emissions Intensities for Calculating Greenhouse Gas Emissions, etc. through a Supply Chain Ver. 2.5 (Ministry of the Environment and Ministry of the Economy, Trade and Industry of Japan)

GRI Standards

See the GRI content index

* Global Reporting Initiative

> GRI Standards INDEX

Period Covered

Primarily, this report covers data acquired from April 2017 to the end of March 2018, with a portion of information that involves data acquired after April 2018.

Calculation base of typical environmental data

Classification	Item	Calculation Method
GHG Energy	Energy	<p>Energy = (fuel, electric energy, etc.) x energy conversion factor</p> <ul style="list-style-type: none"> ▪ Fuels (other than biomass), conversion coefficient of electric power: standard heating value of the Agency for Natural Resources and Energy (Domestic 2013, value overseas 1999) ▪ Biomass fuel: National Woodchips Industry Association (Japan) ▪ Regional heat: site reported value (1.54 GJ / MWh) ▪ Steam: Site report value (4.19 GJ / t)
	GHG	<p>Energy originated CO₂ = (fuel quantity, electricity quantity) x CO₂ emission factor Non-energy originated GHG = Gas emissions x Global warming potential (GWP)</p> <ul style="list-style-type: none"> ▪ CO₂emission factor Electricity: Japan; Ministry of the Environment Environmental activity evaluation program - Eco Action 21 (1998) Overseas; 2005 value of IEA CO₂ EMISSIONS FROM FUEL COMBUSTION 2010 Fuel: Japan, Overseas; Ministry of the Environment, Ministry of Economy, Greenhouse gas emissions calculation and report manual ▪ GWP: Value of greenhouse gas emissions calculation, reporting and publication system
	Energy, CO ₂ emission intensity unit	<p>Index = (energy, CO₂) / (production amount), index is a value with base year 100. Base year: Japan 2000, Overseas 2010</p>
	Location criteria Scope 2	<p>CO₂ emission = purchased electricity quantity x CO₂ emission factor</p> <ul style="list-style-type: none"> ▪ CO₂ emission factor: Japan; Ministry of the Environment, Ministry of Economy, Trade and Industry Emission Factor by Electric Utility Substitution Value Overseas; 2010 value of IEA CO₂ EMISSIONS FROM FUEL COMBUSTION 2012
	Market standard Scope 2	<p>CO₂ emission = purchased electricity quantity x CO₂ emission factor</p> <ul style="list-style-type: none"> ▪ CO₂ emission factor: Japan; Emission Factor by Electric Power Company Overseas; 2010 value of IEA CO₂ EMISSIONS FROM FUEL COMBUSTION 2012 However, the electricity generated from renewable energy source has zero emission factors

Classification	Item	Calculation Method
	C1	Purchased product service: Product weight x emission factor + cooperating company CO2 emission amounts
	C2	Capital goods: capital investment amount x emission factor
	C3	Fuels and energy related activities not included in Scope 1 and 2: fuel quantity purchased x emission factor on the upstream side + purchased electric energy amount x upstream side emission factor
	C4	Transportation, Delivery (upstream): Fuel consumption (amount) x Emission factor (coefficient according to Komatsu actual result survey)
	C5	Waste from project: Waste volume x Emission factor (coefficient according to Komatsu performance survey)
	C6	Business trip: travel expenses x emission factor
	C7	Employer commuting: commuting expenses x emission factor
	C9	Downstream transport: transport volume x emission factor
	C11	Use of products sold: Σ (Production volume per product model x Fuel consumption x Product life)
	C12	Disposal of products sold: Product weight x Emission factor
		Emission factor Power of C1/C2/C3, C6/C7/C12: Emission intensity unit database (Ver 2.5) for calculating greenhouse gas emissions of organizations through the supply chain of the Ministry of the Environment C3 Fuel: Carbon Footprint Communication Program Basic Database (Ver 1.01) C9: Ministry of Economy, Trade and Industry • Ministry of Land, Infrastructure, Transport and Tourism Guidelines for Estimating CO2 Emissions in the Logistics Field
Exhaust	Sox Emissions	Total for heavy oil, kerosene, light oil and coke: Calculated from fuel quantity x sulfur content in fuel
	NOx Emissions	Total for heavy oil, kerosene, light oil, city gas, and LPG: Calculated from Exhaust gas quantity x NOx concentration x 46 / 22.4
Drainage	BOD Emissions	Calculated from Wastewater x BOD Average Concentration Measurement Value
	COD Emissions	Calculated from Wastewater x COD average concentration measured value

Independent Practitioner's Assurance

Regarding the Issuance of CSR & Environmental Report

Komatsu views an independent practitioner's assurance process as crucial for ensuring the integrity and objectivity of its CSR & Environmental Report and data. For this reason, Komatsu has received an independent practitioner's assurance from Deloitte Tohmatsu Sustainability Co., Ltd., an affiliate of the Deloitte Touche Tohmatsu LLC.

▶ [Deloitte Tohmatsu Sustainability Co., Ltd.](#) 



Supplementary Explanation regarding the Conducting of Independent Practitioner's Assurance

Supplementary explanation regarding independent practitioner's assurance procedures



Supplementary Explanation regarding site visits to business units

1. Business units visited in this review


- (1) Komatsu Ltd. Head Office
- (2) Komatsu Ltd. Awazu Plant

2. Visited 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.



Executing a review at the Head Office

Points of an Independent Practitioner's Assurance

Komatsu has received an independent practitioner's assurance from Deloitte Tohmatsu Sustainability Co., Ltd. for this Web data, which is marked by the independent practitioner's assurance logo  where appropriate.

GRI STANDARDS INDEX

100 series (Universal)

Aspects	Indicators	Description	Reference
Organizational Profile	102-1	Name of the organization	› Company Info: Corporate Profile
	102-2	Activities, brands, products, and services	› Company Info: Corporate Profile › Company Info, Products and Applications › Company Info, Technology and Innovation
	102-3	Location of headquarters	› Company Info: Corporate Profile
	102-4	Location of operations	› Company Info, Global Operations › CSR & Environmental Report: Strengthening Our Gemba Capability (Dispatching Technicians from Japan) › CSR & Environmental Report: Initiatives for Social Issues
	102-5	Ownership and legal form	› Company Info: Corporate Profile
	102-6	Markets served	› Company Info, Global Operations
	102-7	Scale of the organization	› Company Info: Corporate Profile
	102-8	Information on employees and other workers	› CSR & Environmental Report: Personnel Policy and Performance Appraisal System
	102-9	Supply chain	› CSR & Environmental Report: Support for CSR Initiatives of Business Partners
	102-10	Significant changes to the organization and its supply chain	
	102-11	Precautionary Principle or approach	› Investor Relations: Corporate Governance › CSR & Environmental Report: Risk Management › CSR & Environmental Report: Compliance

Aspects	Indicators	Description	Reference
			<ul style="list-style-type: none"> › CSR & Environmental Report: Promoting Legal Compliance, and Pollution Mitigation and Prevention › CSR & Environmental Report: Management of Chemical Substances and Pollution Prevention
	102-12	External initiatives	<ul style="list-style-type: none"> › CSR & Environmental Report: Message from Top Management › CSR & Environmental Report: International Initiatives (WBCSD)
	102-13	Membership of associations	
Strategy	102-14	Statement from senior decision-maker	<ul style="list-style-type: none"> › CSR & Environmental Report: Message from Top Management › Investor Relations: President interview
	102-15	Key impacts, risks, and opportunities	<ul style="list-style-type: none"> › CSR & Environmental Report: Risk Management
Ethics and Integrity	102-16	Values, principles, standards, and norms of behavior	<ul style="list-style-type: none"> › Company Info, Komatsu's Worldwide Code of Business Conduct › CSR & Environmental Report: Compliance › CSR & Environmental Report: The KOMATSU Way
	102-17	Mechanisms for advice and concerns about ethics	<ul style="list-style-type: none"> › CSR & Environmental Report: Compliance
Governance	102-18	Governance structure	<ul style="list-style-type: none"> › Investor Relations: Corporate Governance › CSR & Environmental Report: Organization › CSR & Environmental Report: Organizational Chart of the Environmental Management Structure
	102-19	Delegating authority	<ul style="list-style-type: none"> › CSR & Environmental Report: Organization › CSR & Environmental Report: Organizational Chart of the Environmental Management Structure
	102-20	Executive-level responsibility for economic, environmental, and social topics	<ul style="list-style-type: none"> › CSR & Environmental Report: Organization › CSR & Environmental Report: Organizational Chart of the Environmental Management Structure
	102-21	Consulting stakeholders on economic, environmental, and social topics	<ul style="list-style-type: none"> › CSR & Environmental Report: Organization › CSR & Environmental Report: Dialogue with Our Stakeholders
	102-22	Composition of the	<ul style="list-style-type: none"> › Company Info: Directors, Auditors and Officers

Aspects	Indicators	Description	Reference
		highest governance body and its committees	› Investor Relations: Corporate Governance
	102-23	Chair of the highest governance body	› Investor Relations: Corporate Governance
	102-24	Nominating and selecting the highest governance body	› Corporate Governance ReportPDF
	102-25	Conflicts of interest	› Company Info, Komatsu's Worldwide Code of Business Conduct
	102-26	Role of highest governance body in setting purpose, values, and strategy	› CSR & Environmental Report: Organization
	102-27	Collective knowledge of highest governance body	› CSR & Environmental Report: Organization
	102-28	Evaluating the highest governance body's performance	› Corporate Governance ReportPDF
	102-29	Identifying and managing economic, environmental, and social impacts	› CSR & Environmental Report: CSR Theme and Key Business Activities
	102-30	Effectiveness of risk management processes	› CSR & Environmental Report: Risk Management
	102-31	Review of economic, environmental, and social topics	› CSR & Environmental Report: Risk Management
	102-32	Highest governance body's role in sustainability reporting	› CSR & Environmental Report: Organization
	102-33	Communicating critical concerns	› CSR & Environmental Report: Risk Management
	102-34	Nature and total number of critical	

Aspects	Indicators	Description	Reference
		concerns	
	102-35	Remuneration policies	› Annual Securities Report : CompensationPDF
	102-36	Process for determining remuneration	› Annual Securities Report : CompensationPDF
	102-37	Stakeholders' involvement in remuneration	
	102-38	Annual total compensation ratio	
	102-39	Percentage increase in annual total compensation ratio	
Stakeholder Engagement	102-40	List of stakeholder groups	› CSR & Environmental Report: Dialogue with Our Stakeholders
	102-41	Collective bargaining agreements	› CSR & Environmental Report: Personnel Policy and Performance Appraisal System
	102-42	Identifying and selecting stakeholders	› CSR & Environmental Report: Dialogue with Our Stakeholders
	102-43	Approach to stakeholder engagement	
	102-44	Key topics and concerns raised	
Reporting Practice	102-45	Entities included in the consolidated financial statements	› Annual Securities Report: Overview of Subsidiaries and AffiliatesPDF › Company Info, Subsidiaries and Affiliates
	102-46	Defining report content and topic Boundaries	› CSR & Environmental Report: CSR Theme and Key Business Activities
	102-47	List of material topics	
	102-48	Restatements of information	

Aspects	Indicators	Description	Reference
	102-49	Changes in reporting	
Report Profile	102-50	Reporting period	
	102-51	Date of most recent report	› CSR & Environmental Report: Editorial Policy
	102-52	Reporting cycle	
	102-53	Contact point for questions regarding the report	CSR Digest: Back Cover
	102-54	Claims of reporting in accordance with the GRI Standards	
	102-55	GRI content index	GRI STANDARDS INDEX
	102-56	External assurance	› CSR & Environmental Report: Independent Practitioner's Assurance
	Management Approach	103-1	Explanation of the material topic and its Boundary
103-2		The management approach and its components	› CSR & Environmental Report: CSR Theme and Key Business Activities › CSR & Environmental Report: Incorporating CSR into Management
103-3		Evaluation of the management approach	› CSR & Environmental Report: CSR Theme and Key Business Activities › CSR & Environmental Report: Incorporating CSR into Management

200 series (Economic topics)

Aspects	Indicators	Description	Reference
Economic Performance	201-1	Direct economic value generated and distributed	› CSR & Environmental Report: Personnel Policy and Performance Appraisal System (remuneration data) › CSR & Environmental Report: Enhancing Work-Life Balance (Work-Life Balance Data) › Annual Securities Report: Income TaxesPDF

Aspects	Indicators	Description	Reference
			<ul style="list-style-type: none"> › CSR & Environmental Report: Developing People Needed by the Community › CSR & Environmental Report: Initiatives for Social Issues › CSR & Environmental Report: Social Contribution in Japan › CSR & Environmental Report: Disaster Relief › CSR & Environmental Report: Clearing Anti-Personnel Landmines and Reconstruction Support
	201-2	Financial implications and other risks and opportunities due to climate change	<ul style="list-style-type: none"> › CSR & Environmental Report: Mitigating Climate Change through Products and Services › CSR & Environmental Report: Initiatives to Mitigate Climate Change in Business Operations
	201-3	Defined benefit plan obligations and other retirement plans	<ul style="list-style-type: none"> › Annual Securities Report: Pension and Retirement Benefits PDF
	201-4	Financial assistance received from government	
Market Presence	202-1	Ratios of standard entry level wage by gender compared to local minimum wage	
	202-2	Proportion of senior management hired from the local community	<ul style="list-style-type: none"> › CSR & Environmental Report: Diversity Initiatives
Indirect Economic Impacts	203-1	Infrastructure investments and services supported	<ul style="list-style-type: none"> › CSR & Environmental Report: Initiatives for Social Issues › CSR & Environmental Report: Social Contribution in Japan › CSR & Environmental Report: Disaster Relief › CSR & Environmental Report: Clearing Anti-Personnel Landmines and Reconstruction Support
	203-2	Significant indirect economic impacts	<ul style="list-style-type: none"> › SMARTCONSTRUCTION › Investor Relations: President interview › CSR & Environmental Report: Developing People Needed by the Community › CSR & Environmental Report: Initiatives for Social Issues › CSR & Environmental Report: Social Contribution in Japan › CSR & Environmental Report: Disaster Relief › CSR & Environmental Report: Clearing Anti-Personnel Landmines and Reconstruction Support

Aspects	Indicators	Description	Reference
Procurement Practices	204-1	Proportion of spending on local suppliers	› CSR & Environmental Report: Support for CSR Initiatives of Business Partners
Anti- corruption	205-1	Operations assessed for risks related to corruption	
	205-2	Communication and training about anti-corruption policies and procedures	› CSR & Environmental Report: Compliance
	205-3	Confirmed incidents of corruption and actions taken	› CSR & Environmental Report: Compliance
Anti-competitive Behavior	206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	

300 series (Environmental topics)

Aspects	Indicators	Description	Reference
Materials	301-1	Materials used by weight or volume	› CSR & Environmental Report: Relationship between Business Activities and the Environment (Input and Output)
	301-2	Recycled input materials used	
	301-3	Reclaimed products and their packaging materials	
Energy	302-1	Energy consumption within the organization	› CSR & Environmental Report: Relationship between Business Activities and the Environment (Input and Output) › Scope of Environmental Data, etc
	302-2	Energy consumption outside of the organization	
	302-3	Energy intensity	› CSR & Environmental Report: Initiatives to Mitigate Climate Change in Business Operations

Aspects	Indicators	Description	Reference
			› Scope of Environmental Data, etc
	302-4	Reduction of energy consumption	
	302-5	Reductions in energy requirements of products and services	› CSR & Environmental Report: Reduction in CO2 Emissions of Construction Equipment
WATER	303-1	Water withdrawal by source	› CSR & Environmental Report: Relationship between Business Activities and the Environment (Input and Output)
	303-2	Water sources significantly affected by withdrawal of water	
	303-3	Water recycled and reused	
BIODIVERSITY	304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	
	304-2	Significant impacts of activities, products, and services on biodiversity	
	304-3	Habitats protected or restored	
	304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	
EMISSIONS	305-1	Direct (Scope 1) GHG emissions	› CSR & Environmental Report: Relationship between Business Activities and the Environment (Input and Output)
	305-2	Energy indirect (Scope 2) GHG	› CSR & Environmental Report: Initiatives to Mitigate Climate Change in Business Operations

Aspects	Indicators	Description	Reference
		emissions	
	305-3	Other indirect (Scope 3) GHG emissions	<ul style="list-style-type: none"> › Amount of CO2 Emissions by Scope 3 › Amount of CO2 Emissions by Scope3 › Scope of Environmental Data, etc
	305-4	GHG emissions intensity	› CSR & Environmental Report: Initiatives to Mitigate Climate Change in Business Operations
	305-5	Reduction of GHG emissions	
	305-6	Emissions of ozone-depleting substances (ODS)	
	305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	<ul style="list-style-type: none"> › CSR & Environmental Report: Relationship between Business Activities and the Environment (Input and Output) › Scope of Environmental Data, etc
EFFLUENTS AND WASTE	306-1	Water discharge by quality and destination	› CSR & Environmental Report: Environmental DATA SiteData
	306-2	Waste by type and disposal method	
	306-3	Significant spills	
	306-4	Transport of hazardous waste	
	306-5	Water bodies affected by water discharges and/or runoff	
ENVIRONMENTAL COMPLIANCE	307-1	Non-compliance with environmental laws and regulations	› CSR & Environmental Report: Environmental Risk Management
SUPPLIER ENVIRONMENTAL	308-1	New suppliers that were screened using environmental criteria	
	308-2	Negative environmental	

Aspects	Indicators	Description	Reference
		impacts in the supply chain and actions taken	

400 series (Social topics)

Aspects	Indicators	Description	Reference
Employment	401-1	New employee hires and employee turnover	› CSR & Environmental Report: Personnel Policy and Performance Appraisal System (Data on employment and turnover)
	401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	› CSR & Environmental Report: Enhancing Work-Life Balance (Work-Life Balance Data)
	401-3	Parental leave	› CSR & Environmental Report: Enhancing Work-Life Balance (Data on pregnancy and childcare leaves)
Labor/ Management Relations	402-1	Minimum notice periods regarding operational changes	
Occupational Health and Safety	403-1	Workers representation in formal joint management-worker health and safety committees	› CSR & Environmental Report: Occupational Safety and Health
	403-2	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	
	403-3	Workers with high incidence or high risk of diseases related to their occupation	
	403-4	Health and safety topics covered in	

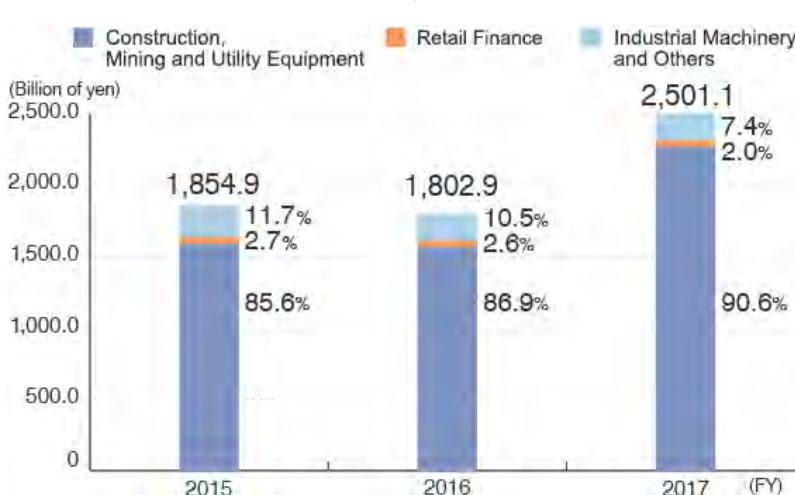
Aspects	Indicators	Description	Reference
		formal agreements with trade unions	
Training and Education	404-1	Average hours of training per year per employee	› CSR & Environmental Report: Employee Training Structure (Data on employee training)
	404-2	Programs for upgrading employee skills and transition assistance programs	› CSR & Environmental Report: Employee Training Structure › CSR & Environmental Report: Strengthening Our Gemba Capability › CSR & Environmental Report: Diversity Initiatives (Rehiring of Retired Employees)
	404-3	Percentage of employees receiving regular performance and career development reviews	› CSR & Environmental Report: Personnel Policy and Performance Appraisal System
Diversity and Equal Opportunity	405-1	Diversity of governance bodies and employees	› CSR & Environmental Report: Diversity Initiatives
	405-2	Ratio of basic salary and remuneration of women to men	
Non-discrimination	406-1	Incidents of discrimination and corrective actions taken	
Freedom of Association and Collective Bargaining	407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	› CSR & Environmental Report: Personnel Policy and Performance Appraisal System (Data on employment and turnover)
Child Labor	408-1	Operations and suppliers at significant risk for incidents of child labor	› Company Info, Komatsu's Worldwide Code of Business Conduct › CSR & Environmental Report: CSR Procurement Guidelines
Forced or Compulsory Labor	409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	› Company Info, Komatsu's Worldwide Code of Business Conduct › CSR & Environmental Report: CSR Procurement Guidelines

Aspects	Indicators	Description	Reference
Security Practices	410-1	Security personnel trained in human rights policies or procedures	
Rights of Indigenous Peoples	411-1	Incidents of violations involving rights of indigenous peoples	
Human Rights Assessment	412-1	Operations that have been subject to human rights reviews or impact assessments	› CSR & Environmental Report: Risk Management
	412-2	Employee training on human rights policies or procedures	› CSR & Environmental Report: Compliance
	412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	› CSR & Environmental Report: CSR Procurement Guidelines
Local Communities	413-1	Operations with local community engagement, impact assessments, and development programs	› CSR & Environmental Report: Developing People Needed by the Community › CSR & Environmental Report: Initiatives for Social Issues › CSR & Environmental Report: Social Contribution in Japan › CSR & Environmental Report: Disaster Relief › CSR & Environmental Report: Clearing Anti-Personnel Landmines and Reconstruction Support
	413-2	Operations with significant actual and potential negative impacts on local communities	› CSR & Environmental Report: Developing People Needed by the Community
Supplier Social Assessment	414-1	New suppliers that were screened using social criteria	› CSR & Environmental Report: Support for CSR Initiatives of Business Partners
	414-2	Negative social impacts in the supply chain and actions taken	

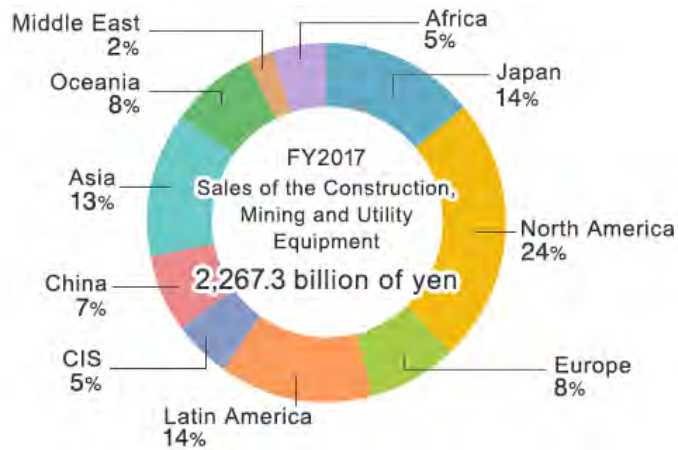
Aspects	Indicators	Description	Reference
Public Policy	415-1	Political contributions	
Customer Health and Safety	416-1	Assessment of the health and safety impacts of product and service categories	› CSR & Environmental Report: Product Safety
	416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	
Marketing and Labeling	417-1	Requirements for product and service information and labeling	
	417-2	Incidents of non-compliance concerning product and service information and labeling	
	417-3	Incidents of non-compliance concerning marketing communications	
Customer Privacy	418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	
Socioeconomic Compliance	419-1	Non-compliance with laws and regulations in the social and economic area	

Corporate Profile

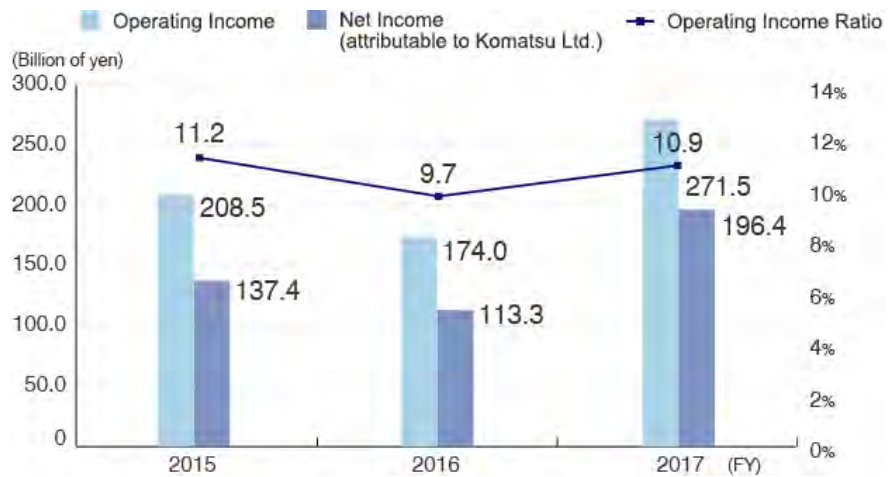
As of March 31, 2018

Company Name	Komatsu Ltd.																				
Established	May 13, 1921																				
Head Office	2-3-6, Akasaka, Minato-ku, Tokyo 107-8414, Japan > Map																				
President and Chief Executive Officer	Tetsuji Ohashi																				
Main Businesses	Manufacture and sale of construction and mining equipment, utilities, forest machines and industrial machinery.																				
Common Stock	<ul style="list-style-type: none"> Consolidated 67,870 million yen Non-Consolidated 70,120 million yen Total Number of Shares Issued and Outstanding 971,967,660 shares Number of Shareholders 149,459 																				
Net Sales (For Fiscal Year ended March 31, 2018)	<ul style="list-style-type: none"> Consolidated 2,501.1 billion yen <p>Sales to Outside Customers (by operating departments)</p>  <table border="1"> <caption>Net Sales (Billion of yen)</caption> <thead> <tr> <th>Fiscal Year</th> <th>Construction, Mining and Utility Equipment</th> <th>Retail Finance</th> <th>Industrial Machinery and Others</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>2015</td> <td>1,584.9</td> <td>50.0</td> <td>219.9</td> <td>1,854.9</td> </tr> <tr> <td>2016</td> <td>1,568.9</td> <td>45.0</td> <td>189.0</td> <td>1,802.9</td> </tr> <tr> <td>2017</td> <td>2,251.1</td> <td>50.0</td> <td>200.0</td> <td>2,501.1</td> </tr> </tbody> </table>	Fiscal Year	Construction, Mining and Utility Equipment	Retail Finance	Industrial Machinery and Others	Total	2015	1,584.9	50.0	219.9	1,854.9	2016	1,568.9	45.0	189.0	1,802.9	2017	2,251.1	50.0	200.0	2,501.1
Fiscal Year	Construction, Mining and Utility Equipment	Retail Finance	Industrial Machinery and Others	Total																	
2015	1,584.9	50.0	219.9	1,854.9																	
2016	1,568.9	45.0	189.0	1,802.9																	
2017	2,251.1	50.0	200.0	2,501.1																	

Sales of the Construction, Mining and Utility Equipment by Region



Income and Income Ratio



› Sales and Profits Gains Reports

<p>Komatsu Group</p>	<p>Komatsu Group consists of Komatsu Ltd., and 266 other companies.</p> <ul style="list-style-type: none"> Consolidated Subsidiaries 227 Companies accounted for by the equity method 38 Komatsu Ltd. 1 Total 266
<p>Number of Operations</p>	<ul style="list-style-type: none"> Manufacturing Operations of Construction, Mining and Utility Equipment (Number of Operations) : 93 Sales Operations of Construction, Mining and Utility Equipment (Number of Operations) : 100
<p>Number of Employees</p>	<ul style="list-style-type: none"> [Consolidated] 59,632 [Non-consolidated] 10,465

KOMATSU

KOMATSU
2-3-6, Akasaka, Minato-ku, Tokyo 107-8414, Japan
<https://home.komatsu/en/>