

CSR Activities for the Future

To become a sustainable company while fostering and expanding a broader range of CSR activities, we began compiling a CSR activity roadmap in FY2011, which we have subsequently implemented over time. In FY2012, we chose a number of key issues based on international guidelines on corporate sustainability reporting published by the Global Reporting Initiative (GRI) as well as ISO 26000, an international standard on organizational social responsibility. We are currently working to resolve those issues.

Activity report for FY2017

Each department discussed CSR issues in line with those key issues and developed its own action program. At the end of the year, those departments then conducted self-evaluations to assess how well they had implemented their programs. (The table below outlines some of the results of that process.)

ISO 26000 core subjects	Key issue	CSR issue	Department	FY2017 action program	
				Action plan	Self-evaluation of results
Organizational governance	Corporate governance	Support for measures to increase the effectiveness of the Board of Directors	Planning Division	Conduct a questionnaire targeting directors in order to increase the effectiveness of the Board of Directors. Evaluate, analyze, and report on the results to facilitate useful discussions at Board of Directors meetings.	We conducted a questionnaire targeting directors and held interviews as necessary, evaluated and analyzed the results, and reported them to the Board of Directors.
	Compliance	Cultivation of a robust corporate culture	CSR Division	Share formulations of Takuma's basic approach, for example Management Principles, the Takuma Group Ethics Charter, and the Takuma Group Code of Conduct, and work to ensure that they permeate the organization and take hold.	We highlighted the Management Principles, the Takuma Group Ethics Charter, and the Takuma Group Code of Conduct in the CSR Report and in internal education and worked to ensure that they permeate the organization and take hold.
	Risk management	Improvement of risk management techniques	Engineering Division	Create a risk management chart for each project, identify risks, and implement preventive measures.	We were able to keep risks from manifesting themselves by applying risk criteria horizontally to each project. In addition, there were no complaints that posed a risk of reduced customer satisfaction.
		Review of risk management items in the field, evaluation and improvement of current conditions, and implementation of risk management	Construction Division	Enhance the information included in construction plans for each project by identifying risks associated with work in the field in order to eliminate accidents and disasters at construction sites, carry out audits to determine whether safety activities are being conducted according to plan, and work to implement improvements.	Although we identified risks in our safety and health plans, incorporated that information into construction plans, audited safety activities in accordance with those plans, and worked to make improvements, accidents still occurred, preventing us from achieving our goal. Going forward, we will augment guidance and education for workers with education for site managers while working to improve the safety awareness of partner businesses.
	Information disclosure (fulfillment of accountability requirements and assurance of transparency)	Appropriate disclosure of technical information to outside parties	Engineering Division	Work internally to disclose technical information in a timely and appropriate manner as a way to facilitate the announcement of such information to outside audiences.	We encouraged departments to submit ideas for presentations at meetings of major academic societies and discussed development topics that seemed suitable for presentation with the responsible departments.
	Employee training on social responsibility	Promotion of understanding (awareness) of social responsibility and recommendations of how employees can take the initiative to found their behavior on an awareness of social responsibility	Marketing Division	Have employees discuss what it means to take the initiative to found their behavior on an awareness of social responsibility internally in their own department in order to facilitate such conduct.	We held internal readings of the Takuma Group Ethics Charter and the Takuma Group Code of Conduct, worked to raise awareness of social responsibility, and sought to promote conduct that accords with ethical principles.
	Stakeholder engagement	Development of trusting relationships with customers	Engineering Division	Have employees responsible for projects being researched organize associated findings (customer evaluations) and report internally so that the entire department can study and implement countermeasures.	We completed an internal report on the results from the previous fiscal year at the beginning of the new fiscal year and presented it to the QM Committee. The evaluation of the coordinators in our department exceeded the corresponding targets.
Consumer issues	Safety and quality of products and services	Implementation of measures to address risks associated with maintenance safety and quality	Engineering Division	Share examples of problems that have occurred in the past and use that information to prevent similar issues from occurring in the future and to facilitate a rapid response in the event that they do.	We shared examples of problems that have occurred in the past at internal meetings so that similar issues could be dealt with in a confident manner.
		Improvement of construction quality	Construction Division	Work to improve construction quality by carrying out voluntary inspections in the field and strengthening checks of the status of construction management in the field by internal coordinators.	We worked to improve construction quality by carrying out voluntary inspections at all sites in the field and having internal coordinators carry out checks of the status of construction management in the field at least once a month, with the result that we had no orders of additional work due to defective construction.
Fair operating practices	Compliance with the Antimonopoly Act	Assurance of understanding of, and compliance with, the Antimonopoly Act	Marketing Division	Provide training on the provisions of the Antimonopoly Act as necessary and work to ensure that employee conduct accords with the "Regulations Concerning Management of the Pledge of Antimonopoly Act Compliance."	We offered training on the provisions of the Antimonopoly Act and worked to ensure that employees understand the "Regulations Concerning Management of the Pledge of Antimonopoly Act Compliance" and the "Regulations on Managing Contact with Competitors' Sales Departments" and that they will comply with those and other regulations.
	Fair business relationships with customers and business partners	Observance of fair trade practices with customers	Marketing Division	Provide training on topics such as preventing bribery and work to ensure an awareness of the importance of compliance permeates the department.	We offered training on topics such as preventing bribery and worked to ensure an awareness of the importance of compliance permeates the department while carrying out fair business practices with customers.
		Observance of fair trade practices with suppliers and other business partners	Procurement Division	Host regular training sessions on basic contracts to increase individual employees' awareness.	We held a workshop but did not verify employees' understanding by creating a test, so we will hold another workshop next year and gauge understanding with a test.
Respect of property rights	Protection and utilization of intellectual property rights	Engineering Division	Offer training related to intellectual property rights to improve and maintain employees' awareness of the importance of protecting those rights.	We held a course on patent basics for new employees as part of new-hire training in an effort to increase employees' knowledge and awareness.	
Labour practices and human rights	Appropriate employment relationships and labor conditions (including safety and health, social dialog, etc.)	Encouragement of diversity	Human Resources Division	Host information sessions about the company for female college students.	We held an information session for female college students and had female employees visit a university laboratory to speak to students.
		Development of additional skills and expertise in making proposals	Marketing Division	Work to improve the skills of department employees tasked with responsibilities in this area by offering training to improve those skills and sharing skills and expertise.	We worked to share proposal expertise and information about topics such as the latest technologies by holding internal lectures as necessary.
	Employee skill development (skill enhancement)	Training and skill development for employees	Construction Division	Summarize concerns arising during product inspections and commissioning along with measures taken in response on internal memos, share the information with department employees at internal meetings and other gatherings, and disseminate it to other involved departments.	We spread information about quality control problems and examples, encouraged employees to prevent recurrences through monthly internal meetings, and increased plant quality by spreading information about problems that have occurred during commissioning.
Environment	Development of structures for managing environmental considerations and reduction of environment impacts	Compliance with environmental laws and regulations	Manufacturing Division	Patrol company sites while offering guidance in order to ensure that no vehicles are left idling.	The number of violations fell from the previous fiscal year, indicating that the practice of turning off the engines of parked vehicles has become established as habit.
	Contributions to resolving environmental problems	Implementation of initiatives to reduce environmental impacts	Engineering Division	Formulate and propose plans for new technologies and businesses that would allow us to help reduce environmental impacts in the environmental and energy fields while differentiating ourselves from competitors in the same industry.	Although we achieved our goal, we will work to develop plans that will enable us to make a greater contribution to the environment.
Community involvement and development	Contribution to society	Contribution to the communities around our worksites	General Affairs Division	Help improve the environment in nearby areas by carrying out clean-up activities in areas near worksites.	We helped improve the environment in the nearby area by carrying out clean-up activities in areas near worksites.

Future issues

Going forward, we plan to implement CSR activities using techniques that we consider appropriate while relying on guidance and advice from outside experts as we choose key issues and develop CSR issues and action programs.

The global business environment that characterizes the environmental and energy fields in which Takuma's business operates grows increasingly diverse day by day, and that environment remains one of intensifying competition. Our technological capabilities in the environmental and energy fields, which we have refined over many years of experience, form the basis of our CSR management as well as our greatest strength as we look to make a broad contribution to society. We will continue to draw on this strength in our activities going forward.

Group Company CSR Topics

This section introduces messages from the presidents of major Takuma Group companies describing issues they have identified in the course of pursuing CSR activities and how they are working to address them.

Takuma Engineering Co., Ltd.

- Established September 11, 1969
- Businesses Design of waste treatment plants, water treatment plants, energy plants, and general-purpose boilers
- Employees 50 (as of March 31, 2018)



Message from the President Yoshihito Fukuma

We're involved with designing industrial machinery that helps protect the environment and save energy. Since we believe human resources are the most important management resource in design operations, our CSR activities are focused on improving employees' skills and ensuring that they can make the most of those abilities. We're working on a companywide basis to facilitate open communication, to develop the habit of taking the initiative to improve the way things are done, and to put in place an environment that makes it easy for employees to do their jobs. We're also trying to create novel products by valuing individual employees' ideas and maintaining diversity.

Takuma System Control Co., Ltd.

- Established April 13, 1994
- Businesses Development of computer software
Design, manufacture, sale, construction, and management of electrical control systems
- Employees 24 (as of March 31, 2018)



Message from the President Norito Uchiyama

As a member of the Takuma Group, we manufacture plant control systems for use in waste treatment and develop and produce application software. Our goal is to create a better tomorrow by harnessing the extensive expertise we've developed to date so that we can creatively accommodate a variety of changes in the business environment and customer needs and thereby achieve sustained growth. Our employees are committed to working together to develop along with customers and to create products that satisfy all stakeholders so that we can help create a rich and satisfying society that is also environmentally friendly through our business activities.

Kankyo Sol-Tech Co., Ltd.

- Established April 5, 2000
- Businesses Measurement and analysis of environmentally hazardous substances (dioxins, asbestos, wastes, trace substances, etc.) and general environmental measurement and testing
- Employees 45 (as of March 31, 2018)



Message from the President Kiyomitsu Ikawa

We carry out environmental analysis and testing on a contract basis, and our reports play an important role in the precise assessment of environmental conditions. Recognizing the importance of that responsibility, we endeavor to do our jobs in a fair and appropriate manner by maintaining state-of-the-art equipment, training employees in specialized skills and technologies, helping them earn associated qualifications, and ensuring that they acquire and share knowledge about related laws and regulations. In this way, we strive in a sustained manner to maintain and improve the quality of our services and to comply with norms of conduct. We've earned certification under international standards such as ISO/IEC 17025 to assure the reliability of the calibration services we provide, and we look forward to continuing to support the development of a sustainable society and to consistently offering reliable calibration service of the highest caliber.

Energy Mate Co., Ltd.

- Established June 27, 2001
- Businesses Onsite energy services for package boilers and solutions-related businesses
- Employees 8 (as of March 31, 2018)



Message from the President Hiroaki Nanjo

Our company was founded with a core business of offering comprehensive onsite energy services for consumer cogeneration and boiler products. Our goal is to provide ideal energy and cogeneration (solutions that provide both heat and electricity) to stakeholders, and since 2005 we have also operated a steam supply business using biomass boilers. We work around the clock to help prevent global warming together with the site users who are our customers. Our CSR activities consist of offering services that let us contribute to customers' businesses by meeting needs in a fine-grained manner while verifying system effectiveness.

Taiden Environtech Co., Ltd. (Taiwan)

- Established January 26, 1988
- Businesses Maintenance of waste treatment and other facilities
- Employees 15 (as of March 31, 2018)



Message from the Chairman Yasuo Takamatsu

Taiden Environtech Co., Ltd., is helping protect and improve the environment in Taiwan by offering maintenance for waste incineration plants on the island. We're working to provide safe, confidence-inspiring service based on extensive experience to meet the expectations of customers and all other stakeholders and to provide optimal equipment maintenance so that the waste incineration plants we maintain will perform to specifications over the long term.

Siam Takuma Co., Ltd. (Thailand)

- Established August 6, 2002
- Businesses Sale of energy and environment-related plants, sales of parts for the same plants and after-sales service
- Employees 19 (as of March 31, 2018)



Message from the Managing Director Masahide Okamoto

Are we a reliable company for customers, business partners, employees, and other stakeholders? I believe that answering this question lies at the heart of CSR. Particularly when operating overseas, companies are called upon to engage in business activities that are founded on an understanding on each country's unique laws, culture, and characteristics. Acting with responsibility based on adequate preparations and fulfilling accountability with regard to those activities are essential in order to be reliable, and we will strive to live up to all of our responsibilities as a member of the Takuma Group.

Corporate Governance

+ Corporate Governance

As of June 27, 2018, the Board of Directors was comprised of six directors (excluding directors who are members of the Audit & Supervisory Committee) and four directors (of whom three were outside directors). The Board of Directors meets regularly once a month as a rule and whenever else it is necessary to make decisions about important issues related to business management and issues established by law and ordinances, as well as to oversee the execution of the directors' duties.

In order to accelerate management decision-making and clarify where management responsibilities are placed, we have adopted an operating officer system in which we appoint operating officers who are entrusted with the responsibility of executing our business activities. As of June 27, 2018, there were 14 operating officers (including those who also serve as directors). Moreover, we have also established a Committee of Executive Officers, which is chaired by the president/chief operating officer, as an organization that deliberates matters that are brought up at meetings of the Board of Directors and other important issues related to the execution of our business activities. This committee communicates and provides direction about items decided by the Board of Directors and other important items related to the execution of our business activities appropriately to the divisions that are to execute them.

An Audit & Supervisory Committee that consists of four members, of whom three are outside directors, is responsible for accounting and operational audits. Members of the committee attend important meetings, including those of the Board of Directors and the Committee of Executive Officers, and they strive to understand and observe the status of business execution in a timely and appropriate manner. Drawing on their professional background and experience, they express their opinions as necessary from an objective perspective, and they conduct strict auditing of the business execution performed by the directors.

To facilitate the effectiveness of audits carried out by the Audit & Supervisory Committee, the president holds regular meetings with committee members to ensure good communication, and we have established an Audit & Supervisory Committee's Office to provide staff to help carry out the committee's work.

In addition to the above, we have established a Human Resources & Remuneration Advisory Committee comprised of independent officers, representative directors, and the officer in charge of human resources. The committee works to increase transparency and objectivity in the selection of candidates for director and operating officer positions and in the determination of compensation as well as to enhance the supervisory function of the Board of Directors.

+ Internal Control

Takuma has adopted a Basic Policy for Establishment of an Internal Control System (the full text is available on our website) in accordance with the Companies Act. We continue to review and improve this policy in response to changing circumstances.

Working towards thorough compliance, Takuma built a compliance promotion organization in FY2006 in order to continuously implement enlightenment and educational activities that make corporate ethics, related laws and ordinances, and internal rules fully understood. To control the danger of loss, we have also prepared a "Risk Management Code" that determines the person in charge of each risk, and we set up our risk management organization according to that Code. When the unexpected occurs,

emergency headquarters are established with the company president as the director in charge of risk management, and an organization is put in place in order to minimize and prevent further damage through prompt action.

Internal control, constructed and evaluated in order to report on and prevent misstatements in our financial reporting, is based on the Financial Instruments and Exchange Act. This internal control on financial reporting for the Group has resulted in reports that indicate this system has been effective.

In this way, we will continue to work in the future to ensure thorough compliance while carrying out business properly and efficiently while also deepening risk management.

+ Compliance & CSR Promotion Structure

Led by the department in charge of compliance and CSR promotion (CSR Department), Takuma aims at encouraging that activity through the Compliance & CSR Promotion Organization that was installed for the purpose of enabling compliance and CSR to concretely permeate company-wide through an in-house organization.

This organization is composed of a chairman (the Executive Manager of the Compliance & CSR Promotion Division), a secretariat (positioned in the CSR Department), and an executing organization in each division, center, and department.

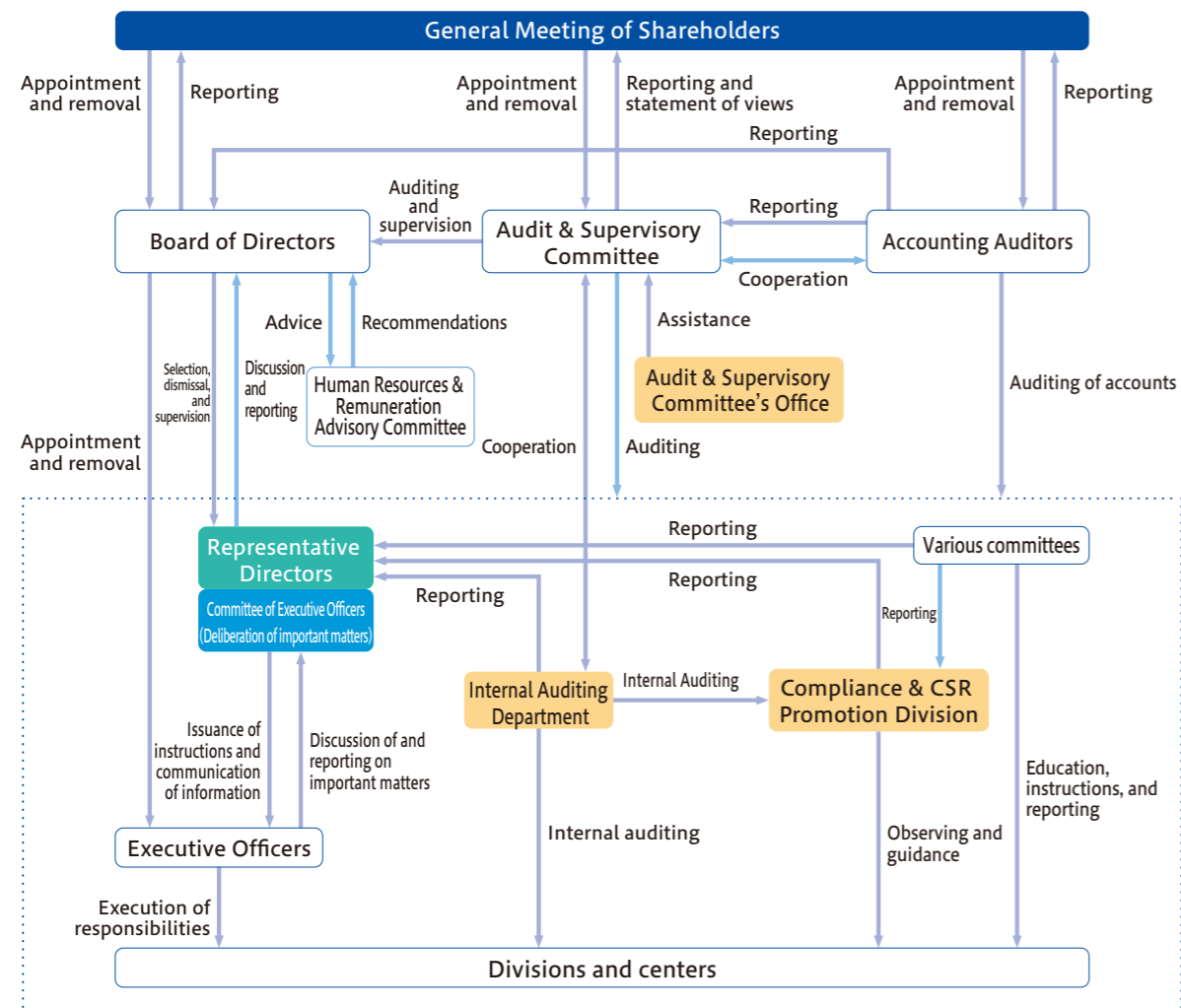
As the person in charge of promoting compliance and CSR in his or her division, each division or center manager is appointed as a Compliance and CSR Promotion Administrator. As persons who implement awareness and education in compliance and CSR in their respective departments, department managers are appointed as Compliance and CSR Promoters.

The meetings conducted within this mechanism include regular meetings and departmental meetings.

Regular meetings are held once a year. The person in charge of promotion receives reports on the status of compliance and CSR promotion company-wide, as well as on the status of the implementation of compliance and CSR promotion education for the past year, etc., and participants deliberate on a promotion plan for the current fiscal year.

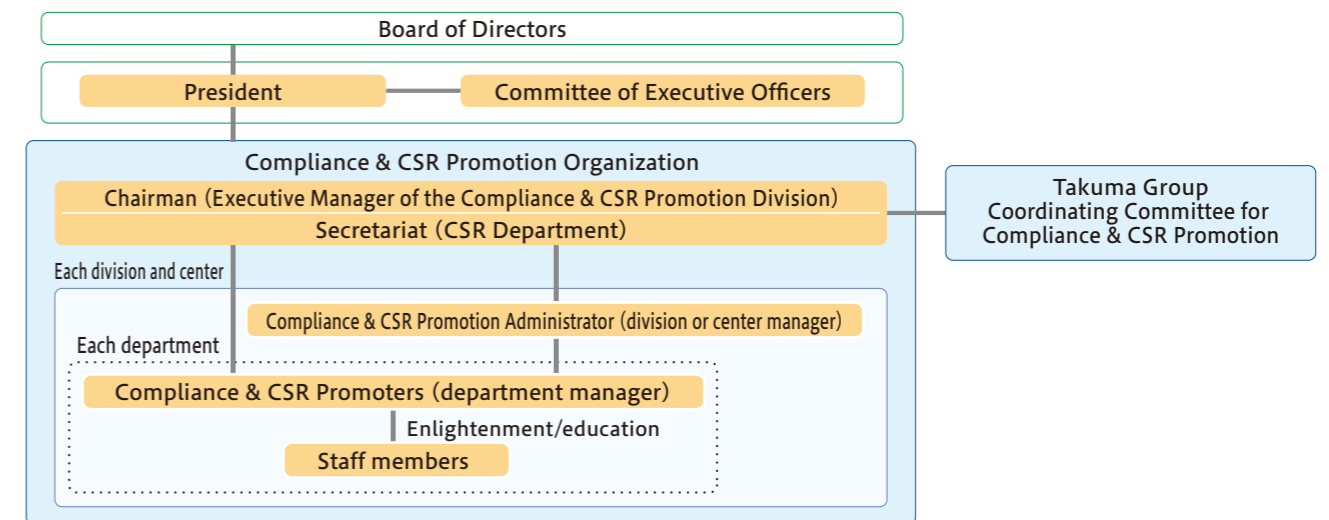
Promotion members convene departmental meetings once a quarter, with educational training aiming at the permeation of compliance and CSR in each department. After departmental meetings, promotion members implement compliance and CSR promotion education in their respective departments using training materials or in-house educational materials and report the result to the Secretariat.

We are also pursuing awareness-raising and educational activities targeting Group companies through our Takuma Group Coordinating Committee for Compliance & CSR Promotion to ensure thorough compliance and risk management throughout the Group.



Corporate governance structure

(As of June 27, 2018)



Compliance & CSR promotion structure

Corporate Governance

+ Risk Management Structure

Takuma follows a “Risk Management Policy” that connects company-wide risks and separately classifies them into “project risks” related to our core business, i.e., plant construction; “DBO project risks” and “DBO project operation, maintenance and management risks” related to our DBO business; and “potential risks,” “actualized risks,” and “financial reporting risks” related to other corporate business activities.

We are also building a risk management organization and constructing a system of risk management and promoting the strengthening of management for group companies as well through our Takuma Group Coordinating Committee for Compliance and CSR Promotion.

Risk Management Policy

[Basic purpose of risk management]

Risk refers to all phenomena that interfere with the group’s ability to achieve its business objectives or cause losses or harm to the interests of stakeholders.

The Takuma Group practices risk management with the goal of increasing its corporate value by working to maximize returns while minimizing the negative impacts of risk.

[Risk management action guidelines]

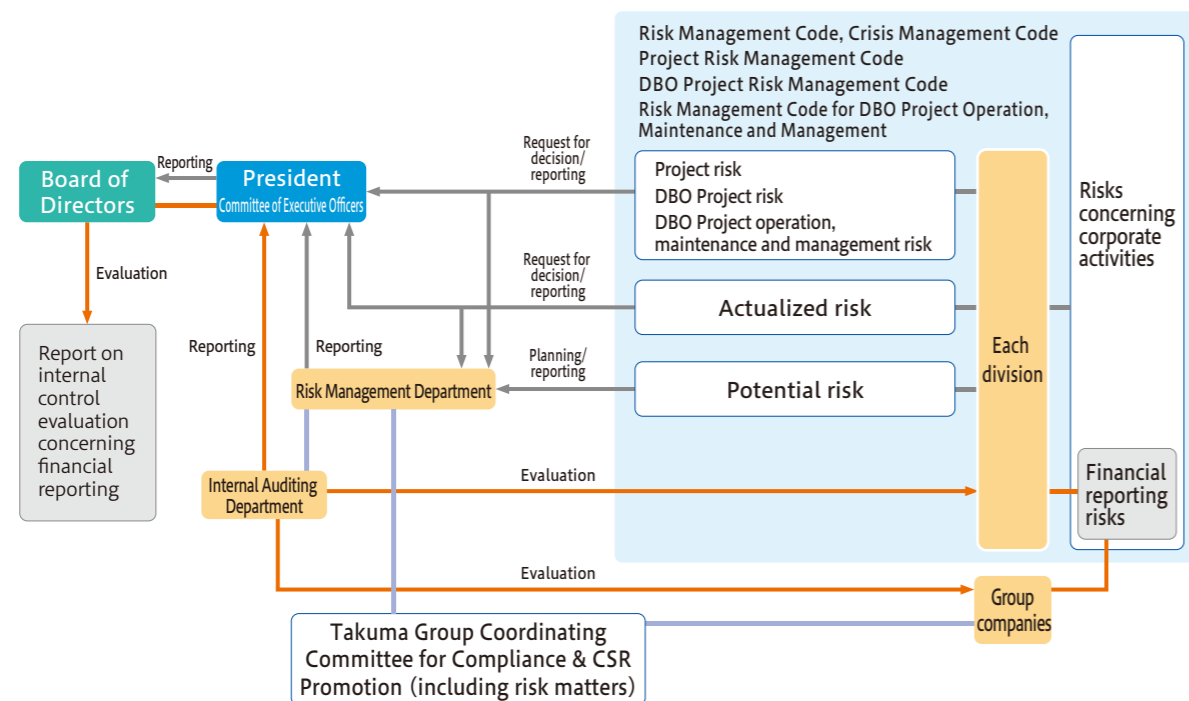
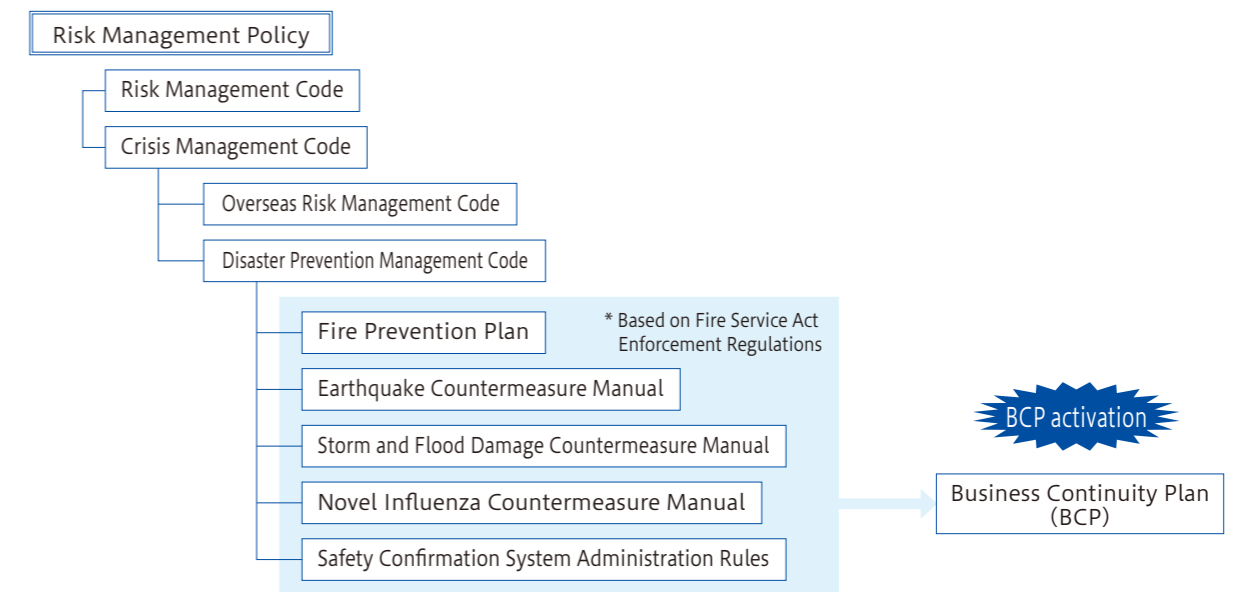
1. The president and CEO is responsible for risk management at Takuma.
2. All officers and employees participate in risk management activities.
3. Risk management activities are carried out in accordance with applicable guidelines such as the Risk Management Rules.
4. Risk management activities are carried out in line with the Medium-Term Management Plan and annual plan, and we work to make improvements on an ongoing basis.
5. When risk manifests itself, we respond by taking responsible action quickly to minimize any damage and creating provisional organizational entities as necessary.
6. Group companies carry out risk management activities in accordance with their own policies and plans, with support from Takuma.

+ Business Continuity Plan (BCP)

Takuma has formulated a “Business Continuity Plan” based on the following policies to ensure proper and appropriate continuity of business operations in the event of a large-scale disaster, pandemic, or other emergency:

1. In addition to implementing disaster-related measures to secure the safety of corporate officers and employees, maintain structures so as to enable continuity of business operations while minimizing damage in an emergency.
2. Strive to respond to customer needs and recover from damage quickly by working closely with suppliers and partner companies to continue business operations.
3. Earn the trust of numerous stakeholders, including employees, their families, shareholders, and nearby residents, and fulfill social needs by continuing business operations.

[Disaster rule system diagram]



Risk management structure

+ IR Activities

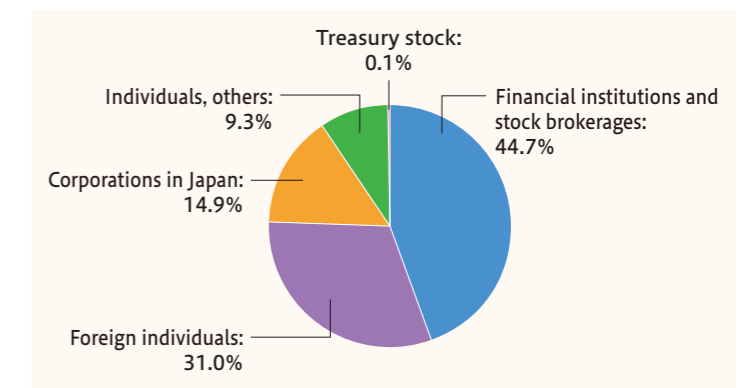
In keeping with the “Takuma Group Code of Conduct,” we provide our shareholders and investors with accurate corporate information in a timely and fair manner. As a part of this, we provide notifications on the convening of General Meetings of Shareholders, balance sheet information, timely disclosure information, marketable securities reports, annual reports in English and other business information, all on our website.

[Takuma website > IR information]

<http://www.takuma.co.jp/english/investor/index.html>



Shareholders Report



Composition of shareholders (as of March 31, 2018)

Corporate Governance

+ Directors and Executive Officers

(as of June 27, 2018)

Directors



(Back row, from the left)

Minoru Murata Outside Director (Audit & Supervisory Committee Member)	Hiromichi Satake Outside Director (Audit & Supervisory Committee Member)	Koji Tanaka Director Executive Officer	Osamu Iwahashi Outside Director (Audit & Supervisory Committee Member)	Yasushi Enomoto Director (Audit & Supervisory Committee Member)
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(Front row, from the left)

Tsuyohito Nishiyama Director Managing Executive Officer	Kengo Numata Director Executive Vice President	Takaaki Kato Representative Director President and Chief Executive Officer	Hiroaki Nanjo Director Senior Managing Executive Officer	Hideki Takeguchi Director Managing Executive Officer
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Executive Officers



Respect for Human Rights and the Abolition of Discrimination

Our company sets out its respect for basic human rights and prohibition of discriminatory acts in the Takuma Group Ethics Charter, Takuma Group Code of Conduct and labor regulations. In addition, we also support respect for human rights, without contributing to human rights violations, elimination of forced labor/child labor and the abolition of discrimination through participation in the UN Global Compact. We are also working to promote employment of disabled and elderly individuals.

- **Takuma Group Ethics Charter (excerpt)**
 - 4. We shall respect fundamental human rights and never practice discrimination.
- **Takuma Group Code of Conduct (excerpt)**
 - 【Respect for basic human rights】
 - 9. Prohibition of discriminatory actions
 - 10. Respect of individuality, personal quality and privacy
 - 11. Safe work environment

+ Lecture on harassment

In January 2018, we invited attorney Yukiko Higashioka of Koyano LPC to deliver a talk on harassment entitled “Compliance and Harassment.”

She explained laws related primarily to sexual harassment and power harassment in specific terms and included information about Takuma’s regulations and systems, providing an opportunity for employees to learn about preventing harassment and how the company responds to such allegations.



Working with Our Employees

Takuma is implementing a variety of measures to enable each and every employee to make the most of his or her abilities and to approach his or her job with motivation and interest.

+ Systems designed to boost employee motivation

1. Objective management and human resources evaluation system

At the beginning of each fiscal year, employees meet with their supervisor to determine their objectives for the year based on their department’s policies. They also participate in a midyear interview with their supervisor in September and in an interview the following March to reflect on the year, with the supervisor offering feedback by evaluating their job performance. In this way, supervisors work to train and motivate their subordinates through two-way communication.



2. Self-reporting system

We have introduced a self-reporting system that allows employees who have worked for the company for at least three years to communicate their thoughts on their future career path directly to the company every three years. Through this system we are working to assess employees’ awareness, needs, and issues and to apply that information to human resources measures.

3. Work group transfer system

We have created a work group transfer system to facilitate movement from clerical and labor positions to the main career track so that motivated and skilled employees can make use of their abilities regardless of their gender or academic background. We also provide opportunities for employees to be promoted to management positions.

4. In-house commendation system

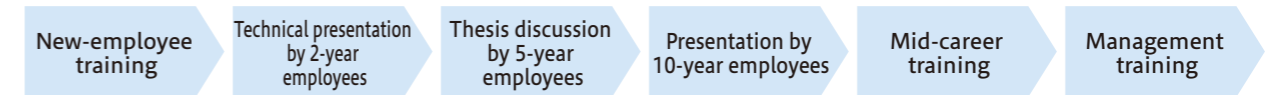
Each year on June 10, the anniversary of the company’s founding, we recognize employees who have helped improve the company’s performance; done something exceptional outside the company; earned qualification as a professional engineer, doctoral degree, patent, or other accomplishment; worked for the company continuously for a certain number of years; authored an exceptional paper; supervised an accident-free site; or otherwise earned recognition.



+ Programs to boost employee skills

1. Grade-specific educational programs

We work to boost employee skills through grade-specific educational programs that mark career milestones, starting with new-employee training and moving on to a technical presentation at the two-year mark, a thesis discussion at the five-year mark, a presentation at the 10-year mark, and mid-career training. We also work to improve management skills by offering training to management candidates.



2. Technical training sessions

We hold technical training sessions in order to increase employees’ technical knowledge, including lectures by university professors and outside researchers and presentations by Takuma engineering employees about their work responsibilities and research themes.

3. Skill improvement support structures

We work to improve employees’ skills by helping them earn public qualifications, for example by reimbursing them for the cost of license and qualification examinations and by offering incentives to employees to earn such qualifications.

We offer a course to help employees prepare to earn certification as professional engineers, with employees who have already earned those qualifications offering guidance on solving examination questions and conducting simulated oral examinations.

+ Workstyle reform initiatives

1. Initiatives to correct excessive working hours

In addition to having the Human Resources Department interview employees with excessive working hours and their supervisors to assess the causes of the phenomenon, we are pursuing initiatives to study and implement corrective measures and to verify their effectiveness.

2. Initiatives to encourage employees to utilize annual leave and other programs

During the second half of FY2016, we began implementing a measure to have employees systematically utilize five days of the time off they’re allowed under annual paid leave and other programs.

+ Employee health initiatives

In addition to stress checks and examinations to assess the risk of adult-onset diseases, our annual health checkups include cancer and gastric checks for employees who wish to have them.

We also hold health consultations by an occupational physician (once a month) and counseling sessions by a clinical psychologist (twice a month) as part of our commitment to facilitating employees’ physical and emotional health.

Working with Our Employees

+ Initiatives to promote the participation of female employees in the workplace

We have formulated and made available a general employer action plan in accordance with the Act on Promotion of Women's Participation and Advancement in the Workplace, and we have worked to deepen understanding of the company on the part of women by including information about talks by female employees on our recruiting website and by holding information sessions for female college students. In addition, we are working to increase the number of female employees in management positions and the number of female employees on the main career track (including individuals who have been tentatively offered positions) as of March 31, 2021, to 20, which would be double the corresponding number as of March 31, 2016, by putting in place a workplace environment that allows flexible workstyles and continued employment by women, for example by expanding eligibility for our flex time system.



A talk by a female employee (top) and an information session (bottom)

+ Promoting employment of senior citizens

We have put in place programs to offer employees who have left the company after reaching 65 years of age reemployment at Takuma and Group companies.

• Number of reemployed individuals over the past 5 years

	FY2013	FY2014	FY2015	FY2016	FY2017
Number of employees reaching retirement age	8	12	11	3	5
Number of employees desiring reemployment	6	10	10	2	5
Number of reemployed employees	6	10	10	2	5

+ Child-raising and nursing care support measures

We offer the following work programs as support measures for employees with child-raising and nursing care responsibilities.

1. Reduced working hours and flex time program

We offer reduced working hours to employees who are raising one or more children age two or younger as well as a flex time program for employees who are raising one or more children from age three through lower elementary school (through third grade). We also allow employees who are responsible for providing nursing care to a family member to utilize these programs.

2. Telework program

Since April 2015, we have allowed employees who are raising one or more children who have not yet begun attending elementary school or who are responsible for providing nursing care to a family member to work from home one day a week.

• Impressions from an employee who has taken advantage of these programs

I have two infant children, and in our family, the hour between the time the kids wake up in the morning and the time they leave the house, and the hour from the time we pick them up in the evening until we have dinner are extremely difficult, both physically and emotionally. By working from home, I've been able to allocate time that I would otherwise spend commuting to childcare and household chores during those times, and that's been extremely helpful by letting me reduce my wife's workload.

+ Social welfare programs that meet employee needs

We have introduced cafeteria-style social welfare programs as one way to meet a diverse range of employee needs. This approach provides a fixed annual allowance that employees can "spend" as they wish by choosing from a menu of benefits that includes support for self-study, child-raising and nursing care, healthy living, and financial well-being.

Efforts for Occupational Safety and Health

+ Occupational safety and health initiatives

Since FY2006, we have introduced TK-COHSMS based on an occupational safety and health management system for the construction industry and worked actively and independently to improve our safety and health activities. We believe that among these efforts, the manner in which (1) safety inspections, (2) mandatory safety and health education (education for construction site representatives), and (3) creation of pre-work safety procedure checklists known as SSAs have been steadily adopted by all departments and used to consistently improve the level of knowledge about Takuma's safety and health is particularly noteworthy.

We have adopted the following safety and health objectives for FY2018: for construction sites, eliminating accidents that result in work stoppages (of four or more days); for branches, pursuing a thorough program of safety and health education, ensuring adherence to safety inspection guidelines, and implementing the branch safety patrol plan; and for the Safety and Health Cooperative Association, strengthening collaboration with partner companies. We will work to revitalize safety and health activities throughout the company by carrying out that role.

Rather than contenting ourselves with the status quo, we will pursue new safety and health initiatives to foster a deep awareness of the concept that underlies our safety and health policy—"understanding the need for respecting people and giving top priority to safety and health"—on the part of everyone who's involved in our operations.

+ Safety and health activities and their results

1. Safety inspection system

We maintain a system where any construction or installation work starts only after the safety and health manager or other responsible official in each department conducts a successful safety inspection based on safety and health plans for the construction or installation work as prepared by our primary partner companies.

We strive to ensure a safe work environment at all construction sites by eliminating potential hazards and risk factors identified by those inspections before work begins.



A safety inspection meeting

• FY2017

Number of safety inspections done: 160
(Initial inspection pass rate: 94%)

2. Safety patrols and field education

Based on an annual plan, safety patrols are carried out at worksites by the Safety and Health Committee (comprised of committee members and advisors), Safety Control Department, and construction division along with safety education in the field in a precisely targeted and efficient manner.

By focusing on the early discovery and elimination of risk in safety patrols and on the improvement of safety awareness among workers through communication skills in field education, these activities help ensure the safety of Takuma's workplaces.

• Number of safety patrols implemented in FY2017

By Safety and Health Committee (members, advisors): 28
By Safety Control Department: 297
By construction division: 305



Field education



Safety patrols

Efforts for Occupational Safety and Health

3. Safety and health education (education for construction site representatives)

We continuously provide specialized safety and health education at branches and worksites to increase the levels of safety awareness and knowledge of our employees and partner companies.

As indicated below, more than 16,000 trainees have passed the completion exam. We are involved in a variety of initiatives to put in place mechanisms for preventing accidents, including by assigning workers with extensive knowledge in areas such as safety-related laws and ordinances to individual construction sites.

● April, 2004 to March, 2018

Cumulative number of trainees: 33,362
 Number of trainees passing the completion exam: 16,050



Head Office venue



Tokyo Branch venue

+ Safety and Health Meeting

Takuma holds a Safety and Health Meeting to bring workers with safety- and health-related responsibilities together to improve and share their safety and health awareness with the goal of ensuring worker safety and health and promoting the development of a pleasant work environment.

The FY2017 meeting included awards for partners who helped achieve zero-accident records at worksites and employees who achieved zero-accident performance over many years as worksite managers along with a lecture entitled "Proper Use of Work Safety Equipment" and a talk by an outside instructor entitled "Preventing Human Error: Preventing Errors through Teamwork." In addition, safety and health partner companies gave presentations on their safety and health policies and goals, and all participants closed the meeting by chanting the FY2017 slogan and pledging to continue to work toward thorough safety and health management by utilizing TK-COHSMS.



Presentation of a zero-accident record award



Pointing and chanting of the slogan by all participants

+ Message from a partner company



Toshiya Sakaguchi
 President
 Chokyu Chikuro Industries Co., Ltd.

Our company, which recently celebrated the 47th anniversary of its founding, focuses primarily on repairing waste incineration facilities in western Japan. Our previous president did business for many years with Takuma, and I've learned much about a variety of topics from Takuma since I first joined the company, including furnace installation technology and safety and health management.

Safety and health management activities are the responsibility of each company, and we carry out branch safety patrols on worksites to check every aspect of the work going on there. In addition, I believe it is our mission to keep tabs on each worker's state of health and to confirm that all rules are being followed and that SSA and KYK (hazard prediction activities) are being carried out using the "genba, genbutsu, genjitsu" philosophy.

A major challenge for us going forward will be Japan's labor shortage, and we're particularly focused on training young furnace installation technicians. With regard to strengthening supervisor skills, we plan to do our best, both by offering in-house training and by participating in site agent training offered by Takuma.

In closing, we will continue to strive in partnership with Takuma to create workplaces where employees can work safely and with peace of mind and to complete installation work with zero accidents by following the slogans of "avoiding injury" and "absolutely avoiding causing injury."

+ Message from Takuma's person in charge of procurement



Shinobu Arakawa
 Manager
 Section 4,
 Construction Department (Osaka)

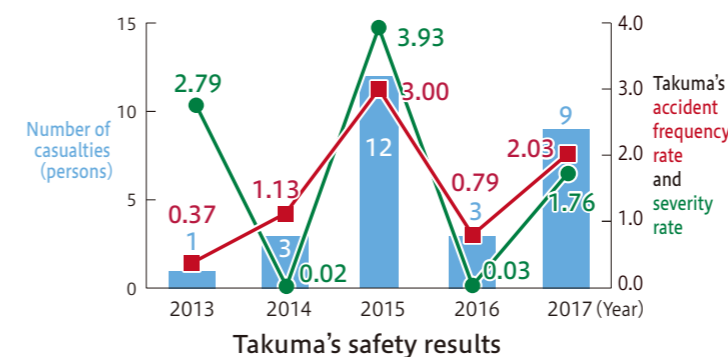
We're extremely grateful to Chokyu Chikuro Industries Co., Ltd., which has worked with Takuma as a partner company for close to half a century, primarily by repairing furnaces at waste incineration facilities.

You've worked steadily to ensure the safety and health activities that Takuma carries out at its worksites have taken root among your employees, and the results of this steady effort to raise safety awareness on the part of all workers in the field has helped you continue to operate without any accidents that resulted in a work stoppage for about 20 years. As a result of this track record, you've made a significant contribution to our efforts to build safe workplaces.

Although there are many causes for concern as you continue to operate your business, including the labor shortage in the construction industry, I hope that your company will continue to grow while thoroughly practicing and enhancing risk management to address changing conditions.

+ Takuma's safety results in recent years

During 2017, both the construction industry and Takuma benefited from brisk business conditions. Although the total number of occupational accidents, including accidents that did not result in work stoppages, fell compared to 2016, the number of accidents that impacted our safety record by necessitating work stoppages rose. In addition to enhancing our safety and health management structures in order to halt this trend, we will work to ensure even more thorough risk management through a unified effort by all involved so that we can redouble our resolve to eliminate occupational accidents.



Year	Accident frequency rate	Accident severity rate
2013	1.25	0.23
2014	0.91	0.07
2015	0.92	0.21
2016	0.64	0.11
2017	0.81	0.18

* Accident frequency rate
 Indicates the frequency with which accidents occur as the number of fatalities caused by occupational accidents per 1 million actual working hours.

$$\frac{\text{Number of fatalities}}{\text{Total actual working hours}} \times 1,000,000$$

* Accident severity rate
 Indicates the seriousness of accidents as the number of work-days lost per 1,000 actual working hours.

$$\frac{\text{Total work-days lost}}{\text{Total actual working hours}} \times 1,000$$

Reference: Nationwide accident frequency and severity rates for the construction industry (general construction)

The Environment

+ Basic Environmental Policy

Our company has established the "Basic Environmental Policy" as follows, aiming to ensure employees contribute to global environmental conservation. This basic policy applies to the activities of all company departments.

Environmental Philosophy

Takuma is committed to preserving the environment and realizing an affluent society through business activities under the Company Motto: "Value Technology, Value People, Value the Earth."

Operational Guidelines

1. All Takuma Group companies will recognize the importance of maintaining a balance between preservation of the environment and business activities.
2. Continuously develop activities to preserve the environment that comply with applicable environmental laws and ordinances, and ensure environmental control and assessment systems conform to international environmental standards.
3. Promote development of improved technologies and products for society that preserve the environment.
4. Address resource conservation, energy efficiency, recycling, and minimization of waste generated by all business activities.
5. Improve employee awareness and understanding about the importance of preserving the environment through environmental education and internal promotional activities.
6. Provide the community with information on the activities of Takuma to preserve the environment.

+ Environmental Management

• The situation concerning the acquisition of ISO 14001

Our Harima Factory has acquired ISO 14001 certification and has been implementing environmental management activities based on an environmental management system established to comply with international standards.

Our group companies Nippon Thermoener Co., Ltd., Takuma Technos Co., Ltd., and Dan-Takuma Technologies Inc. have also acquired ISO 14001 certification.



+ Takuma's CO₂ Reduction Technologies

We convert waste/biomass into energy and reduce CO₂!

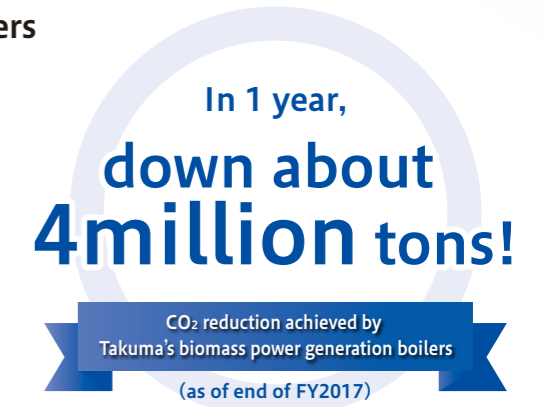
In 1 year, Takuma products cut about 5million tons!

(Equivalent to the CO₂ absorbed by about 350 million Japanese cedar trees*)

*Assuming one Japanese cedar tree absorbs 14 kg of CO₂ per year.

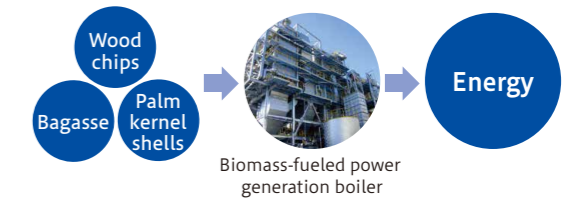
Reducing CO₂ with biomass power generation boilers

A classic example of biomass power generation can be found in sugar factories. Factories that make sugar produce large quantities of residue from sugarcane, the raw material used to make sugar. Sugarcane is crushed into a pulp, and sugar is extracted in a mill. The remaining fiber is called bagasse and can be used as boiler fuel. The steam produced is used as the plant's heat source, and any remaining steam is used to generate electricity that is utilized to operate the plant and, if any remains, sold to the electric power company. The amount of power generated at sugar factories has grown greatly, with examples of single plant that generates 50,000 kW.



• What is biomass?

Biomass is any recyclable organic material derived from a living organism, but does not include fossil fuels, such as oil and coal. For example, even though CO₂ is emitted if wood waste products are incinerated, when trees grow again, they absorb CO₂ to offset the emissions from incineration, so there is no increase in CO₂ in the atmosphere. By using the heat produced by incinerating biomass to generate power, the amount of power generated using fossil fuels can be reduced, and this contributes to decreasing CO₂.



CO₂ reduction from waste incineration plants

Garbage, or waste, is an important source of energy. About 500 kW** of power can be generated from one ton of garbage. In Europe and the Americas, waste incineration plants are often called Energy from Waste (EfW) plants, and recovering energy from garbage has become the norm. Waste must be seen as a "resource," so Takuma is seeking to be the best in the world with our technologies to convert waste into energy and reduce CO₂.

** Presumes waste with a calorific value of 8,800 kJ per kg and a power generation efficiency of 20%



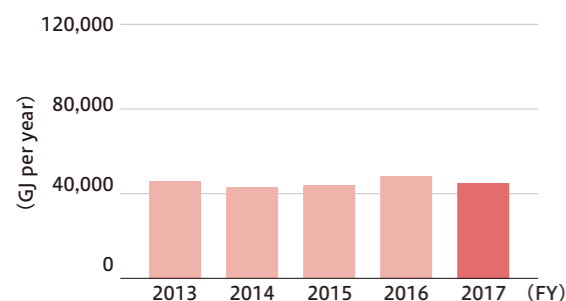
The Environment

Environmental Reporting

Takuma reports the environmental impact of its business activities as well as the manner in which it takes environmental considerations into account in accordance with the Environmental Reporting Guidelines (issued by the Ministry of the Environment). This environmental reporting program includes not only environmental information extracted from our overall business activities from an environmental standpoint, but also information about related economic and social aspects of those activities.

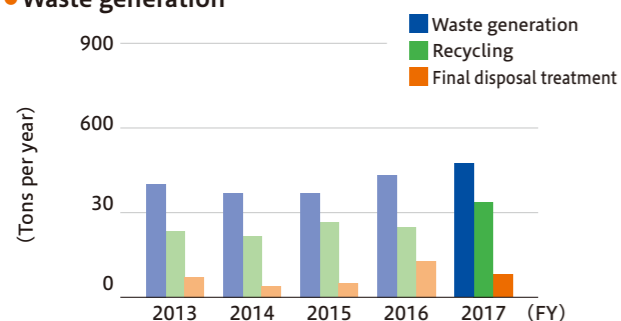
Environmental data (non-consolidated)

Total energy consumption



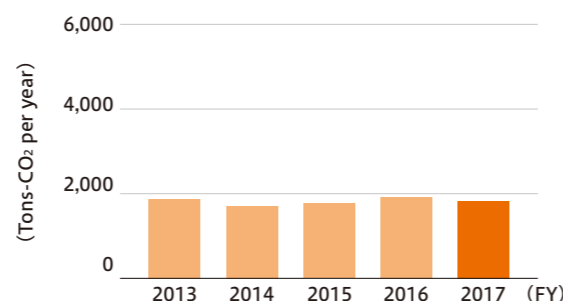
The total energy consumption of the fuel and the electricity consumed at Takuma during FY2017 fell slightly compared to FY2016 levels. We will continue to promote energy savings from here on out.

Waste generation



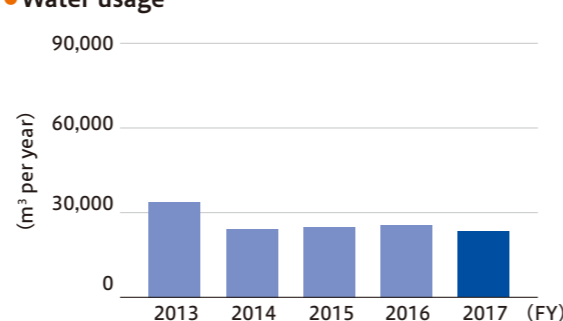
Our company sells recyclables and reusables from the waste generated through its business activities to scrap dealers, while outsourcing the treatment of non-recyclables and non-reusables to haulers, processors and final disposal dealers, in accordance with the Industrial Waste Control Manifest system.

Greenhouse gas emissions



The greenhouse gas emissions created by our company are limited to carbon dioxide (CO₂). The amount of CO₂ emissions in FY2017 fell slightly compared to FY2016 levels. We will continue striving to reduce CO₂ emissions.

Water usage



Takuma's water consumption during FY2017 fell slightly compared to FY2016 levels. Going forward, we will continue to work to lower our water use.

PRTR target substance emissions

Although our business activities do not involve a wide variety of chemical substances on a massive scale, we use a few designated chemical substances. Consequently, we report and register such chemical substances designated under the Pollutant Release and Transfer Register (PRTR), in accordance with relevant laws and ordinances, with the local government.

Dichloromethane (CAS No. 75-09-2)

FY	2013	2014	2015	2016	2017
Emissions (tons per year)	0	0.3	0.4	0.4	0.5

Xylene (CAS No. 1330-20-7)

FY	2013	2014	2015	2016	2017
Emissions (tons per year)	1.4	3.4	2.2	2.9	1.2

Toluene (CAS No. 108-88-3)

FY	2013	2014	2015	2016	2017
Emissions (tons per year)	0.08	0.08	0.26	0.09	0.62

These materials are used for antirust painting of boiler structures and so on.

Environmental accounting

Environmental accounting is the process by which companies and other entities recognize the cost of environmental conservation in their business activities as well as the effects of those activities and measure and communicate them in as quantitative a manner as possible (either in terms of monetary amounts or amounts of materials) with the goal of pursuing environmental conservation initiatives in an efficient and effective manner while maintaining a good relationship with society so as to facilitate sustainable development.

In FY2006, we introduced and disclosed our own environmental accounting system based on the "Environmental Accounting Guidelines 2005" issued by the Ministry of the Environment. As our business activities mainly involve environmental conservation plants and their equipment, Takuma Group employees have a significant awareness of the need for environmental conservation, and we have been implementing approaches toward such issues within the Takuma Group.

Environmental conservation cost

According to the "Environmental Accounting Guidelines," environmental conservation costs measure on a monetary basis investments and expenditures on preventing, controlling, or avoiding environmental impacts, eliminating their effects, recovering from associated damage, and initiatives to aid in the same.

Item	Investment (thousand JPY)	Costs (thousand JPY)
Business area costs		
Pollution prevention costs	21,851	17,197
Global environmental conservation costs	15,190	21,806
Resource recycling costs	—	12,971
Management activity costs		
Research and development costs	4,028	1,361,328
Social activity costs	—	9,925
Total	41,069	1,469,912

Environmental conservation effect

According to the "Environmental Accounting Guidelines," environmental conservation effects measure on a material basis the effects of preventing, controlling, or avoiding environmental impacts, eliminating their effects, recovering from associated damage, and initiatives to aid in the same.

Item	FY2016	FY2017
(1) Environmental conservation effect concerning resources input for business activities		
Total energy input (GJ)	101,681	97,416
Water resources input (m ³)	50,584	45,460
(2) Environmental conservation effect concerning environmental loads and wastes created by business activities		
Greenhouse gas emission volume (tons-CO ₂)	4,337	4,131
Waste generation (tons)	976	1,028
Final disposal volume (tons)	163	131
Total drainage volume (m ³)	48,299	45,460
BOD emissions (kg)	2,720	2,448
COD emissions (kg)	2,898	2,613
T-N emissions (kg)	698	645
T-P emissions (kg)	119	111

Environmental efficiency

Even as total environmental impacts must be reduced, it is necessary from a business management standpoint to pursue environmental initiatives that are characterized by a high degree of economic efficiency. We report environmental efficiency using an index calculated in accordance with examples provided by the Ministry of the Environment in its Environmental Performance Indicators Guidelines for Organizations.

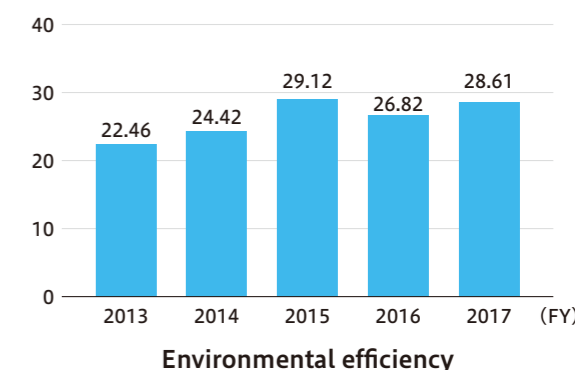
At the Takuma Group, we calculate environmental efficiency as the ratio of consolidated net sales to greenhouse gas emissions. In FY2017, this value improved slightly compared to FY2016.

The Takuma Group's definition of environmental efficiency

$$\frac{\text{Consolidated net sales (million JPY)}}{\text{Greenhouse gas emissions (tons-CO}_2\text{)}}$$

Scope of data collected

- Period covered: April 1, 2017, to March 31, 2018
- Companies targeted: [12 domestic companies]
 - Takuma Co., Ltd. (Head Office, other offices including overseas sites and the Harima Factory)
 - NIPPON THERMOENER CO., LTD.
 - Takuma Technos Co., Ltd.
 - Hokkaido Sanitary Maintenance Co., Ltd.
 - Takuma Technos Hokkaido Co., Ltd.
 - SUNPLANT Co., Ltd.
 - Takuma Engineering Co., Ltd.
 - Takuma System Control Co., Ltd.
- [2 overseas subsidiaries]
 - Dan-Takuma Technologies Inc.
 - Kyoritsu Setsubi Co., Ltd.
 - Kankyo Sol-Tech Co., Ltd.
 - Takuma Plant Service Co., Ltd.
 - Taiden Environtech Co., Ltd.
 - Siam Takuma Co., Ltd.



Fair Business Practices

+ Compliance & CSR Promotion Education

Takuma offers compliance and CSR promotion education through the Compliance & CSR Promotion Organization (see page 46), which was established in order to spread awareness of compliance and CSR issues among employees.

During FY2017, we implemented education focusing on compliance and CSR promotion in four separate stages (see below) in keeping with our policy of pursuing a sustained and thorough program of improving compliance and CSR awareness and risk management based on a consideration of internal conditions and the characteristics of Group companies in response to social requirements and expectations in accordance with the basic policy of cultivating a robust corporate culture and the perspectives of accommodating environmental change and practicing risk management as set forth in the 11th Medium-Term Management Plan.

- 1st term: Bid-rigging and the Antimonopoly Act
- 2nd term: Takuma CSR comprehension test
- 3rd term: Risk management, security export control
- 4th term: Compliance and harassment, forward-looking CSR activities: CSR issues and an action program

CSR lectures for management-level employees

During FY2017, we invited experts to give the following talks to management-level employees:



1st lecture (September 27, 2017)

“Compliance as a way to increase corporate value: Taking advantage of internal reporting systems”
(Lecturer: Mr. Kiyoshi Endo, Attorney at Law, Endo Kiyoshi Law Office)



2nd lecture (January 24, 2018)

“Group management and the responsibilities of parent company officers”
(Lecturer: Ms. Junko Yamada, Professor, The Konan Law School)

+ Compliance Measures

• Initiatives to ensure compliance with the Antimonopoly Act

Towards ensuring permanent compliance with the Antimonopoly Act, Takuma enacted “Regulations Concerning Management of the Pledge of Antimonopoly Act Compliance,” which provides for the submission of a written oath in regard to observing the Antimonopoly Act.

“Rules on Controlling Contact with Competitors’ Sales Departments, Etc.,” defines the procedure for an employee to contact the sales department, etc., of a competitor and specifies that an application should be made to and an approval should be obtained from the affiliated division or center manager in advance to ensure fair business contact.

• Holding training sessions about the Antimonopoly Act

We hold regular training sessions about the Antimonopoly Act to deepen participants’ understanding of the act and to ascertain the latest information about it.

• Introducing a Legislation Information Service

In order to allow its employees to gain a continuous grasp of the latest changes to laws and ordinances, Takuma introduced a Legislation Information Service. In this system, legislation alerts highlighting revisions to, and abolition of, laws and ordinances are sent by e-mail in advance to employees, who can also review detailed information about the corresponding law or ordinance on the website as needed.

In addition to current laws and ordinances, the system lets users search for legal precedents and public comments to facilitate an even greater understanding of relevant laws and ordinances.

+ CSR Awareness Survey

As a means of understanding the level of awareness of compliance and CSR and the level of permeation of education that promotes these priorities, and employing that data as reference for the integrated activities carried out during each fiscal year and for the following fiscal year’s action plan, we have conducted the “CSR Awareness Survey” every year since FY2008 with the end goal of utilizing that information for future compliance and CSR promotion activities. The survey has included Group companies since FY2013.

We actively use survey results in our activities, for example by offering additional education in areas that received lower scores than in the previous survey.

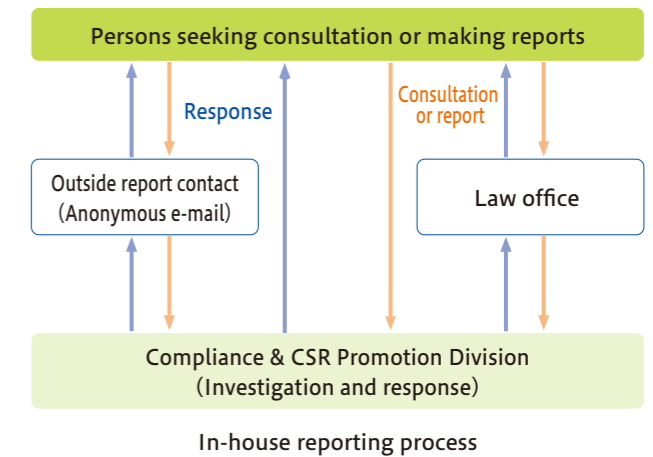
We will continue to offer this survey and use its results to improve compliance and CSR promotion education on an ongoing basis.

+ In-house Reporting System

Takuma has been operating an in-house reporting system since FY2006, with the aim of promoting compliance management by uncovering illegal or unfair acts as early as possible and undertaking corrective measures.

Reporting contacts are set up at our Compliance & CSR Promotion Division and at an outside law office, as well as a dedicated outside report contact for anonymous e-mail reporting. Our “In-house Reporting Code” and the Takuma Group Code of Conduct further declare that no informant shall be subjected to disadvantageous treatment simply due to his or her having filed a report.

Furthermore, in order for this system to be correctly understood and utilized, we distribute a card to all employees with information on the reporting contacts and regularly publicize the system.



+ Material Procurement Policy

Our Purchasing Department carries out procurement activity in accordance with its Material Procurement Policy.

We provide fair opportunities for all suppliers, irrespective of nationality, company size, or transaction history. Suppliers are selected based on our comprehensive evaluation of their reliability and safeness in terms of quality, price, delivery, etc., as well as their abilities in technological development and supply capabilities.

Long-term stable transactions with dependable suppliers result in improved product reliability and greater corporate value. We, therefore, seek to establish relationships of mutual trust and mutual development with our suppliers.

While also respecting relevant laws and regulations as well as social norms, we strictly control and maintain any confidential information that we obtain through our business transactions.

More information about the procurement procedures used by our Purchasing Department is available on the following website:

[Takuma website > Material Procurement] <http://www.takuma.co.jp/procurement/> (content in Japanese)

【Material Procurement Policy】

1. Treat all candidates fairly when selecting a supplier.
2. Strive to discover new manufacturers.
3. Strictly control confidential information.
4. Strive to acquire new and pertinent information.
5. Promote green procurement.
6. Comply with laws and ordinances related to business dealings.
7. Always keep VA and VE in mind.
8. Strive for self-development.

Activities Involving Product Quality

The amount of attention paid by consumers (stakeholders) to quality in a wide range of fields, including manufacturing and services, has been growing in recent years. This section introduces Takuma initiatives that are designed to provide safe, confidence-inspiring products and plants.

Takuma has earned certification under the ISO 9001 standard on management systems, and in December 2017 we completed our transition to the latest version of the standard, the 2015 edition. In addition to working to improve the quality of our products in accordance with our Quality Policy and quality management system, we are pursuing activities that emphasize customer satisfaction.

In order to produce products and plants that customers truly appreciate, it is necessary not only to boost the quality of the product itself, but also to improve the operations and quality as well as each individual's ability to create a good plant in each process from planning up to delivery (sales, planning, design, procurement, manufacture, construction, and management).

Takuma Co., Ltd. has adopted the following Quality Policy in order to provide satisfying products that meet customer expectations and earn a high level of trust while continuously improving the effectiveness of its quality management system.

Quality Policy “Manufacturing products that result in customer satisfaction”

Based on that Quality Policy and the three priority items described below, Takuma is working to improve the quality of its products and services through a variety of initiatives that address every process, including in sales, planning, design, procurement, manufacture, construction, and management.

+ Priority items

- Creating value to earn customer satisfaction (ascertaining customer needs and making improvements based on past experience)
- Carrying out risk management (addressing changes in the business environment and human error)
- Implementing human resources management (implementing human resources development and ensuring skills are passed down to younger employees)

+ Specific initiatives for improving quality

Improving organizational operations

As an organizational initiative that's designed to boost product quality, we have each department establish quality targets at the beginning of the year and then provide regular reports (twice a year) on progress towards achieving those goals at QM Committee meetings (quality management reviews).

Internal quality audits

In addition to increasing the precision of operations by standardizing operating procedures in each department's processes, we are improving operations as necessary by carrying out an internal quality audit of each department to verify the status of quality management system operation.

Internal quality audits are carried out regularly by employees who have been certified as internal auditors after completing internal quality auditor training seminars offered by instructors from an outside organization. At the training seminars, employees master content ranging from basic knowledge about ISO 9001 to specific methods for conducting internal audits.

Improving the employees' individual operational skills

To improve employees' individual operational skills, we have created an operational skill achievement checklist that identifies the skills required by personnel in each process for use in regular assessments, and we are reviewing the targets we have chosen.

Quality control and process reviews

Quality control is an important measure that allows us to provide exceptional products and plants.

We take action (improvement measures) as outlined by a manual (standard) in the event a non-conforming product is discovered, but even if an issue doesn't lead to a non-conforming product, we conduct a review as a preventive measure if there are processes that could have caused the issue.

Furthermore, we actively offer training to new business partners and retraining (instruction) for existing business partners to prevent defects in the products we purchase.

+ Customer satisfaction survey

We carry out the following quality improvement initiatives:

- (1) Conducting a customer satisfaction survey every year since FY2007
- (2) Applying customer feedback with regard to delivered products and Takuma employees to quality and service

The figure to the right illustrates how the survey is administered.

First, we administer questionnaires targeting customers who had construction work done by asking them to assess the overall experience after the work is completed, including the nature of the work performed, suitability of delivered equipment, and the level of service provided by Takuma staff.

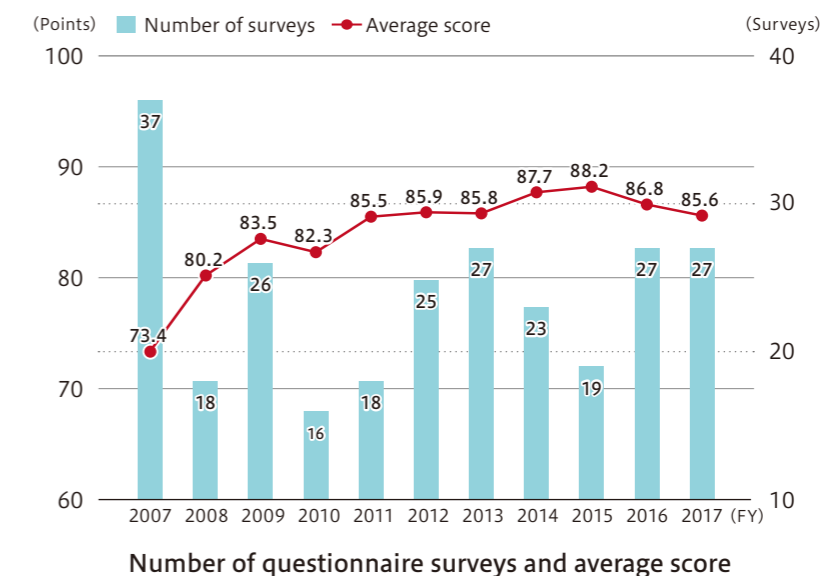
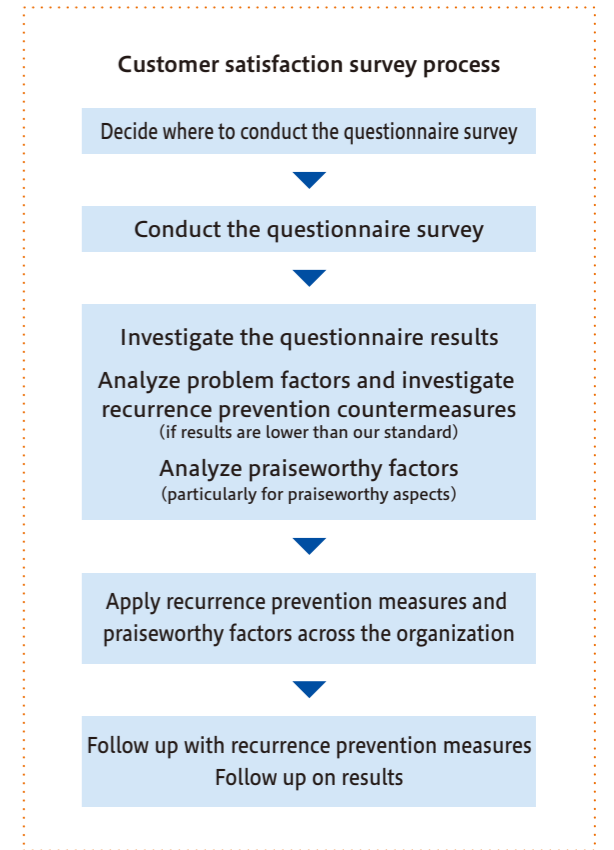
Next, the QM Committee calculates a score for each item based on the survey results as well as a report and explanation from the responsible department. The committee then analyzes the resulting data.

If we find a problem, for example an item receiving an evaluation score of less than 70 out of 100 or a score of 1 (dissatisfied) or 2 (rather dissatisfied) on a 4-point scale, the QM Committee analyzes the cause of the problem and studies measures to prevent recurrence based on interviews with the department in question. We also evaluate aspects of our products and services that receive especially high praise from customers and work to further enhance customer satisfaction by combining problem areas and praiseworthy areas and applying them horizontally across involved departments at the company.

For customers targeted for problem analysis and consideration of preventive measures based on the survey results, we also conduct a follow-up survey to discern whether those measures were reliably implemented and whether their level of satisfaction has indeed improved.

With scores averaging higher than 80 points every year since its second year, the questionnaire demonstrates the effectiveness of our initiatives.

In this way, we work to improve product and plant quality so that all customers are satisfied.



Participation in the Community

Reflecting their dedication to providing safe, reliable facilities that inspire peace of mind on the part of local residents, Takuma and its Group companies work actively to disclose information in an appropriate manner, keep the areas around plants clean, participate in regional activities, and engage in exchanges with local residents. This section introduces some of those efforts.

Hitachinaka-Tokai High Trust Co., Ltd.

Hitachinaka-Tokai High Trust is working actively to participate in local activities and to foster exchanges with local residents, including by participating in coordinated clean-up activities in the surrounding area.

During FY2017, the company sponsored and participated in the 66th Katsuta Marathon, which was held in January 2018. The company has been involved with the event every year since it was first run.



Kurume High Trust Co., Ltd.

Kurume High Trust offers nature and environmental learning programs to ensure that Kurume's pleasant living environment can be passed on to the next generation, primarily through the Miyanojin "Manabino" Biotope at its facility, which is designed to serve as a space where visitors can learn about wildlife in the Kurume region.

During FY2017, the company offered three classes for area parents and their children: a firefly-watching class entitled "Let's Go View Fireflies" in June, "The Great Search for River Life" in August, and "The Great Search for Biotope Life" in November.



Suwako High Trust Co., Ltd.

In FY2017, Suwako High Trust welcomed more than 300 visitors to its facility in November when it hosted the "Eco-Poppo Community Festival," which is named for the site. Following a report on the operation of the plant, Okaya City Nagaike Elementary School's chorus performed. In addition, "Explore eco-Poppo" tours offered attendees a chance to tour parts of the facility that are normally off-limits to visitors, and there was also a simulation designed to let people see what it's like to operate a waste crane.



Hokutan High Trust Co., Ltd.

Hokutan High Trust provides space to foster exchanges with area residents to facilitate environmental learning and awareness-raising, including by preparing to serve as an evacuation site in the event of a natural disaster.

During FY2017, the company participated in the Clean Park Hokutan Festival, which was held in order to deepen the general public's understanding of the facility through events such as facility tours, nature experiences as part of an environmental learning program, and craft lessons. Many visitors brought their children and participated in the craft lessons, where they made items such as candles, bamboo crafts, and plastic bottle airplanes.



Iwate-Kenpoku Clean Co., Ltd.

Iwate-Kenpoku Clean is committed to disclosing information about its operations to the general public, including by publishing maintenance and management records on its website and by regularly publishing a variety of information in the IKC Newsletter.

During FY2017, the company continued to be involved in community service activities, including by participating in the village of Kunohe's Village Sports and Recreation Festival in September and by picking up litter in the Esashika district and participating in the Kunohe Industry, Art, and Culture Festival in October.



Contribution to Society

This page introduces some examples of Takuma's community service activities.

Takuma Group coordinated cleanup activities

The Takuma Group orchestrates coordinated clean-up activities in the areas around its worksites each year as a way for volunteers to beautify the environment and contribute to society. During FY2017, a total of 547 employees participated in two such activities. The activities provided an opportunity for employees to think afresh about waste-related issues and their connection to the community. Going forward, the Takuma Group will continue this initiative.



Participation in the "Osaka Marathon 'Cleanup' Campaign"

In November 2017, volunteers from the former Plant Service Department (Osaka) participated in the "Osaka Marathon 'Cleanup' Campaign," a cleanup activity that is held every year as part of the Osaka Marathon. The activity brought together organizational, group, and individual volunteers to beautify public spaces throughout the city.



Blood donation campaign

Takuma supports blood donation activities through the Japanese Red Cross Society. During FY2017, a total of 167 donors participated in spring and fall blood drives at the Head Office and Harima Plant. Donors can simultaneously register as bone marrow donors, and this year four employees did so. We plan to continue this activity in the future.



Blood donation activities



WFP fundraising activities

WFP fundraising activities

Takuma serves on the Board of Trustees of the Japan Association for the World Food Programme, the official supporting partner of the World Food Programme in Japan. Each year, we display WFP posters at the entrances to company buildings and in cafeterias during a campaign that lasts from June through August. The campaign serves both to increase employee interest in the world's food problems and to collect donations to address them.

Contributions to NPOs

Purchasing UNICEF Christmas cards

Takuma purchases UNICEF Christmas cards. A portion of the proceeds is used to fund UNICEF in their work to help children around the world.

Donating calendars to a charity calendar market

Takuma donates unused calendars to a calendar market sponsored by the NPO "Nippon Volunteer Network Active in Disasters." In FY2017, we donated about 100 calendars. The proceeds are used to provide aid for victims of natural disasters and other crises.

Publications

Publication of the Takuma Technical Review

We publish the Takuma Technical Review twice a year to introduce technologies that Takuma has developed. Contents in FY2017 included an explanation of how sewage sludge incineration ash can be used effectively and reports on plant equipment operation, trial demonstration results, and observations from a visit to an environmental facility overseas. Abstracts are available on Takuma's website.

[Takuma top page > Technical Information > Technical Review]

<http://www.takuma.co.jp/english/gijutu/gihou.html>

