



ESG Initiatives

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Environment: Environmental Initiatives

Helping Combat Climate Change: Conserving Resources and Protecting the Environment

The Takuma Group recognizes the need to promote renewable energy (non-fossil energy), improve energy efficiency, conserve resources and reduce environmental impacts, and use unutilized resources effectively. As one way to do that, we will work to alleviate the global issue of climate change and to reduce environmental impacts while helping realize a sustainable society by supplying products and services that draw on technologies for effectively utilizing energy and protecting the environment that we have developed over more than 80 years of history.

TAKUMA Environmental Policy

Our company has established the "TAKUMA Environmental Policy" as follows, aiming to ensure employees contribute to global environmental conservation.

This 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 Enhance employees' 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.

Takuma's contribution to reducing CO₂ emissions

➡ Conversion of waste and biomass into energy by municipal solid waste incineration plants and biomass power plants supplied by Takuma helps reduce CO₂ emissions by about 4 million tons per year.

Reduction in CO₂ emissions from municipal solid waste incineration plants delivered by Takuma

Approx. 500,000 tons per year!

Reduction in CO₂ emissions from biomass power plants delivered by Takuma

Approx. 3.5 million tons per year!

Reduction of about 4 million tons from Takuma products during FY2021!

CO₂

Helping combat climate change

Initiatives through our energy plant business

As a pioneer in the boiler industry with many years of experience, we have helped customers resolve the issues they face by delivering a diverse range of boilers and plants in large quantities.

Alleviating climate change and realizing a decarbonized society have been cited in recent years as issues that demand a society-wide response, and renewable energy, including solar power, wind power, geothermal power, small- and medium-scale hydropower, and biomass, has an important role to play in addressing those issues.

Because it absorbs carbon dioxide through photosynthesis during the growth period of raw materials like thinned lumber, the wood fuel used in biomass boilers, one of our flagship products, is distinguished by being carbon-neutral, insofar as it does not affect the atmospheric concentration of carbon dioxide, including when lumber is used as a source of energy. We will help resolve issues faced by customers and society by promoting renewable energy through utilization of wood biomass.

Contributions through advanced technology and after-sales service

Most fuels used by biomass power plants, boiler plants, and industrial waste treatment plants, which are flagship products of our Energy Plant Business, differ from fossil fuels in that they do not exhibit uniform properties, making it difficult to realize stable combustion.

Drawing on advanced combustion and control technologies as well as extensive experience, we achieve high operational availability by choosing the optimal combustion model for customers' plans so that we can supply plants characterized by high transmission end efficiency and boiler efficiency. Our work continues after each facility begins operating as we facilitate stable facility operation over the long-term through an extensive menu of after-sales services, including maintenance, renovation work, Operation management and Maintenance management (O&M), and supply of locally produced CO₂-free power for local consumption in partnership with our subsidiaries.

Going forward, we will strive to realize a decarbonized/low-carbon society while helping customers resolve the challenges they face by supplying high-efficiency plants and working to ensure that facilities operate in a stable manner over the long-term.



Example initiatives

Supplying locally produced CO₂-free power for local consumption as part of a decarbonization initiative in the Kunohe Village, Iwate Prefecture

Group company Takuma Energy Co., Ltd., and Iwate-Kenpoku Clean Co., Ltd., entered into an agreement with the Kunohe Village in Iwate Prefecture promoting the decarbonization of the local community through use of locally produced power. In accordance with this agreement, Takuma Energy will supply power generated by Iwate-Kenpoku Clean to the Kunohe village office and other facilities. The supplied power, which is CO₂-free, will contribute to the development of the village, which is striving to reduce greenhouse gas emissions and build a Regional Circular and Ecological Sphere (Regional CES).



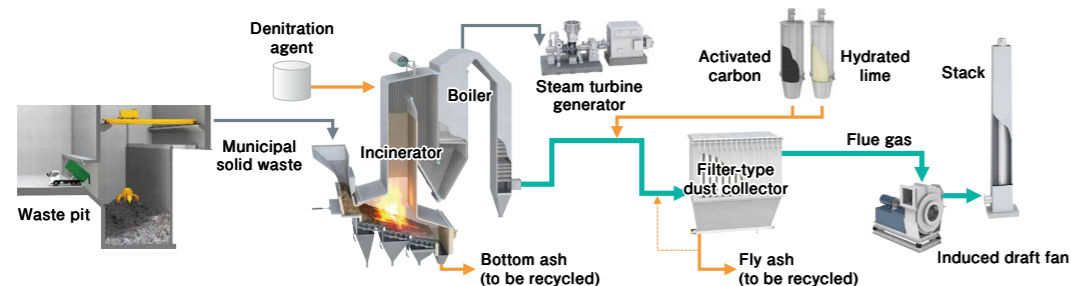
Environment: Environmental Initiatives

Conserving resources and protecting the environment

Initiatives through the Municipal Solid Waste Treatment Plant Business

Since delivering Japan's first fully continuous mechanical waste incineration plant in 1963, Takuma has built and delivered more than 360 municipal solid waste treatment plants, the most of any manufacturer in Japan. Most of the treatment technologies used by plants are the result of in-house R&D by Takuma, which continues to embrace the highest standards of excellence while working to refine its technologies so that they can accommodate the needs of society it changes over time.

Takuma contributes to resource conservation and environmental protection through a broad product line and after-sales service based on an extensive track record as the industry's leading company.

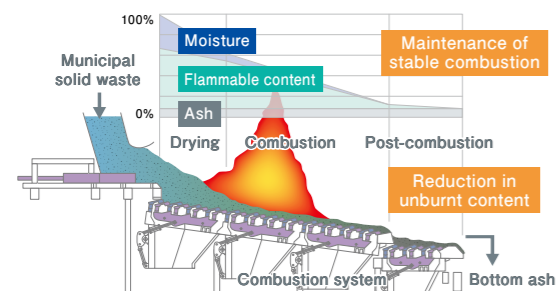


1 Resource conservation initiatives

We contribute to the formation of a Sound Material-Cycle Society by working to improve incineration and flue gas treatment technology, promoting recycling of ash, and reducing use of chemical agents.

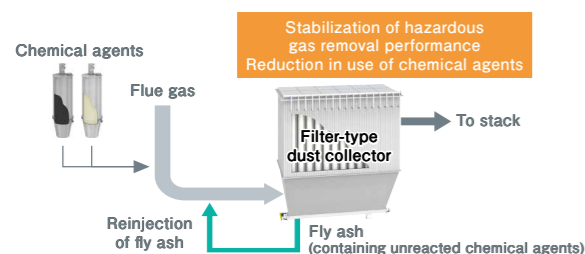
High-performance stoker furnace

We draw on the treatment experience that comes from having Japan's No.1 track record of deliveries to improve our stokers. We pursue the ash recycling business by maintaining stable combustion despite a diverse range of waste properties and creating bottom ash with few embers that exhibits uniform properties, making it well suited for use in cement production.



Fly ash circulation system

Fly ash collected by filter-type dust collectors contains chemical agents used to remove toxic chemicals (hydrated lime and activated carbon) that are still capable of removing toxic chemicals. This system consists of technology for utilizing such chemical agents to maximum effect by reducing chemical agent use and fly ash volume so that fly ash can be recycled efficiently and economically.

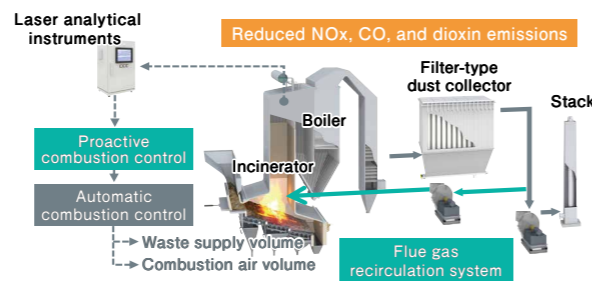


2 Environmental protection initiatives

The healthy environment in the surrounding community is safeguarded by reducing generation of toxic substances during the combustion process, for example by using AI in combustion technology.

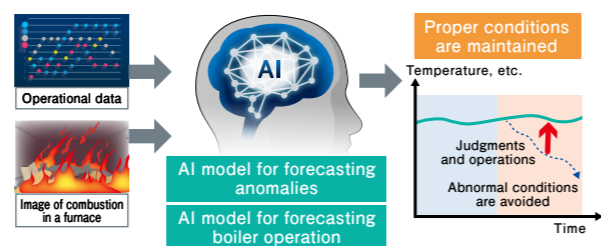
Advanced combustion system

Takuma's advanced combustion system, whose components include proactive combustion control, which uses a laser analytical instruments to boost response, as well as a flue gas recirculation system, reduces generation of toxic substances like dioxins, nitrogen oxides, and carbon monoxide during waste incineration.



AI-enabled combustion control system

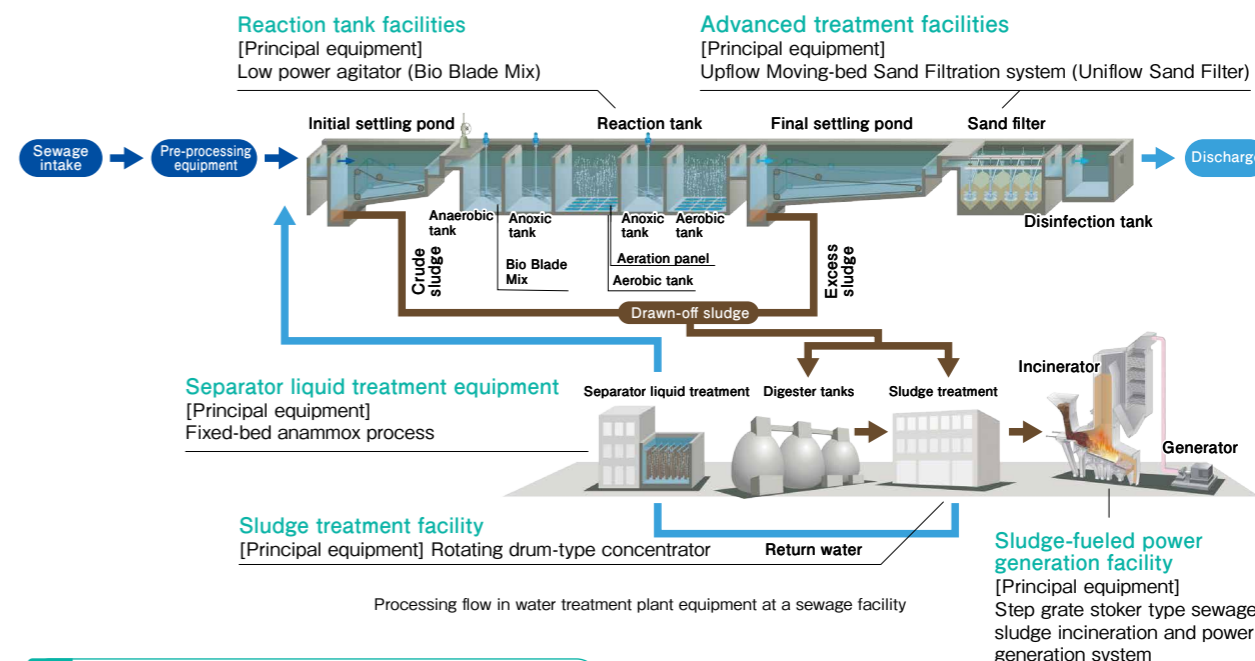
This next-generation combustion control system, which uses AI technology, reproduces the operational skills of experienced operators. Since the system precisely forecasts combustion fluctuations that are unique to waste incineration to determine and implement the appropriate response, stable combustion conditions can be maintained at all times, even when the properties of the waste fluctuate over the medium- and long-term.



Conserving resources and protecting the environment

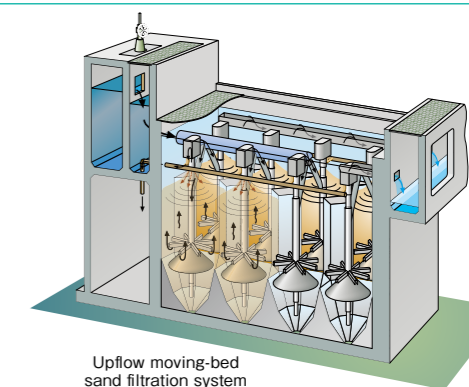
Initiatives through the Water Treatment Plant Business

We have operated our Water Treatment Plant Business with a focus on sewage facilities for more than 50 years, and during that time we have worked to conserve water resources and the water environment required by society by providing a variety of water treatment technologies. In recent years, companies in this sector have been called upon to address social needs involving priorities such as energy conservation, energy creation, and Life Cycle Cost (LCC) reductions. In response, we have helped realize sustainable sewage systems by taking advantage of the reliable technology and extensive experience we have developed to date.



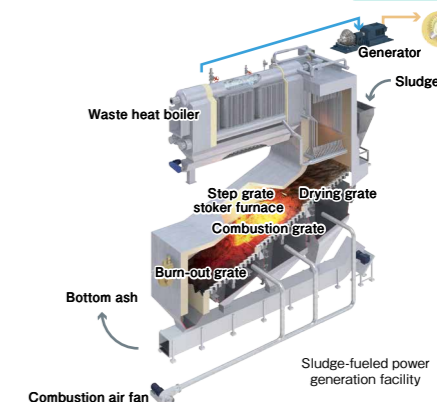
1 Upflow moving-bed sand filtration system

Our upflow moving-bed sand filtration system (Uniflow Sand Filter), which removes Suspended Solids (SS) from water, is primarily used for final treatment at sewage treatment plants to allow clean, treated water to be released into rivers. Some treated water is also reused at the facility, helping to conserve water resources. Uniflow Sand Filter systems boast top domestic market share in moving-bed sand filtration systems, and we have delivered more than 2,700 of these long-selling products, which feature water quality purification technology, in Japan. In recent years, many of the systems we have delivered have been a new high-speed model that delivers two to three times the treatment volume with the same area as conventional fixed-bed sand filtration systems. We are also seeing more projects that replace fixed-bed sand filtration systems with this system while retaining existing foundation work and related infrastructure.



2 Step grate stoker type sewage sludge incineration and power generation system

Sludge generated by the sewage treatment process is a type of biomass, and such resources are expected to be used as renewable energy. Conventional sludge incinerators were net consumers of energy because they required auxiliary fuel and used large amounts of electricity, but this system draws on the core Takuma technologies of combustion technology and boiler technology to make possible an energy-creating system that generates more power than the incinerator consumes while using sludge as fuel, as long as it operates at or above a certain scale.



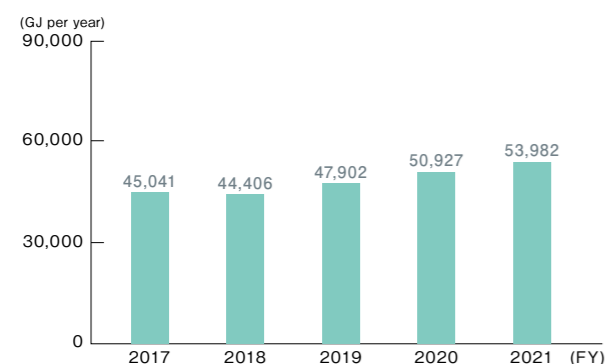
Environment: Environmental Initiatives

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.

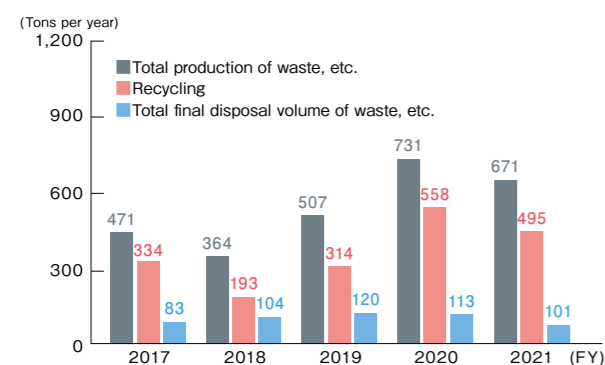
Environmental data (non-consolidated)

Total energy input volume



The total energy input volume of the fuel and the electricity consumed at Takuma during FY2021 rose slightly compared to FY2020 levels. We will continue to promote energy savings from here on out.

Total production of waste, etc.

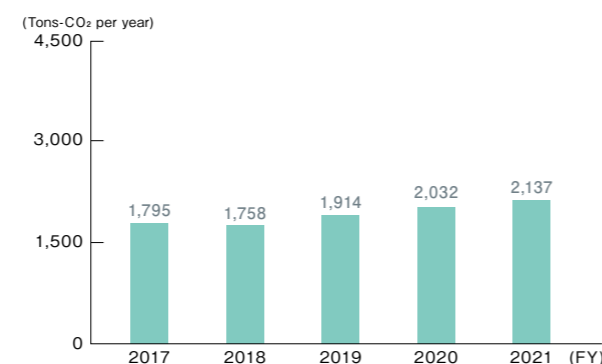


Waste generated by Takuma during FY2021 fell slightly compared to FY2020 as appropriate processing such as recycling led to a reduction in the volume of waste subject to final disposal. Going forward, we will work to further reduce the amount of waste we generate. Although we work to recycle and reuse waste, waste that cannot be reused is disposed of in accordance with the Industrial Waste Control Manifest System.

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) Law, in accordance with relevant laws and ordinances, with the local government.

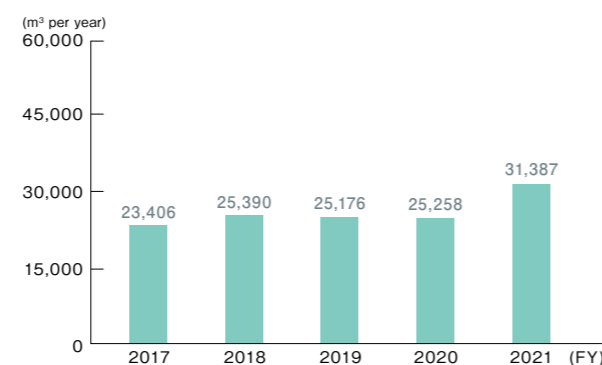
Greenhouse gas emissions



The greenhouse gas emitted by Takuma is limited to carbon dioxide (CO₂). The amount of CO₂ emissions in FY2021 rose slightly compared to FY2020 levels. We will continue striving to reduce CO₂ emissions.

*Annual values for individual providers' adjusted emission factors have been used.

Input volume of water



Water resource inputs by Takuma during FY2021 increased compared to FY2020. We will continue striving to reduce water resource inputs.

Dichloromethane (CAS No. 75-09-2)

FY	2017	2018	2019	2020	2021
Emissions (tons per year)	0.45	0.27	0.08	0.00	0.00

Toluene (CAS No. 108-88-3)

FY	2017	2018	2019	2020	2021
Emissions (tons per year)	0.07	0.06	0.09	0.07	0.13

Ethylbenzene (CAS No. 100-41-4)

FY	2017	2018	2019	2020	2021
Emissions (tons per year)	0.96	0.98	1.34	1.41	1.51

Xylene (CAS No. 1330-20-7)

FY	2017	2018	2019	2020	2021
Emissions (tons per year)	1.18	1.12	1.47	1.54	1.62

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.

We have disclosed our own environmental accounting system since FY2006 when we introduced it based on the "Environmental Accounting Guidelines 2005" issued by the Ministry of the Environment. Because the Group's flagship products include environmental conservation plants and equipment, employees exhibit a high awareness of the importance of environmental conservation, a goal that the Group works to achieve.

Environmental conservation cost

Item	Investment (thousand JPY)	Expense (thousand JPY)
Business area costs		
Pollution prevention costs	18,032	15,286
Global environmental conservation costs	3,371	16,742
Resource circulation costs	-	34,036
Administration costs		
R&D costs	74,323	1,695,632
Social activity costs	-	12,513
Total	95,726	1,804,607

Investments and expenses related to the prevention, reduction, and/or avoidance of environmental impact, removal of such impact, restoration following the occurrence of a disaster, and other activities are measured in monetary value.

Economic benefits of environmental conservation measures

Breakdown of benefits	Income from the sale of waste for recycling, etc. (thousands of yen)
	12,396

Economic benefits of environmental conservation measures, defined as contributions to the profit of a company or other entity derived from having pursued environmental conservation measures, are measured in monetary value.

Environmental conservation effect

Item	FY2020	FY2021
(1) Environmental conservation benefit related to resources input into business activities		
Total energy input volume (GJ)	103,839	109,051
Input volume of water (m ³)	47,295	52,425
(2) Environmental conservation benefit related to waste or environmental impact originating from business activities		
Volume of greenhouse gas emissions (tons-CO ₂)	4,422	4,587
Total production of waste, etc. (tons)	1,209	1,167
Final waste disposal volume (tons)	164	148
Wastewater volume (m ³)	47,299	51,926

Environmental conservation benefits are measured in physical units and are the benefits obtained from the prevention, reduction, and/or avoidance of environmental impact, removal of such impact, restoration following the occurrence of a disaster, and other activities.

Period covered: April 1, 2021, to March 31, 2022

Scope of statistics: The following companies are included in these statistics.

Domestic: 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.; Dan-Takuma Technologies Inc.; Kyoritsu Setsubi Co., Ltd.; Kankyo Sol-Tech Co., Ltd.; Takuma Plant Co., Ltd.; and TECHNO LINKS Inc.
Overseas: Taiden Environtech Co., Ltd., and Siam Takuma Co., Ltd.

Environmental management

The situation concerning the acquisition of ISO 14001

The Harima Factory has earned ISO 14001 certification, and it practices environmental management activities in accordance with an environmental management system that is designed to comply with international standards.

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

Environment: Environmental Initiatives

Disclosing information based on TCFD recommendations

1 Basic approach

Vision 2030, our long-term vision for the Takuma Group 10 years in the future, includes this statement: "Aim to maintain our role of being an indispensable presence in society as a leading company in the field of renewable energy utilization and environmental protection by realizing sustained growth alongside our customers and society through implementation of ESG management". Because the direction we are pursuing in our businesses accords with the general thrust of social pressure for reducing greenhouse gas emissions and bolstering the resilience of infrastructure as natural disasters grow more severe, we have identified helping combat climate change as one of the key issues (Materiality) that deserve to be addressed on a priority basis. Moreover, in April 2022 we announced our support for the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD). As the Group works to realize its corporate vision, we will strive to enhance initiatives that help realize a sustainable society by resolving issues faced by customers and society through the provision of products and services and by reducing our own CO₂ emissions. In addition, we will work to increase the sophistication of our approach to climate change and of our information disclosure initiatives through dialog with stakeholders.

2 Governance

We consider contributing to measures addressing climate change to be an important management priority, and we are pursuing a series of companywide initiatives under monitoring structures put in place by our Board of Directors. The Executive Manager, Corporate Planning & Administration Division (secretariat: Corporate Planning Department), who serves as the executive in charge of dealing with climate change, requests or instructs involved departments to cooperate, gathers information about how climate change will impact our businesses as well as associated initiatives, evaluates the risks and opportunities posed by climate change, and reviews the status of related initiatives. This information is then reported to the Board of Directors following discussion by the Committee of Executive Officers as necessary. The Board of Directors supervises the state of Takuma's initiatives to combat climate change as well as their consistency with the company's business policies (in principle, meeting once every year), reviewing policies as necessary and determining strategy.

3 Strategy and scenario analysis

After taking into account multiple scenarios announced by the Intergovernmental Panel on Climate Change (IPCC) and International Energy Agency (IEA), and referring to various materials released by the Ministry of Economy, Trade and Industry and the Ministry of the Environment, we established the two scenarios described below (one assuming a temperature rise of less than 2°C, and the other a rise of 4°C). We then analyzed the two scenarios with a focus on our domestic Environment and Energy Business, a flagship business that accounts for the majority of the Group's sales and a segment of our operations that is likely to be affected by climate change. We conducted this analysis through 2030, the final year of Vision 2030, our long-term vision, in an effort to identify the risks and opportunities that climate change would pose for our operations and to summarize the measures that we could undertake to resolve associated issues.

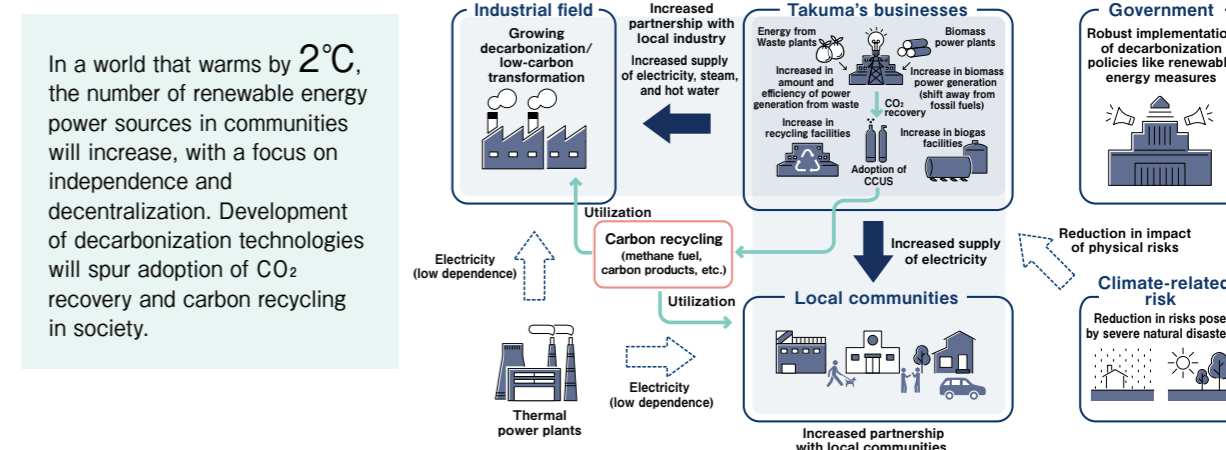
Established scenario	Overview	Reference scenario(s)
2°C scenario	A scenario in which progress in decarbonization restrains the average worldwide temperature increase to less than 2°C, as set forth in the Paris Agreement	NZE, SDS, and APS (IEA) RCP 2.6 (IPCC)
4°C scenario	A scenario in which a lack of progress in decarbonization results in an average worldwide temperature increase of 4°C or greater	RCP 8.5 (IPCC)

Note
 NZE: Net Zero Emissions Scenario; SDS: Sustainable Development Scenario; APS: Announced Pledges Scenario;
 RCP: Representative Concentration Pathways Scenario

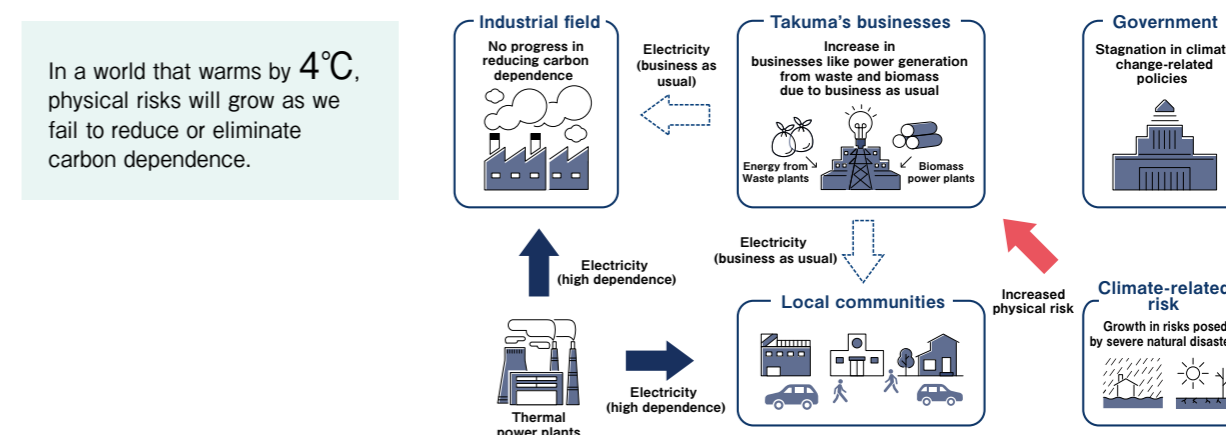
(1) Process for identifying risks and opportunities

We identified key risks and opportunities after extracting risks and opportunities posed by climate change from the standpoint of all value chains in the analyzed businesses, including sales, engineering, procurement, and construction, and evaluating them using a three-tier scale based on the extent of their impact on those businesses. Risks and opportunities identified as having a major impact on our businesses included strengthening of regulations and policies related to CO₂ emissions, changes in the energy mix, changes in societal and customer needs, and intensification of abnormal weather.

(2) Overview of scenario analysis



In the scenario where the average global temperature rises by less than 2°C, demand for technologies like biomass power generation and generation from waste incineration, which are flagship Takuma products, will grow due to changes in the energy mix and increased interest in renewable energy. In addition, stronger partnerships between Takuma plants and local industry (agricultural facilities, industrial parks, etc.) through the supply of steam, hot water, electricity, and other forms of energy can be expected to lead to increased opportunities for our businesses, even as falling new-construction and replacement demand for waste incineration plants due to implementation of the 3R approach (Reduce, Reuse, and Recycle) and the need to address new needs such as Carbon dioxide Capture, Utilization and Storage (CCUS) can be anticipated to pose transition risk. To address these risks, we will look to reduce risks while expanding businesses that take advantage of associated opportunities, for example by enhancing our recurring revenue model businesses, including maintenance, operation management, and O&M, by proposing optimal solutions that have been custom-tailored for individual customers; strengthening product groups that do not depend on incineration, for example biogas recovery plants and recycling plants; and continuing R&D geared to realize carbon neutrality, for example through CCUS.



In the 4°C scenario, frequent, intensifying extreme weather will cause delays in material procurement and construction, raising concerns about impacts on business costs, including with regard to construction schedules. We will address this risk by standardizing parts and equipment and optimizing inventories of parts, material, and equipment through our Supply Lab (after-sales service facility), and by strengthening Business Continuity Plan (BCP), for example by ensuring sufficient risk buffers and hedging against risks with insurance and agreements.

Our strategy through FY2023, which has been formulated with a view towards 2030, is reflected in the 13th Medium-Term Management Plan.

Environment: Environmental Initiatives

(3) Summary of scenario analysis results

Item		Overview of risks and opportunities		Countermeasures	Impacts	
2°C scenario	Policy and law	Introduction of carbon pricing	Business costs will rise following the introduction of carbon pricing such as carbon taxes.	Risks	<ul style="list-style-type: none"> ● Implementation of Takuma initiatives related to energy savings and decarbonization ● Future initiatives to reduce greenhouse gas emissions in collaboration with suppliers 	→ There are risks, but they can be addressed
		Strengthening of regulations and policies related to CO ₂ emissions	Climate change measures will become a requirement for bidding government contracts, and progress in implementing initiatives preparing for a decarbonized society will impact opportunities for earning orders.	Opportunities Risks	<ul style="list-style-type: none"> ● Initiatives to eliminate carbon dependence and realize a Regional Circular and Ecological Sphere (Regional CES), for example equipping municipal solid waste treatment plants with CCUS technology ● Progressive and steady reductions in greenhouse gas emissions from Takuma's business activities 	↗ Addressing these risks will lead to increased business opportunities
		Changes in the energy mix	Governmental energy mix policies and increasing interest in renewable energy will spur demand for biomass power generation and high-efficiency waste incineration and power generation, which are flagship Takuma products.	Opportunities	<ul style="list-style-type: none"> ● Enhancement of internal resources in terms of both quality and quantity in response to demand growth ● Utilization of digital technologies and ongoing strengthening of R&D and engineering capabilities 	↗ Increased business opportunities
		Review of programs designed to support adoption of renewable energy, for example FIT and FIP	Demand for biomass power plants will shrink as factors including reassessment of the standards for biomass fuel lead to a reduction in renewable energy adoption incentives for biomass power generation.	Risks	<ul style="list-style-type: none"> ● Maintenance and expansion of Takuma's market presence in small and medium-size biomass power generation, where the impact of fuel regulations is assumed to be comparatively limited ● Capture of demand that does not depend on FIT/FIP, for example fuel conversions for industrial boilers 	→ There are risks, but they can be addressed
	Market	Changes in society and customer needs	Strengthening of 3R (Reduce, Reuse, and Recycle) initiatives will lead to a reduction in the amount of waste that is incinerated, pushing down demand for waste incineration plants.	Risks	<ul style="list-style-type: none"> ● Strengthening of ability to accommodate treatment methods that do not depend on incineration, for example biogas recovery plants and material recycling, in response to market trends (although these trends will not spur an abrupt decline in demand for incineration facilities as of 2030) ● Strengthening of recurring revenue model businesses such as maintenance, operation management, and O&M 	→ There are risks, but they can be addressed
			Demand for strengthening of partnerships with local industry (agricultural facilities, industrial parks, etc.) through the supply of steam, hot water, electricity, and other forms of energy and for the ability to function as disaster prevention facilities will grow.	Opportunities	<ul style="list-style-type: none"> ● Supply of optimal solutions based on precise assessments of diversifying customer needs and changes in the business environment ● Development of new business schemes and strategic partnerships 	↗ Increased business opportunities
	Technology	Adoption of decarbonization, renewable energy, and energy-saving technologies	Demand for solutions for realizing carbon neutrality (hydrogen power generation, ammonia power generation, CCUS, etc.) will grow.	Opportunities Risks	<ul style="list-style-type: none"> ● Development of decarbonization technologies such as CO₂ management technology and carbon-free technology ● Implementation of the technologies necessary for eliminating carbon dependence and realizing a Regional Circular and Ecological Sphere (Regional CES), for example equipping municipal solid waste treatment plants with CCUS technology 	↗ Addressing these risks will lead to increased business opportunities
4°C scenario	Physical risks (chronic)	Rising average temperatures	The operational efficiency of employees, workers, and others will fall due to heat illness and other related factors.	Risks	<ul style="list-style-type: none"> ● Reduction in, and streamlining of, outdoor work times through utilization of digital technologies, drone technology, and other resources 	→ There are risks, but they can be addressed
	Physical risks (acute)	Increasing severity of extreme weather	Frequent, intensifying extreme weather will cause delays in material procurement and construction, impacting business costs, including with regard to construction schedules.	Risks	<ul style="list-style-type: none"> ● Implementation of part and equipment standardization and sharing ● Setting aside of appropriate inventory of parts, materials, and equipment (utilizing Supply Lab) ● Strengthening of BCP measures, including hedging of risks with insurance and contract conditions 	→ There are risks, but they can be addressed

4 Risk management

We established a working group including outside experts with the Planning Department as its secretariat, identified risks and opportunities characterized by major impacts on our management and financial operations, conducted a scenario analysis, and reported the evaluation and analysis results to the Board of Directors. The Board of Directors supervises the state of Takuma's initiatives to combat climate change through this report.

In addition, Takuma is building companywide risk management structures based on its Risk Management Code, and the departments that operate its businesses conducts risk management through measures such as identifying, avoiding, transferring, and reducing risks with the potential to adversely affect its businesses. Going forward, we will integrate climate change risks into these risk management structures, and give the Compliance & CSR Promotion Division responsibility for centralized management.

5 Indicators and targets

As we work to realize both initiative toward net-zero GHG emissions by 2050 and Vision 2030, Takuma's long-term vision, we will resolve issues faced by customers and communities by proposing products and services that contribute to energy savings and decarbonization while working to reduce our own CO₂ emissions.

>> 1 CO₂ emission reduction targets through our own products and services

Magnitude of potential reduction in CO₂ emissions due to newly delivered power plants*

FY2023
800,000 tons per year

FY2030
2.5 million tons per year

*Biomass power plants and Energy from Waste plants delivered from FY2021 to FY2030

>> 2 In-house CO₂ emissions reduction targets

FY2023
Effectively zero CO₂ emissions
for Scope 1 and Scope 2
at the Takuma head office and the Harima Factory

FY2030
Effectively zero CO₂ emissions
for Scope 1 and Scope 2 at all Takuma domestic worksites
(Head Office, branch offices, factory, and construction sites)

•FY2030 targets including group companies remain under consideration.
•CO₂ emissions from procured products and use of Takuma products by customers (Scope 3) also remain under consideration.

Social: Social Initiatives

Strengthening Relationships of Trust with Customers and Communities

Working through initiatives to pursue customer satisfaction, ensure the stable and continuous operation of plants and equipment, and create new value for regional resource recycling and communities, the Takuma Group will maintain and strengthen relations of trust with customers and communities by supplying high-quality products and services that facilitate stable, long-term operation on an ongoing basis in the form of infrastructure that supports regional society and customers' businesses.

Pursuing customer satisfaction

In recent years, the amount of attention paid by society to not only manufacturing and service, but also quality across a wide range of fields, has been growing. Against this backdrop, it will be necessary not only to increase the quality of products, but also to improve management of operations and quality in each process from plant planning to delivery (including sales, planning, design, procurement, manufacturing, construction, and management) and employees' operational capabilities so that we can supply products and plants that satisfy customers.

To that end, our Head Office, branch companies, and branch offices have earned certification under ISO 9001 (Quality Management Systems), and the Harima Factory has earned certification under ISO 9001 and ISO 14001 (Environmental Management Systems). We are working to improve the quality of operations, products, and business processes in accordance with the latest 2015 editions of those standards.

Quality Policy

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

In keeping with the above Quality Policy, we have identified the three priority items listed below. Recognizing those items, we are undertaking a variety of initiatives to increase the quality of products and business processes in all processes, including sales, planning, design, procurement, manufacturing, construction, and management.

1 Priority items

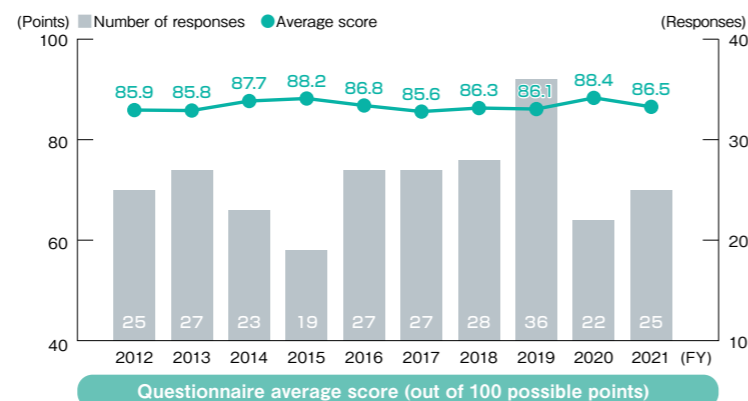
- Creating value to earn customer satisfaction**..... Ascertaining customer needs and making improvements based on past experience
- Carrying out risk management**..... Addressing changes in the business environment and human error
- Implementing human resources management**..... Implementing human resource development and ensuring skills are passed down to younger employees

2 Principal initiatives to improve quality

- Establishing quality targets for each division's processes; monitoring, measuring, and evaluating implementation status (twice a year)
- Holding QM Committee meetings (quality management reviews, twice a year)
- Holding internal quality audits to evaluate the status of management systems in individual divisions' processes (once a year)
- Using operational skill achievement checklists designed to improve employees' operational skills (once a year)

3 Customer satisfaction survey

We administer a customer satisfaction survey covering the entire construction process, including work performed, delivered equipment, and employee service, targeting customers for which construction projects are completed. Our QM Committee analyzes the status quo and studies measures for improving quality based on feedback from customers in a timely manner, working to improve the quality of the products we supply to customers and of our own internal operations by applying lessons learned horizontally across the organization.



Scores averaging higher than 85 points for each of the last 10 years indicate a positive evaluation of these efforts.

Participation in the community

Takuma and its group companies strive to deliver safe, trustworthy facilities that allow local residents to live with peace of mind by disclosing information in an appropriate manner, participating in local activities, and actively seeking interactions with local residents, for example by staging clean-up activities in the areas near facilities, hosting events at which local residents can gather, and orchestrating evacuation exercises envisioning natural disasters.

Although these efforts have been impacted by the COVID-19 pandemic in recent years, we continue to pursue them while taking steps to prevent infection. This section introduces some examples.

Amagasaki City SDGs Fair in ODA 2021

We participated in "SDGs Fair in ODA 2021", which was hosted in November 2021 by the City of Amagasaki's Oda Region Section to deepen understanding of the UN's Sustainable Development Goals (SDGs).

Staff at our booth joined visitors in playing a waste-sorting board game that we created with the local non-profit organization Amagasaki Environmental Open College.

The game featured quiz questions about waste-sorting rules in Amagasaki. Players earned coins when they answered questions correctly and exchanged them for environmental points, the total of which determined the winner.

The booth attracted numerous attendees, particularly families, who had fun while learning about waste sorting in Amagasaki through the quiz.



Waste-sorting board game



Local residents enjoying the board game

Initiatives designed to ensure stable plant operation

The Takuma Group manages facilities under contract from many local governments as part of its long-term comprehensive operation business, which offers turnkey operation and maintenance management service for municipal solid waste treatment plants and other DBO projects.

Since drawing on the extensive expertise that we have developed in the area of plant operation and maintenance management to date to earn our first private-sector O&M (Operation management and Maintenance management) contract from SARA Incorporated in 2019, we have received contracts for plant O&M operations from multiple private-sector customers.

At each site, operational status and equipment operation data collected and analyzed by our Plant Optimization Comprehensive Support System (POCSYS®) provides valuable feedback for facility operations. As part of a continuing program of initiatives geared to ensure safe, secure facility operation, we hold monthly liaison meetings with customers to report on facility operational status and exchange information.

Going forward, the Takuma Group will continue to realize stable, long-term operation of facilities by drawing on the operation management and maintenance management expertise that Takuma and group company Takuma Technos Co., Ltd., have accumulated over many years of operations.



A daily inspection of a facility



A customer liaison meeting

Social: Social Initiatives

Pursuing Partnerships and Innovation

Conventional products and services are undergoing a dizzying evolution against the backdrop of progress in the Fourth Industrial Revolution and the evolution of information and communications technology, fueling fast-paced change in society. Working through initiatives to utilize digital technologies and promote open partnerships and innovation, the Takuma Group will look to further bolster its strengths by focusing on proposals based on society's and customers' needs, R&D to facilitate them, and technological improvements so that it can keep up with social change.

Utilization of digital technologies (AI, IoT, robots, and more)

Progress in the Fourth Industrial Revolution and in the development of telecommunication technologies is rapidly transforming conventional products and services. Plant EPC, operation management, and maintenance are no exception, and digitalization in these areas is likely to continue to accelerate, albeit against the backdrop of labor shortages and restrictions on in-person work imposed as a result of the COVID-19 pandemic. Takuma is pursuing development and other initiatives from a medium- and long-term perspective so that we can create added value, for example by realizing technologies facilitating remote and fully automated operation of plants, streamlining and reducing labor requirements for operations by utilizing data, and strengthening competitiveness in the areas of EPC and after-sales service.

1 Increases in the added value of facilities and plants

In addition to providing 24-hour remote monitoring and operational support through Solution Lab, our remote monitoring and operational support facility, we are working to realize stable plant operation through such measures as facilitating stable operation by collecting and analyzing plant operational data and by optimizing maintenance.



Topics

Operational support through AI-enabled combustion stabilization technology and remote operation

We developed a combustion AI that can make decisions on par with those of experienced operators. By combining this AI with conventional automatic combustion control technology, we have been able to reduce manual operation by operators by 99% while maintaining stable combustion. In addition, we have realized stable facility operation through remote operation when operating at reduced staff levels.

2 Strengthening of competitiveness in EPC operations, operation management, and maintenance service

Plant EPC, operation management, and maintenance require many years of experience, and our accumulation of such experience since our founding has become a core Takuma strength. To reliably pass on experience and skills so that we can provide high-quality EPC and after-sales service, we are working to further improve individual employees' skills by using digital technologies to transform knowledge and expertise into formal, explicit knowledge. Moreover, we are working to strengthen competitiveness in EPC and after-sales service by investing limited time and human resources in the areas that most deserve such attention, for example by streamlining operations through use of technologies such as Robotic Process Automation (RPA).



Open partnerships

At a time when society is changing rapidly, it is necessary to develop businesses quickly and in a way that transforms those changes into opportunities. By deepening partnerships with other companies and organizations so that we can consistently provide the products and services that customers demand, we will strengthen our ability to propose solutions to customers and accelerate R&D.

1 Expanding resources

We are pursuing partnerships and alliances with companies in related fields as well as M&As in order to strengthen our EPC capabilities.

2 Initiatives to contribute to the maintenance and expansion of existing businesses

To resolve the challenges faced by customers and communities, we are strengthening our ability to propose solutions with the help of partners for knowledge that we lack.

3 Initiatives to create new businesses by promoting open innovation

In addition to joint research with universities and other companies, we are working with other companies to develop new businesses as well as decarbonization technologies.

Topics

Participation in the C2X Project

Takuma is participating in the Carbon to X (C2X) project, an open innovation business platform dedicated to helping realize a decarbonized society. The organization emphasizes commercialization through inter-industry partnerships to promote adoption of technologies for decarbonization and Carbon dioxide Capture, Utilization and Storage (CCUS). By commercializing CCUS technology through the C2X project, for example in businesses that use collected CO₂ as a raw material to produce fuel or chemical products, we will realize a global vision for a sustainable, safe, secure, and comfortable decarbonized society based on cyclical resource flows through adoption of renewable energy.



As a leading manufacturer of municipal solid waste treatment plants, Takuma will contribute to the realization of a decarbonized society by working with local governments and local stakeholders to develop and study next-generation waste treatment plant in order to achieve carbon neutrality by 2050 through C2X.

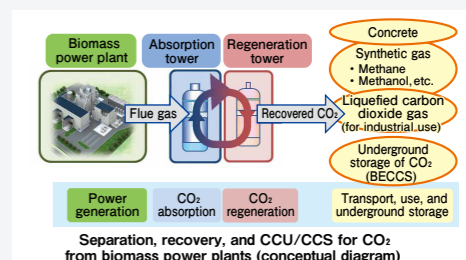
Pursuit of innovation

In recent years, the problem of climate change has sparked calls to realize a decarbonized society through carbon-neutral technology and to pursue additional environmental conservation. Takuma is focused on pursuing R&D and technological improvements in order to develop technologies and products that are sought by society and customers.

Topics

Study of energy-saving CO₂ separation and recovery at biomass power plants Selection for inclusion in a NEDO CCUS R&D and Demonstration Project

In August 2021, Takuma and Nippon Paper Industries Co., Ltd., were chosen by the New Energy and Industrial Technology Development Organization (NEDO) to implement a project entitled "Research, Development and Demonstration Project for CCUS/Investigation Project related to CO₂ separation & capture and intensive transportation & Utilization for large-scale CO₂ Emission Source/Investigation into Energy-Saving CO₂ Separation & Capture at Biomass Power Plants". The project is scheduled to continue until February 2023.



The project, which uses a biomass power plant (scheduled to start operations in January 2023) operated by Yufutsu Energy Center, LLC, a joint venture of Nippon Paper Industries and Sojitz Corporation, as a model, involves drawing on Takuma's extensive experience, technology, and expertise in municipal solid waste treatment facilities and biomass power plants to study energy-saving CO₂ separation, recovery, and concentration technologies at biomass power plants as well as issues related to the commercialization of those technologies.

By giving direction to the social implementation of technology for separating, recovering, and concentrating CO₂ at biomass power plants; commercializing CCUS technologies; and realizing a Sound Material-Cycle Society through this study project, Takuma will help spur increased adoption of renewable energy and reduction in greenhouse gas emissions.

Social: Social Initiatives

Promoting Activities of Human Resources

The Takuma Group's human resources have fostered and passed down key strengths in the form of technology, expertise, and trust-based relationships with customers. Through initiatives to strengthen the hiring and development of human resources as well as to promote diversity and improve employee satisfaction, we will continue to ensure that the Group's strengths are effectively passed down and strengthened by using human resources effectively so that employees embodying a diverse range of values can take full advantage of their abilities, and by putting in place structures to keep employee motivation high.

Working with our employees

Takuma has identified using human resources effectively as a key issue as it works to ensure that all employees can make maximum use of their skills and abilities, enjoy engaging work, feel a sense of motivation, and continue their employment over the long-term.

Employee data (non-consolidated)	
Number of employees	958 (877 men and 81 women)
Average age	42.9
Average years of service	14.9
Attrition rate	4.3% (past 3 years)

*As of March 31, 2022

Securing and training human resources

1 Initiatives related to securing human resources

As a result of hiring activities that included online information sessions and interviews and numerous other techniques such as referral hiring in an effort to ease the labor shortage, Takuma hired 79 new employees in FY2021, including new and mid-career hires. Going forward, we will focus on ensuring a sufficient workforce, including by taking advantage of online techniques to host information sessions for applicants living in distant areas, and otherwise approaching promising candidates.



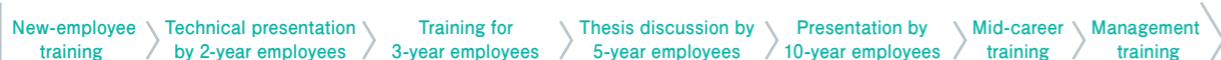
Number of newly hired regular employees over the past 7 years (based on start of employment) (Figures in parentheses indicate the number of female employees)

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022 *New hires only
New hires	18 (1)	24 (2)	21 (2)	20 (2)	25 (3)	26 (2)	28 (4)
Mid-career hires	11 (1)	10 (0)	22 (1)	25 (1)	37 (2)	53 (5)	-
Total	29 (2)	34 (2)	43 (3)	45 (3)	62 (5)	79 (7)	28 (4)

2 Initiatives related to human resources development

We offer human resources education to a broad range of employees, from new hires to management candidates and mid-career hires, to build skills and abilities, improve management skills, and otherwise enhance employee performance.

During FY2021, we worked to enhance our educational programs, for example by offering new training designed to foster effective communication for new-hire employees in their third year.



Promoting diversity

1 Initiatives to increase female participation

In addition to putting in place a workplace environment that provides flexible workstyles and continuous employment, we have continued to pursue initiatives that encourage employees to understand Takuma. As a result, the number of female employees on the main career track and in management positions (including individuals who have been tentatively offered positions) as of March 31, 2022, increased to 35, which is three times the corresponding number as of March 31, 2016.

We are working to strengthen these initiatives over five years starting in FY2021 in an effort to increase the number of female employees on the main career track and in management positions by a factor of at least two over corresponding numbers for the most recent five-year period (to 35 or more employees). During FY2021, we added 10 female employees on the main career track through hiring and job group changeover. In addition, during FY2021, we cooperated with efforts to support female students' job-search activities by participating in a Hyogo Prefecture program designed to encourage female students studying in the prefecture to look for jobs within the prefecture.



2 Initiatives to increase hiring of disabled individuals

In addition to hiring people with disabilities to work primarily in general work in various departments and creating the Office Support Section in the Human Resources Department to manage work by people with disabilities and "outsource" internal tasks to them as part of an effort to promote more broadly-based hiring, we currently* employ seven workers with disabilities who clean offices, perform administrative work, and help maintain and manage a cafe space that serves as an employee social welfare facility. (*As of April 30, 2022)

Improving employee satisfaction

1 Programs to ensure employees can continue working over the long-term with peace of mind

We have introduced the following programs to facilitate healthy work-life balance and to help employees make the most of their skills and abilities while balancing their work with child-raising and nursing-care responsibilities. In addition, we are working to increase utilization of parenting support programs to at least 25%, which would double the FY2020 level, by further enhancing those programs and spreading awareness of them. During FY2021, utilization increased to 32%.

- Half-day annual paid leave program
- Childcare leave program
- Nursing-care leave program
- Flex time program
- Telework program
- Staggered working hours program
- Leave program for husbands whose wives are giving birth
- Shortened working hours program

Impressions from an employee who has taken advantage of Takuma's childcare leave program

When I learned my wife was pregnant, I was filled with joy at the prospect of welcoming a new family member. At the same time, I was worried about asking my wife to care for our new child by herself, since there's nobody nearby we can depend on for help after the birth. Those concerns were eased when I was able to use the childcare leave program, thanks to the understanding and cooperation of my workplace colleagues and supervisor. Since I was able to help out with childcare and household chores, despite not being very familiar with either, my wife was happy, and I was able to watch our child's rapid growth from an up-close vantage point. (From a male engineering employee in his 30s)

2 Initiatives to support career development

We have established the following programs to support the development of employees' careers.

- Supervisors schedule two interviews with each subordinate every year to review progress toward operational goals and listen to their wishes and advice directly.
- A self-reporting program session is held every three years to facilitate long-term career development.
- A work group transfer program facilitates movement from clerical and labor positions to the main career track.

We have also introduced programs that give talented employees promotions without regard to whether they were a new or mid-career hire.

Social: Social Initiatives

Ensuring Safety and Health

The Takuma Group will work to further strengthen its core strengths of technology and expertise as well as relationships of trust with customers while preventing a decline in the quality of its products and services or in the level of trust it enjoys from society by safeguarding workers' physical and mental health and building an environment in which it is easy for employees to do their jobs. Specifically, we will accomplish these goals by ensuring occupational safety and health, managing employee health, and putting in place an employee-friendly workplace environment.

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 FY2021: eliminating fatal accidents and accidents that result in work stoppages (of four or more days); pursuing a thorough program of safety and health education, ensuring adherence to safety inspection guidelines, and implementing the branch safety patrol plan; strengthening collaboration with the Safety and Health Cooperative Association. Takuma and involved contractors worked together to revitalize safety and health activities companywide by reliably fulfilling their respective roles.

We have adopted the following safety and health objectives for FY2022: eliminating rule violations by activating safety and health education, establishing measures to reduce risks, rolling out new safety patrols with the goal of reducing accidents, and sharing robust safety awareness while strengthening cooperative structures with the Safety and Health Cooperative Association. Rather than contenting ourselves with the status quo, we will pursue new safety and health initiatives to foster a strong 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 is 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 risk factors identified by those inspections before work begins.



A safety inspection meeting

●Number of safety inspections completed in FY2021: 106

2 Safety patrols and safety lectures

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 lectures in a precisely targeted and efficient manner.

Safety patrols focus on identifying and eliminating risks as early as possible, while safety lectures are conceived to prevent occupational accidents and raise employees' safety awareness by offering an opportunity to hand out and explain materials such as examples of accidents. Both programs help ensure safety at worksites in the field.



Safety patrols

●Number of safety patrols implemented in FY2021
 By Safety and Health Committee (members, advisors) 60
 By Safety Control Department 269
 By Construction Division 260

3 Safety and health education

1 Education for construction site representatives

We offer specialized safety and health education to employees and supervisors from affiliates so that they can offer precise safety guidance and fulfill their responsibilities as site supervisors.

We are putting in place mechanisms for preventing accidents, including by assigning workers with extensive knowledge in areas such as safety and health-related laws and ordinances thanks to an education program that began on April 1, 2004, to individual construction sites.

●April 2004 to March 2022 Cumulative number of trainees 37,803
 Number of trainees passing the completion exam 20,134



Head Office venue Tokyo Branch venue

2 Construction employee education

We offer safety and health education to construction work employees at affiliates so that they can follow safety rules while doing their jobs.



During a lecture Inspection of safety and protective gear

4 Promoting the digital transformation (DX) in safety and health management

We are promoting a qualitative transformation (DX) as an important technique for reducing accidents while using Information and Communication Technology (ICT) to drive effective techniques for reducing workload, for example through development of information databases, acceleration of information availability, streamlining of communications and enhancement of associated accuracy, and visualization.



Illustration of how site assistance can be provided remotely

Safety and health awards in the Construction Division / Safety and Health Promotion Meeting

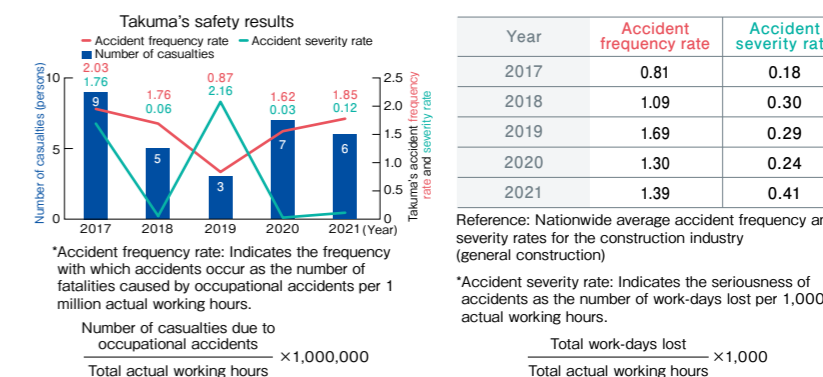
Takuma recognized employees who worked to prevent occupational accidents at worksites and set zero-accident records at an internal award ceremony held on the anniversary of the company's founding. Although we had planned to similarly recognize primary partner companies who helped set zero-accident records at the Safety and Health Promotion Meeting, we were forced, with great regret, to cancel the event along with the awards ceremony again in FY2021 due to the COVID-19 pandemic. However, we were able to recognize award recipients who set zero-accident records by sending them a commemorative award.



Internal presentation of a zero-accident record award

Occurrence of occupational accidents at Takuma in recent years (Number of casualties, accident frequency rate, and accident severity rate)

The total actual working hours for Takuma in 2021 was about 3.23 million hours. Although the number of occupational accidents and accidents resulting in work stoppages fell from 2020, both the accident frequency rate and the accident severity rate rose.



Managing employee health

To follow up on employees' regular check-ups, we work with industrial physicians to recommend additional testing and treatments to individual employees and provide health guidance from industrial physicians. Additionally, we are working to assist employees who work excessively long hours, for example by assessing the conditions under which they work, conducting interviews as necessary, and having their supervisors consider possible remedies. Furthermore, we offer assistance to defray the cost of using cafeteria plans as an initiative to increase employee health.

Governance: Governance Initiatives

Compensation and other remuneration paid to directors (except Audit & Supervisory Committee members)

1 Matters relating to the General Meeting of Shareholders' resolution concerning director compensation and other remuneration

Meeting on June 28, 2016, the 112th Annual General Meeting of Shareholders resolved to limit compensation and other remuneration paid to directors (except Audit & Supervisory Committee members) to JPY 350 million per year. When the Annual General Meeting of Shareholders in question ended, there were six directors (not counting Audit & Supervisory Committee members).

Meeting on June 26, 2019, the 115th Annual General Meeting of Shareholders resolved to pay monetary compensation rights not greater than JPY 90 million per year to directors (except Audit & Supervisory Committee members) for use in acquiring restricted stock, separate from the above compensation limit. (The resolution limited the total number of shares of Takuma common stock issued or disposed for this purpose to 120,000 shares per year.) When the Annual General Meeting of Shareholders in question ended, there were six directors (not counting Audit & Supervisory Committee members).

Meeting on June 28, 2016, the 112th Annual General Meeting of Shareholders resolved to limit compensation and remuneration paid to directors who are members of the Audit & Supervisory Committee to JPY 72 million per year. When the Annual General Meeting of Shareholders in question ended, there were four directors that were members of the Audit & Supervisory Committee.

2 Method for formulating policies for determining of compensation and other remuneration

Takuma's Policy on Executive Compensation and Other Remuneration, which was established by resolution of the Board of Directors, codifies Takuma's policies for determining compensation and other remuneration for directors (except Audit & Supervisory Committee members). The policy is revised as necessary by resolution of the Board of Directors following consultation with, and consideration of recommendations submitted by, the Nominating & Compensation Advisory Committee.

3 Policies for determining of compensation

Takuma has adopted the following basic policies concerning the determination of compensation under the "Policy on Executive Compensation and Other Remuneration" adopted by the Board of Directors:

- Compensation should be suited to the role and responsibilities of the director in question, and it should help the company secure talented human resources.
- The compensation system should reflect appropriate consideration of the need to motivate directors to increase fiscal year performance as well as corporate value over the medium- and long-term.
- The process used to determine compensation should exhibit transparency and objectivity so that the company can fulfill its obligation of accountability to shareholders and other stakeholders.

● Compensation system

Compensation for directors and executive officers consists of fixed compensation, bonuses paid according to fiscal year performance, and stock compensation (compensation in the form of restricted stock), which is used to motivate recipients to increase medium- and long-term corporate value.

Fixed compensation	Fixed compensation is set depending on the role and responsibilities of each position and paid on a monthly basis.
Bonuses	Takuma has adopted a set of standards for calculating bonuses based on indicators such as fiscal year performance and achievement of targets, and the Board of Directors determines whether to pay bonuses and, if so, in what amount using those standards as a guide. Bonuses are paid at predetermined times each year. As a general rule, bonuses are capped at a maximum of 25% of fixed salary (annual amount).
Stock compensation	Stock compensation takes the form of shares of restricted stock that are granted in advance. Monetary compensation rights set depending on the role and responsibilities of each position are allocated at predetermined times each year, and shares in Takuma are granted in exchange for the pay-in of those rights. As a general rule, stock compensation is capped at a maximum of 30% of fixed salary (annual amount), with the percentage increasing with seniority of position.

Compensation for outside directors and directors who are Audit & Supervisory Committee members consists of fixed compensation only.

● Procedure for determining compensation

The Nominating & Compensation Advisory Committee, whose membership consists of independent officers, representative directors, and the officer in charge of human resources (with a majority of independent outside directors), discusses matters related to compensation and remuneration programs, the amount or calculation standard for each director's compensation and other remuneration, and other executive officers' compensation and other remuneration in accordance with the Policy on Executive Compensation and Other Remuneration and reports the results to the Board of Directors. Having received that report, the Board of Directors makes final decisions on related matters after sufficient discussion while respecting the Committee's report.

In determining the amounts of individual compensation packages, the suitability of those packages is verified based on factors including the Group's performance, compensation levels for executives at other companies, and employee salary levels.

Compensation for directors who are Audit & Supervisory Committee members and related issues are determined through discussion of directors who are Audit & Supervisory Committee members, within the scope set forth by the General Meeting of Shareholders.

● Matters related to performance-linked compensation

Because the Group's business operates primarily on a build-to-order basis and because it considers consolidated ordinary profit to be the most important management indicator, consolidated order value and consolidated ordinary profit serve as key performance indicators in calculating bonuses that are based on fiscal year performance.

Specifically, a calculation table is used to calculate a coefficient based on the consolidated ordinary profit for the business year in question, the rate of growth relative to the average consolidated ordinary profit for the most recent three years, the extent to which the consolidated ordinary profit target has been achieved, and the extent to which the consolidated order value target has been achieved. Bonus amounts are then determined based on this coefficient. (Consolidated ordinary profit performance figures are calculated before deducting executive bonuses at companies included in consolidated accounting.) Performance forecasts included in the financial briefing announced every May are used as target values in the evaluation.

● Non-monetary compensation and remuneration

Takuma offers directors stock compensation in the form of shares of restricted stock as a medium- and long-term incentive and as a means of sharing shareholder value. Transfer is restricted for a period of 30 years from the date on which the allocation of Takuma common stock is made, and the restriction is removed when that period ends or if the individual in question passes away, completes his or her term, retires, or otherwise ends his or her involvement with the company before the period ends for a legitimate reason approved in advance by the Board of Directors.

● Total amounts of compensation and other remuneration for directors

Executive category	Total compensation and other remuneration (millions of yen)	Total compensation and other remuneration by type (millions of yen)			Number of executives included
		Basic compensation	Performance-linked compensation and other remuneration	Non-monetary compensation and other remuneration	
Director (except Audit & Supervisory Committee member)	260	183	36	40	8
Director (Audit & Supervisory Committee member) (outside director)	56 (35)	56 (35)	-	-	6 (4)

*Performance-linked compensation and other remuneration consists of bonuses awarded to directors (except Audit & Supervisory Committee members).

*Non-monetary compensation and other remuneration consists of shares of restricted stock granted to directors (except Audit & Supervisory Committee members).

Evaluation of the effectiveness of the Board of Directors

In order to increase the effectiveness of the Board of Directors, all directors participate in a questionnaire and interviews about the body's effectiveness. Those results are then analyzed, evaluated, reported to the Board by the executive in charge of the evaluation process, and discussed by the Board.

In the FY2021 evaluation, the effectiveness of the Board of Directors was analyzed and evaluated from four perspectives: the body's composition, its operation, the responsibilities of its members, and its overall effectiveness. This evaluation found that the Board had operated in an effective and efficient manner and that it was implementing ongoing initiatives to improve its functionality and ensure its effectiveness, for example by increasing the frequency of reports related to exchanges of information with investors as part of Takuma's IR activities and placing discussions on strategic themes from a medium- and long-term perspective and progress reports on the agenda for Board meetings.

Going forward, we will continue to work to improve the effectiveness of the Board of Directors, for example by reviewing topics of discussion as appropriate, with a focus on the general direction of corporate strategy.

Internal controls

Takuma has adopted a Basic Policy for Establishment of an Internal Control System 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 controls, constructed and evaluated in order to report on and prevent misstatements in our financial reporting, are based on the Financial Instruments and Exchange Act. This internal controls on financial reporting for the Group have 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.

Governance: Governance Initiatives

Executive Profiles (As of June 24, 2022)

Directors



President and Representative Director & Chief Executive Officer

Hiroaki Nanjo

April 1982 Joined the Company
 April 2009 General Manager of Environmental Engineering Department 1, Project Center, Engineering Group
 September 2010 General Manager of Energy Engineering Department 1, Project Center, Engineering Group
 April 2013 Executive Officer of the Company
 Deputy Executive Manager of Project Center, Engineering Group and General Manager of Energy Engineering Department 1

April 2014 Executive Manager of Project Center, Engineering Group
 June 2015 Director & Executive Officer of the Company
 April 2016 Director & Managing Executive Officer of the Company
 Executive Manager of Engineering Group and Executive Manager of Management Center
 April 2018 Director & Senior Managing Executive Officer
 April 2019 President and Representative Director & Chief Executive Officer (up to the present)

Mr. Hiroaki Nanjo has mainly been engaged in the Planning Technology Division, and currently supervises the overall management as Chief Executive Officer, after serving as a Director & Senior Managing Executive Officer and Executive Manager of the Engineering Group. He possesses abundant experience and knowledge regarding operations and management of the Company.



Director & Senior Managing Executive Officer

Tsuyohito Nishiyama

April 1985 Joined the Company
 April 2012 General Manager of Project Administration Department 1, Business Administration Division, Corporate Marketing Group
 April 2014 General Manager of Corporate Planning Department, Corporate Planning & Administration Division
 April 2015 Executive Officer of the Company
 Deputy Executive Manager of Corporate Planning & Administration Division and General Manager of Corporate Planning Department

April 2016 Executive Manager of Corporate Planning & Administration Division
 June 2016 Director & Executive Officer of the Company
 April 2018 Director & Managing Executive Officer of the Company
 April 2019 Director & Senior Managing Executive Officer (up to the present)
 Executive Manager of Corporate Marketing Group and Executive Manager of Business Administration Division (up to the present)

Mr. Tsuyohito Nishiyama has mainly been engaged in the Business Administration Division, the Marketing Division and the Corporate Planning & Administration Division, and currently serves as a Senior Managing Executive Officer and Executive Manager of Corporate Marketing Group that supervises overall marketing. He possesses abundant experience and knowledge regarding operations and management of the Company.



Director & Senior Managing Executive Officer

Hideki Takeguchi

April 1985 Joined the Company
 April 2012 Deputy General Manager of Environmental Engineering Department 1, Project Center, Engineering Group
 April 2014 General Manager of Environmental Engineering Department 1, Project Center, Engineering Group
 April 2015 Executive Officer of the Company
 Deputy Executive Manager of Project Center, Engineering Group and General Manager of Environmental Engineering Department 1

April 2016 Executive Manager of Project Center, Engineering Group
 June 2016 Director & Executive Officer of the Company
 April 2018 Director & Managing Executive Officer of the Company
 April 2019 Director & Senior Managing Executive Officer (up to the present)
 Executive Manager of Engineering Group and Executive Manager of Management Center (up to the present)

Mr. Hideki Takeguchi has mainly been engaged in the Planning Technology Division, and currently serves as a Director & Senior Managing Executive Officer and Executive Manager of Engineering Group that supervises overall engineering. He possesses abundant experience and knowledge regarding operations and management of the Company.



Director & Managing Executive Officer

Koji Tanaka

April 1986 Joined the Company
 April 2009 Deputy General Manager of European Operations Department, Corporate Planning & Administration Division, Corporate Planning & Administration Division
 August 2011 General Manager of Corporate Planning Department, Corporate Planning & Administration Division
 April 2014 General Manager of Human Resources Department, Corporate Services Division
 April 2017 Executive Officer of the Company
 Executive Manager of Compliance & CSR Promotion Division, Executive Manager of Corporate Services Division and General Manager of Legal Affairs Department

June 2017 Director & Executive Officer of the Company
 April 2018 Executive Manager of Compliance & CSR Promotion Division and Executive Manager of Corporate Services Division
 April 2021 Director & Managing Executive Officer (up to the present)
 Executive Manager of Corporate Marketing Group and Executive Manager of Compliance & CSR Promotion Division
 June 2021 Executive Manager of Corporate Marketing Group and International Division (up to the present)

Mr. Koji Tanaka has mainly been engaged in the Information Systems Division, neutral divisions such as human resources, Corporate Planning & Administration Division and the International Division, and currently serves as Managing Executive Officer and Executive Manager of the Corporate Marketing Group and International Division, which is responsible for the Company's overseas business. He possesses abundant experience and a wide range of knowledge regarding operations and management of the Company.



Director & Managing Executive Officer

Kunio Hamada

July 1990 Joined the Company
 April 2012 Deputy General Manager of Cost Control & Project Administration Department, Management Center, Engineering Group
 June 2013 General Manager of Cost Control & Project Administration Department, Management Center, Engineering Group
 April 2018 Executive Officer of the Company
 Deputy Executive Manager of Corporate Planning & Administration Division and General Manager of Corporate Planning Department

April 2021 Executive Manager of Corporate Planning & Administration Division (up to the present)
 June 2021 Director & Executive Officer of the Company
 April 2022 Director & Managing Executive Officer (up to the present)

Mr. Kunio Hamada has mainly been engaged in the engineering division and cost management division, and currently serves as Managing Executive Officer and Executive Manager of Corporate Planning & Administration Division responsible for finance and formulation and implementation of corporate plans. He possesses abundant experience and a wide range of knowledge regarding operations and management of the Company.



Director & Executive Officer

Hiroshi Oishi

April 1988 Joined The Dai-ichi Kangyo Bank, Ltd. (currently Mizuho Bank, Ltd.)
 January 2008 Deputy General Manager of Human Resources Department, Mizuho Securities Co., Ltd.
 January 2013 Deputy General Manager of Corporate Planning Department
 April 2013 General Manager of Securities & Trust Promotion Department, Mizuho Bank, Ltd.
 April 2016 General Manager of Customer Service Department and General Manager of Management Department, Mizuho Financial Group, Inc.

August 2019 Executive Officer of the Company
 Deputy Executive Manager of Energy Plant Division, Corporate Marketing Group
 April 2021 Executive Manager of Corporate Services Division (up to the present)
 June 2021 Director & Executive Officer of the Company (up to the present)

Since joining The Dai-ichi Kangyo Bank, Ltd. (currently Mizuho Bank, Ltd.), Mr. Hiroshi Oishi engaged in various operations at the bank and its group companies including deposits, money transfers, loans, currency exchange, business planning, human resources and customer service. At the Company, he has engaged in product and service sales in the marketing division, and currently serves as Executive Officer and Executive Manager of Corporate Services Division responsible for general affairs and human resources. He possesses abundant experience and a wide range of knowledge regarding operations and management of the Company.



Director (Standing Audit & Supervisory Committee Member)

Keizo Masugi

January 2001 Joined the Company
 April 2014 General Manager of Accounting Department, Corporate Planning & Administration Division
 April 2016 General Manager of Corporate Planning Department, Corporate Planning & Administration Division
 April 2018 General Manager of General Affairs Department and General Manager of Legal Affairs Department, Corporate Services Division
 April 2021 Assistant General Manager of Audit & Supervisory Committee's Office
 June 2021 Director (Standing Audit & Supervisory Committee Member) of the Company (up to the present)

Mr. Keizo Masugi has mainly been engaged in the accounting department and Corporate Planning & Administration Division, and served as General Manager of General Affairs Department and Legal Affairs Department handling shareholder response and other general affairs duties and as well as preventive legal work and other legal affairs. He currently serves as a Standing Audit & Supervisory Committee Member. He possesses abundant experience and a wide range of knowledge regarding operations and management of the Company.



Outside Director (Audit & Supervisory Committee Member)

Tomomi Fujita

October 2004 Registered as Attorney at Law (Osaka Bar Association)
 Joined Kitahama Partners
 January 2012 Partner of Kitahama Partners
 March 2016 Left Kitahama Partners
 April 2016 Founded Innoventier
 Partner of Innoventier (up to the present)
 February 2017 Director, Licensing Executive Society Japan
 April 2018 Assistant Lecturer, Kyoto University Law School (up to the present)
 June 2019 Director (Audit & Supervisory Committee Member) of the Company (up to the present)

July 2019 Outside Auditor of TAIYO YUDEN CO., LTD. (up to the present)
 February 2020 Vice President of Licensing Executives Society Japan (up to the present)

Ms. Tomomi Fujita is involved in management of law firm Innoventier as Partner while serving as Vice President of the Licensing Executive Society Japan and Assistant Lecturer of Kyoto University Law School. She possesses abundant experience and expertise regarding corporate law covering intellectual property, business revitalization, M&As, and the Companies Act. In addition to serving as Outside Director who is an Audit & Supervisory Committee Member of the Company, she serves as an Outside Auditor for a listed company.



Outside Director (Audit & Supervisory Committee Member)

Tetsuya Kaneko

April 1981 Joined The Dai-ichi Kangyo Bank, Ltd. (currently Mizuho Bank, Ltd.)
 September 2000 Deputy General Manager of Singapore Branch, The Dai-ichi Kangyo Bank, Ltd.
 April 2002 Deputy General Manager of Singapore Branch, Mizuho Corporate Bank, Ltd. (currently Mizuho Bank, Ltd.)
 November 2004 Associate Director of International Administration Department, Mizuho Corporate Bank, Ltd.
 April 2005 General Manager of Yokohama Sales Department, Mizuho Corporate Bank, Ltd.
 April 2008 General Manager of International Sales Promotion Department, Mizuho Corporate Bank, Ltd.
 April 2010 Deputy Director of Human Resources Management Department, Mizuho Corporate Bank, Ltd.
 July 2010 Deputy Director of Corporate Planning Department, Mizuho Financial Group, Inc.

July 2010 Senior Executive Officer, General Manager of Education Business Department, Mizuho Research Institute Ltd. (seconded)
 November 2010 Senior Executive Officer, General Manager of Education Business Department, Mizuho Research Institute Ltd.
 May 2011 Left Mizuho Research Institute Ltd.
 June 2011 Director of KANEMATSU CORPORATION
 June 2014 Managing Executive Officer of KANEMATSU CORPORATION
 June 2019 Resigned from KANEMATSU CORPORATION
 Standing Auditor, Yushu Building Co., Ltd. (currently Yushu Corporation)
 June 2020 Director (Audit & Supervisory Committee Member) of the Company (up to the present)
 Representative Director and President, Yushu Corporation (up to the present)

Mr. Tetsuya Kaneko has served as Director and Managing Executive Officer at the global company KANEMATSU CORPORATION, for many years. He possesses abundant experience and knowledge on corporate management, and he has served as an Audit & Supervisory Board member and Audit & Supervisory Committee member at a number of private-sector companies, including Takuma. In addition to having extensive experience and knowledge in the areas of auditing and supervision, he gained extensive knowledge on overseas business from his abundant experience working overseas while he was serving at The Dai-ichi Kangyo Bank, Ltd. (currently Mizuho Bank, Ltd.).



Outside Director (Audit & Supervisory Committee Member)

Seiichi Nagatsuka

April 1980 Joined the Ministry of International Trade and Industry (currently the Ministry of Economy, Trade and Industry)
 Studied at graduate school of Economics, Brown University, U.S.A. (where he earned a master's degree)
 September 1984 Studied at Trade Research Office, Trade Policy Bureau, the Ministry of International Trade and Industry (currently the Ministry of Economy, Trade and Industry)
 May 1994 Director of Foreign Affairs (seconded)
 Minister of the Permanent Mission of Japan to the International Organizations in Geneva (with responsibility for the WTO)
 June 1998 Director of Trade Research Division, Trade Bureau, the Ministry of Economy, Trade and Industry
 June 1999 Deputy Director of Commerce, Industry, and Labour Department, Miyazaki Prefectural Government (seconded)
 January 2001 Director of Macro Economic Affairs Division, Economic and Industrial Policy Bureau, the Ministry of Economy, Trade and Industry

July 2003 Director of Automobile Division, Manufacturing Industries Bureau, Automobile Division, the Ministry of Economy, Trade and Industry
 September 2005 Deputy Director-General for Trade Policy, Trade Policy Bureau, the Ministry of Economy, Trade and Industry
 October 2007 Senior Vice President of the Japan International Cooperation Agency (JICA)
 August 2009 Deputy Director-General of Manufacturing Industries Bureau, the Ministry of Economy, Trade and Industry
 July 2010 Director-General, Kansai Bureau of Economy, Trade and Industry, the Ministry of Economy, Trade and Industry
 August 2011 Director-General, Commerce and Information Policy Bureau, the Ministry of Economy, Trade and Industry
 June 2013 Retired from the Ministry of Economy, Trade and Industry
 October 2013 Advisor to Mitsui Sumitomo Insurance Co., Ltd.
 May 2014 Vice Chairman and Senior Managing Director of Japan Automobile Manufacturers Association, Inc. (up to the present)
 June 2022 Director (Audit & Supervisory Committee Member) of the Company (up to the present)

Mr. Seiichi Nagatsuka has held numerous important posts since he joined the Ministry of International Trade and Industry (currently the Ministry of Economy, Trade and Industry), and with experience serving at the Permanent Mission of Japan to the International Organizations in Geneva and the Japan International Cooperation Agency (JICA), he is well versed in overseas business. Mr. Nagatsuka, who currently serves as Vice Chairman and Senior Managing Director at the Japan Automobile Manufacturers Association, Inc., also has extensive experience and knowledge in the areas of industrial policy and trade policy.



Outside Director (Audit & Supervisory Committee Member)

Masahiro Endo

October 1985 Joined Nishin Audit Corporation (currently Ernst & Young ShinNihon LLC)
 March 1989 Registered as a certified public accountant
 May 1989 Registered as a licensed tax accountant
 August 1997 Partner, Century Audit Corporation (currently Ernst & Young ShinNihon LLC)
 Left Century Audit Corporation
 June 2007 Representative, Endo Certified Public Accountant Office (up to the present)
 June 2015 Outside Auditor, Sakurajima Futo Kaisha, Ltd. (up to the present)
 December 2020 Representative Director, Kobe Audit Corporation (up to the present)
 June 2022 Director (Audit & Supervisory Committee Member) of the Company (up to the present)

After participating in the auditing of publicly listed companies as a certified public accountant for many years at what is now Ernst & Young ShinNihon LLC, where he later became a partner, Mr. Masahiro Endo became the representative of Endo Certified Public Accountant Office in July 2007. In December 2020, he founded Kobe Audit Corporation, where he serves as the representative director, and he possesses abundant experience and expert knowledge on finance and accounting as well as abundant experience and knowledge on audit and supervision, including experience serving as an outside Audit & Supervisory Board member at publicly listed companies.

Governance: Governance Initiatives

Directors' skills matrix

Name	Position at Takuma	Number of years serving as a director (as of June 24, 2022)	Skill sets necessary for the Board of Directors of the Company							Attendance at Board of Directors meetings during FY2021	Attendance at Audit & Supervisory Committee meetings during FY2021
			Corporate management	Engineering (technology, quality, and cost management)	Sales and business strategies	International operations	Finance and accounting	Human resources, talent development, and diversity	Legal affairs, compliance, and risk management		
Hiroaki Nanjo	President & Representative Director	7	●	●	●	●				16 of 16 (100%)	-
Tsuyohito Nishiyama	Director & Senior Managing Executive Officer	6	●		●			●		16 of 16 (100%)	-
Hideki Takeguchi	Director & Senior Managing Executive Officer	6	●	●		●				16 of 16 (100%)	-
Koji Tanaka	Director & Managing Executive Officer	5	●		●	●		●	●	16 of 16 (100%)	-
Kunio Hamada	Director & Managing Executive Officer	1	●	●				●		12 of 12 (100%)	-
Hiroshi Oishi	Director & Executive Officer	1						●	●	12 of 12 (100%)	-
Keizo Masugi	Director (Audit & Supervisory Committee Member)	1						●	●	12 of 12 (100%)	10 of 10 (100%)
Tomomi Fujita	Outside Director (Audit & Supervisory Committee Member)	3	●						●	15 of 16 (94%)	11 of 12 (92%)
Tetsuya Kaneko	Outside Director (Audit & Supervisory Committee Member)	2	●			●				16 of 16 (100%)	12 of 12 (100%)
Seiichi Nagatsuka	Outside Director (Audit & Supervisory Committee Member)	Newly appointed			●	●				Newly appointed	Newly appointed
Masahiro Endo	Outside Director (Audit & Supervisory Committee Member)	Newly appointed						●		Newly appointed	Newly appointed

*The above chart does not include all knowledge and experience brought to Takuma by its directors.

Executive officers (excluding those who also serve as directors)

Managing Executive Officer
Executive Manager,
Engineering Center
Norito Uchiyama

Managing Executive Officer
Executive Manager,
Energy Plant Division
Mitsuaki Adachi

Managing Executive Officer
Executive Manager,
Technology Center
Akira Taguchi

Managing Executive Officer
Executive Manager,
Environmental Plant Division
Hidetoshi Tomita

Managing Executive Officer
Executive Manager,
Project Center
Norio Maeda

Executive Officer
Executive Manager,
Construction Center
Keiji Nakamura

Executive Officer
Executive Manager,
Compliance & CSR Promotion Division
Yasushi Enomoto

Executive Officer
Deputy Executive Manager,
Engineering Center
Kiyoshi Shibata

Executive Officer
Deputy Executive Manager,
Energy Plant Division
Masayuki Sugita

Message from the newly appointed outside directors



I feel deeply honored to have been appointed to serve as an outside director at Takuma.

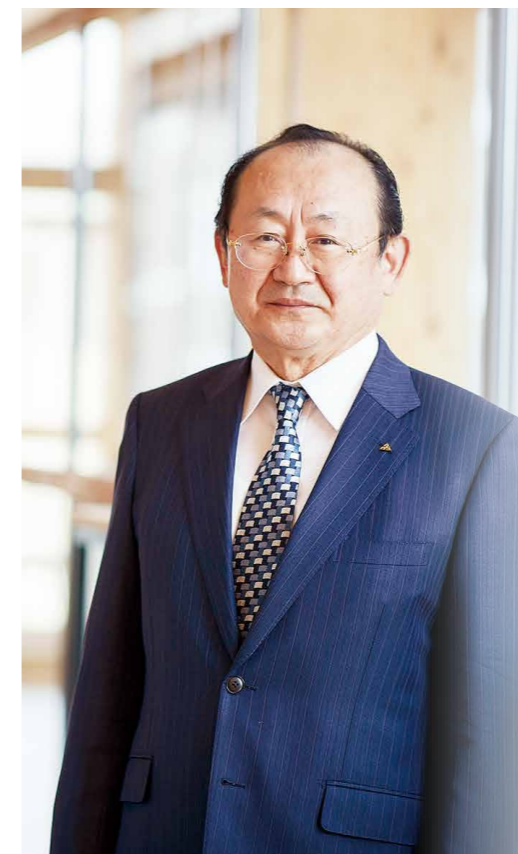
While working as a public servant for more than 32 years at the Ministry of Economy, Trade and Industry, I gained a range of governmental experience, including being seconded to an overseas diplomatic mission, local government agency, and independent administrative agency. After retiring from the Ministry, I was involved with programs designed to facilitate the development of the automotive industry while serving for about eight years as a representative director of a general incorporated association. I look forward to drawing on my experience in the public sector and on my knowledge of corporate support to contribute to Takuma's development.

Japanese industry is being called upon to respond quickly to a dramatic transformation accompanying changes in the structure of society, including carbon neutrality and the digital transformation. At the same time, globalization makes it necessary to practice sophisticated risk management to address the immediate manifestation of business risk posed by overseas events, including the spreading COVID-19 pandemic and the crisis in Ukraine. One might say that the business environment in which companies operate is rapidly becoming more challenging.

Takuma has led with meaningful businesses, for example by supplying infrastructure that plays an essential role in addressing environmental and energy issues, while leveraging technologies developed over many years in keeping with its founding spirit of contributing to society through boilers. In the future, I believe that increasing its corporate value in a sustained manner as a leading company by practicing ESG management in accordance with the Vision 2030 long-term vision is both Takuma's role in society and the fulfillment of stakeholders' expectations.

I look forward to doing my best to ensure I understand Takuma's businesses and to cooperate with other outside directors to contribute to the company's development.

Seiichi Nagatsuka
Outside Director (Audit & Supervisory Committee Member)



I am Masahiro Endo, and I am a certified public accountant who now serves as an outside director and member of the Audit & Supervisory Committee. After being approached to serve in this position, I reviewed publicly available materials (financial statements, timely disclosures, etc.) to learn Takuma's stance on governance and compliance. I was able to affirm that the company's governance structures are appropriate for a company listed in the Prime Market, allowing me to accept the appointment with peace of mind. In addition, Takuma technologies in areas such as waste and water treatment align closely with the SDGs with which society is grappling, and I believe that the sustained growth of Takuma itself embodies a contribution to society. As a result, I have high expectations for the company's future.

As for what the company expects of me, the Audit & Supervisory Committee is a group effort, so the body must carry out organizational audits in a way that draws on the expertise of each of its members. I understand that in addition to taking advantage of my specialty as a certified public accountant, I will need to update my knowledge as an Audit & Supervisory Committee member.

I believe that the significance of the "outside" in "outside director" lies in helping put in place an environment that supports appropriate risk-taking. I look forward to working to meet the expectations of stakeholders, particularly shareholders, by supervising operations while offering advice and leveraging that outside perspective to judge risks accompanying the company's decision-making, verify the methods by which that risk can be reduced or avoided, and continually ask myself whether risk-taking falls within allowable limits.

Masahiro Endo
Outside Director (Audit & Supervisory Committee Member)

Governance: Governance Initiatives

Strengthening risk management

Risk management structure

We consider it necessary to appropriately address risks that could interfere with the group's achievement of its business goals so that we can safeguard and steadily increase our corporate value over the long-term.

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.

Group companies also work to develop and strengthen approaches to risk management through the Takuma Group Coordinating Committee for Compliance & 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 Code.
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)

In addition to formulating a "Business Continuity Plan" based on the policies listed to the right to ensure proper and appropriate continuity of business operations in the event of a large-scale disaster, pandemic, or other emergency, Takuma conducts exercises on a regular basis.

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 maintain business operations.
3. Earn the trust of numerous stakeholders, including employees, their families, shareholders, and nearby residents, and fulfill social needs by maintaining business operations.

Ensuring compliance

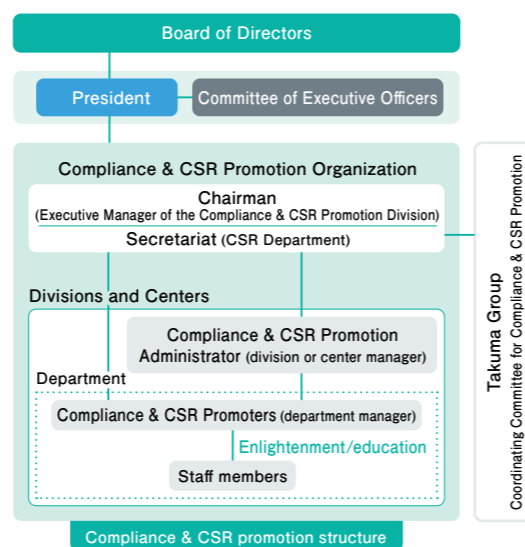
Compliance & CSR promotion structures

Takuma established the Compliance & CSR Promotion Organization to spread awareness of compliance and CSR issues among employees.

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 or center, each division or center manager is appointed as a Compliance and CSR Promotion Administrator. As persons who implement enlightenment and education in compliance and CSR in their respective departments, department managers are appointed as Compliance and CSR Promoters.

The initiative includes an annual regular meeting at which Compliance & CSR Promotion Administrators discuss the state of compliance and CSR promotion throughout the company as well as quarterly departmental meetings at which Compliance & CSR Promoters are given training to help them better carry out related activities in their departments.

Additionally, we established the Takuma Group Coordinating Committee for Compliance & CSR Promotion, which brings together representatives of group companies to help ensure that compliance and risk management are implemented throughout the group.



Fair business practices

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. When employees interact with the sales department of a competitor, they must apply and receive approval from the affiliated division or center manager in advance to ensure fair business contact.

[Introducing a Legislation Information Service]

Takuma has introduced a Legislation Information Service in order to gain a continuous grasp of the latest changes to laws and ordinances.

[Utilizing the Compliance Manual]

We distribute a Compliance Manual that includes an explanation of the rules and standards of conduct as well as an FAQ to all employees in accordance with Takuma Group Ethics Charter and Takuma Group Code of Conduct. This manual is utilized in the course of daily operations and departmental training.

Compliance & CSR promotion education

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

We offered the following four compliance and CSR promotion education sessions during FY2021. In February 2022, we invited an outside expert instructor to give a talk for the fourth session. We also host regular internal CSR lectures for members of the company's executive leadership.

First session:	Preventing Harassment A Reading Aloud of the Compliance Manual
Second session:	Social Media Risk Deepening Our Understanding of ESG
Third session:	Basics of Security Export Controls 2021
Fourth session:	Compliance Training for the Antimonopoly Act (lecture and video)

Number of sessions per year	4	Number of participating departments	49	Total number of attendees	4,660
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Fourth educational session

Date	February 09, 2022
Lecture theme	Compliance Training for the Antimonopoly Act: Preventing Bid-rigging and Cartels
Lecturer	Mr. Yuki Takei Attorney at Law, Midosuji Legal Profession Corporation

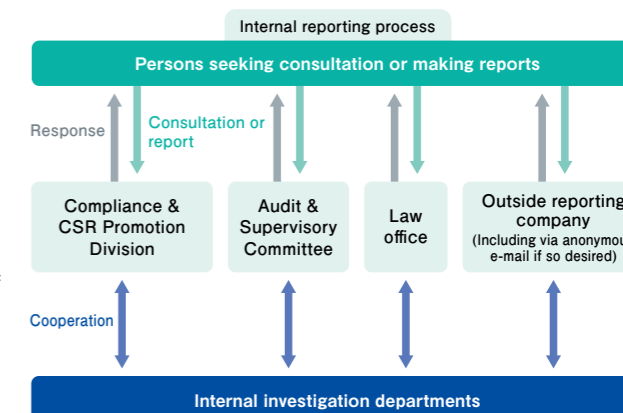


Internal reporting system

Takuma has been operating an internal 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 a law office, as well as a dedicated outside reporting company for anonymous e-mail reporting. During FY2020, the Audit & Supervisory Committee was added as an internal contact to further increase the effectiveness of the internal reporting system. Our "Internal Reporting Code" and "Takuma Group Code of Conduct" further declare that no informant shall be subjected to disadvantageous treatment simply because he or she filed a report or cooperated with an investigation.

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.



CSR awareness survey

We conduct an annual CSR awareness survey in order to quantitatively assess the level of compliance and CSR awareness along with the effectiveness of related promotional and educational efforts. The results of this survey are used when summarizing the activities of each fiscal year and in formulating the upcoming year's action plan, as well as in future compliance and CSR promotion activities. We make active use of survey results, for example by offering additional education, particularly in areas that received lower scores than in the previous survey.