



Section  
**02**

# ESG Initiatives

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# Sustainability Initiatives

## 1 Takuma's basic approach to sustainability

Takuma's Management Principles state, "Takuma will strive for social contribution, corporate value enhancement, long-term corporate development and the satisfaction of all stakeholders by providing goods and services that are needed and recognized as valuable in society". Vision 2030, our long-term vision for the year 2030, 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". In addition, the 13th medium-term management plan calls on the Group to practice ESG management as it implements the long-term vision, and we are advancing sustainability initiatives through measures specified in the plan in accordance with the Management Principles and the long-term vision.

## 2 Governance and risk management and strategies

In order to realize sustained growth alongside our customers and society by implementing ESG management as set forth in our long-term vision, the company approached the task of formulating the 13th medium-term management plan by organizing various ESG issues from the dual standpoints of their importance for stakeholders on the one hand, and their importance for the Group on the other. This process led to the identification of seven Key Issues (Materiality) that deserve to be given priority by the Group. We also addressed the Key Issues we identified through our business activities and formulated KPIs (financial targets).

For more information about those initiatives, please see [P29-30](#)

### Seven Key Issues

- Helping combat climate change
- Conserving resources and protecting the environment
- Further strengthening relationships of trust with customers and communities
- Pursuing partnerships and innovation
- Promoting activities of human resources
- Ensuring safety and health
- Strengthening corporate governance

Policies and initiatives related to climate change: For more information about strategies and scenario analysis related to climate change, please see pages 50 to 52. Policies and initiatives related to human capital: For more information about specific initiatives to enhance human capital, please see pages 63 to 66.

## 3 Indicators and targets

The following describes Takuma's KPIs and progress towards them as of the end of FY2022.

Materiality	KPI	Progress (as of the end of FY2022)
Helping combat climate change	<p>① <b>CO<sub>2</sub> emission reduction targets through our own products and services</b> Magnitude of potential reduction in CO<sub>2</sub> emissions due to newly delivered power plants*</p> <ul style="list-style-type: none"> <li>•FY2023: 800,000 tons per year</li> <li>•FY2030: 2.5 million tons per year</li> </ul> <p>*Biomass and Energy from Waste plants delivered from FY2021 through FY2030.</p> <p>② <b>In-house CO<sub>2</sub> emissions reduction targets</b> (*1 through *4)</p> <ul style="list-style-type: none"> <li>•FY2023: Effectively zero CO<sub>2</sub> emissions by the Takuma Head Office and the Harima Factory (Scope 1 and Scope 2)</li> <li>•FY2030: Effectively zero CO<sub>2</sub> emissions by all Takuma worksites in Japan (Head Offices, branch offices, factories, and construction sites) (Scope 1 and Scope 2)</li> </ul>	<p>① <b>CO<sub>2</sub> emission reduction targets through our own products and services</b> FY2022: 184,000 tons per year *Calculated based on available generating capacity (renewable energy) as of one month after delivery for plants delivered in FY2021 and FY2022 (four waste treatment plants, one sewage sludge plant, and 10 biomass plants).</p> <p>② <b>In-house CO<sub>2</sub> emissions reduction targets</b> FY2022: 356 tons per year (down 1,616 tons from FY2021)</p>
Promoting activities of human resources	<p>① <b>Number of female employees brought into the main career track and management positions</b> 35 or more (cumulative total for FY2021 to FY2025)</p> <p>② <b>Percent utilization of parenting support programs</b> 25% or greater (average for FY2021 to FY2025)</p>	<p>① <b>Number of female employees brought into the main career track and management positions</b> 16 (cumulative total for FY2021 to FY2022)</p> <p>② <b>Percent utilization of parenting support programs</b> 35% (average for FY2021 to FY2022)</p>
Ensuring safety and health	<b>Number of fatal accidents</b> 0	<b>Number of fatal accidents</b> (FY2022) 0
Strengthening corporate governance	<b>Number of serious compliance violations</b> 0	<b>Number of serious compliance violations</b> (FY2022) 0

\*1: The Scope 1 target includes offsets using environmental value such as J-credits. \*2: The Scope 2 target is calculated using post-adjustment emission factors. \*3: FY2030 targets including group companies remain under consideration. \*4: CO<sub>2</sub> emissions from procured products and use of Takuma products by customers (Scope 3) also remain under consideration.

# 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 gases 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 CO<sub>2</sub> emissions. In addition, we will work to enhance our approach to climate change and our information disclosure initiatives through dialog with stakeholders.

\*For more information about governance, strategic and scenario analysis, and risk management, please visit Takuma's website. <https://www.takuma.co.jp/english/sustainability/environment/tcfd.html>

### 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, and evaluates the risks and opportunities posed by climate change. The Environment Committee (which is chaired by the executive manager of the Compliance & CSR Promotion Division) then reviews the status of related initiatives. This information is 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.

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. <b>Risks</b>	<ul style="list-style-type: none"> <li>Implementation of Takuma initiatives related to energy savings and decarbonization</li> <li>Future initiatives to reduce greenhouse gas emissions in collaboration with suppliers</li> </ul>	→ There are risks but they can be addressed
		Strengthening of regulations and policies related to CO <sub>2</sub> 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. <b>Opportunities</b> <b>Risks</b>	<ul style="list-style-type: none"> <li>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</li> <li>Progressive and steady reductions in greenhouse gas emissions from Takuma's business activities</li> </ul>	↗ 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. <b>Opportunities</b>	<ul style="list-style-type: none"> <li>Enhancement of internal resources in terms of both quality and quantity in response to demand growth</li> <li>Utilization of digital technologies and ongoing strengthening of R&amp;D and engineering capabilities</li> </ul>	↗ 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. <b>Risks</b>	<ul style="list-style-type: none"> <li>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</li> <li>Capture of demand that does not depend on FIT/FIP, for example fuel conversions for industrial boilers</li> </ul>	→ 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. <b>Risks</b>	<ul style="list-style-type: none"> <li>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)</li> <li>Strengthening of recurring revenue model businesses such as maintenance, operation management, and O&amp;M</li> </ul>	→ 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. <b>Opportunities</b>	<ul style="list-style-type: none"> <li>Supply of optimal solutions based on precise assessments of diversifying customer needs and changes in the business environment</li> <li>Development of new business schemes and strategic partnerships</li> </ul>	↗ 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. <b>Opportunities</b> <b>Risks</b>	<ul style="list-style-type: none"> <li>Development of decarbonization technologies such as CO<sub>2</sub> management technology and carbon-free technology</li> <li>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</li> </ul>	↗ 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. <b>Risks</b>	<ul style="list-style-type: none"> <li>Reduction in, and streamlining of, outdoor work times through utilization of digital technologies, drone technology, and other resources</li> </ul>	→ 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. <b>Risks</b>	<ul style="list-style-type: none"> <li>Implementation of part and equipment standardization and sharing</li> <li>Setting aside of appropriate inventory of parts, materials, and equipment (utilizing Supply Lab)</li> <li>Strengthening of BCP measures, including hedging of risks with insurance and contract conditions</li> </ul>	→ There are risks but they can be addressed

4 Risk management

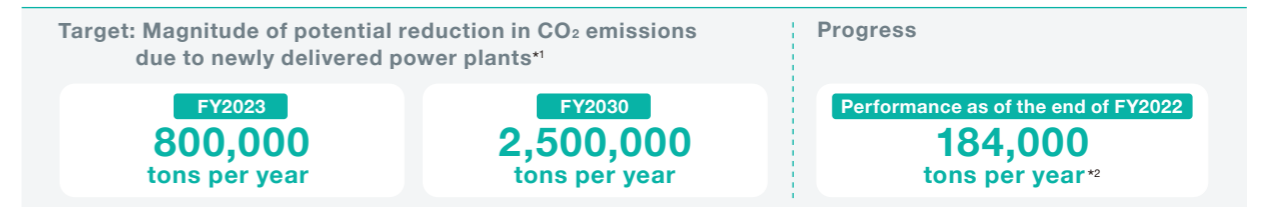
We established a working group including outside experts with the Planning Department as its secretariat, identified risks and opportunities characterized by major impacts on our management and financial operations, conducted a scenario analysis, and reported the evaluation and analysis results to the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

We have put in place companywide risk management structures based on our Risk Management Code, and business departments are using them to implement risk management, including by identifying, avoiding, transferring, and mitigating risks with the potential to negatively impact our businesses. Going forward, we will incorporate climate change risk into these risk management structures, and the Compliance & CSR Promotion Division will facilitate the centralized management of our response.

5 Indicators and targets

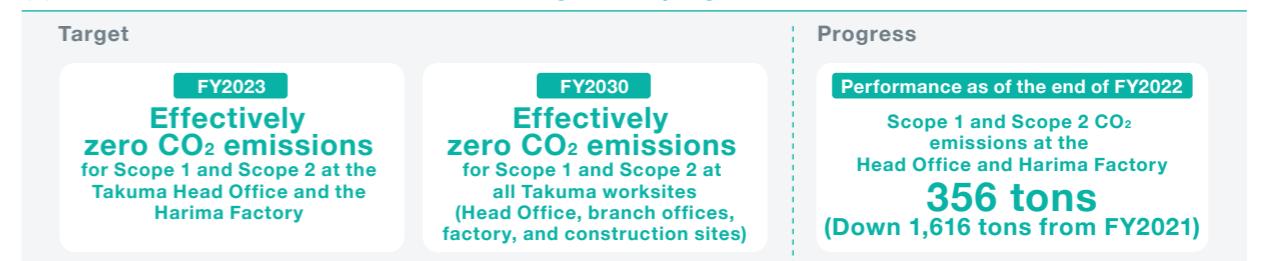
As we work to realize both initiative toward net-zero GHG emissions by 2050 and Vision 2030, Takuma's long-term vision, we will resolve issues faced by customers and communities by proposing products and services that contribute to energy savings and decarbonization while working to reduce our own CO<sub>2</sub> emissions.

>> 1 CO<sub>2</sub> emission reduction targets and progress through our own products and services



\*1: Biomass power plants and Energy from Waste plants delivered from FY2021 to FY2030  
 \*2: Calculated based on available generating capacity (renewable energy) as of one month after delivery for plants delivered from FY2021 to FY2022 (four waste treatment plants, one sewage sludge plant, and 10 biomass plants).

>> 2 In-house CO<sub>2</sub> emissions reduction targets and progress



\* FY2030 targets including group companies remain under consideration.  
 \* CO<sub>2</sub> emissions from procured products and use of Takuma products by customers (Scope 3) also remain under consideration.

# Helping Combat Climate Change and 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 CO<sub>2</sub> emissions

Conversion of waste and biomass into energy by municipal solid waste incineration plants and biomass power plants supplied by Takuma helps reduce CO<sub>2</sub> emissions by about 4 million tons per year.

Reduction in CO<sub>2</sub> emissions from municipal solid waste incineration plants delivered by Takuma

Approx. **500,000 tons** per year!

Reduction in CO<sub>2</sub> emissions from biomass power plants delivered by Takuma

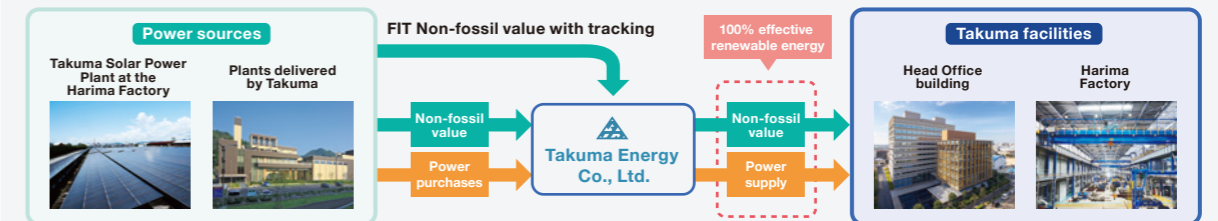
Approx. **3.5 million tons** per year!



### Example initiatives

#### The Takuma Head Office building and Harima Factory begin using 100% renewable energy

On April 1, 2022, Takuma's Head Office building and Harima Factory began using power derived from 100% effectively renewable energy supplied by subsidiary Takuma Energy Co., Ltd. The power is generated by the Takuma Solar Power Plant at the Harima Factory in 2013 and by biomass power plants and waste treatment plants delivered by Takuma to date. This initiative has reduced annual CO<sub>2</sub> emissions from Takuma's Head Office and factory by about 1,616 tons of CO<sub>2</sub> (FY2021 figures).



## Helping combat climate change — Initiatives through our Energy Plant Business

Takuma has helped resolve customer issues for many years by delivering numerous boilers and energy plants of various types and specifications as a pioneer of the boiler industry. In recent years, alleviating climate change and realizing a decarbonized society have been identified as issues that should be addressed on a society-wide level, and renewable energy in the form of solar, wind, geothermal, small- and medium-scale hydro, and biomass will play an important role in that effort.

Because trees absorb CO<sub>2</sub> through photosynthesis during the growth process, wood biomass from forest thinning and other sources has the characteristic of being carbon neutral, in that use of energy from timber does not impact the atmospheric concentration of CO<sub>2</sub>. We will help resolve issues faced by customers and society by promoting renewable energy through utilization of wood biomass.

## Contributing to society through business activities

### 1 Making effective use of unutilized resources

Most fuels used by biomass power plants, boiler plants, and 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. We supply energy-efficient plants by choosing the optimal combustion model for the customer's plan based on the technology we have developed over our long history and our extensive track record of delivered facilities.

### 2 Stable, long-term operation of energy plants

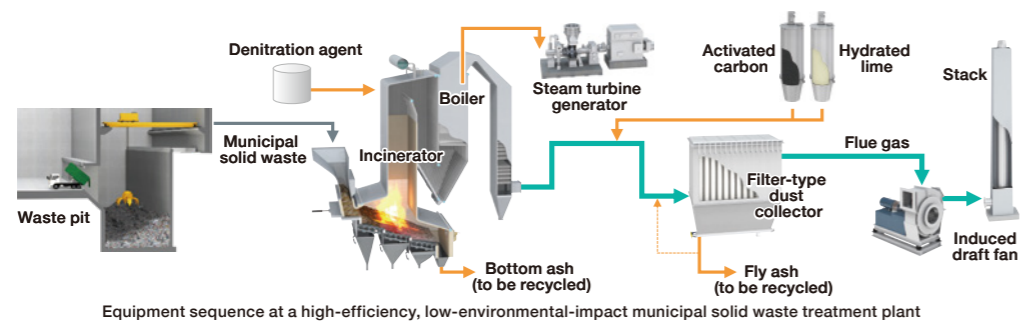
Energy plants sometimes experience unforeseen equipment problems that result in unplanned stoppages, even if regular maintenance has been carried out. In January 2023, Takuma opened the Supply Lab, an after-sales service facility at its Harima Factory, in an effort to build after-sales service structures capable of maintaining an inventory of, and quickly supplying, parts that are essential to stable operation in order to lower the risk of long-term stoppages. Following the launch of the Supply Lab, we will continue to realize stable operation of customers' facilities over the long-term through after-sales service, including maintenance, renovation work, and O&M (operation management and maintenance management).



### Conserving resources and protecting the environment

— Initiatives through the Municipal Solid Waste Treatment Plant Business

Since delivering Japan's first 24-hour operating waste incineration plant in 1963, Takuma has built and delivered more than 370 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.

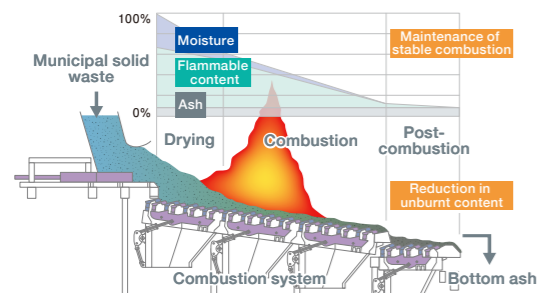


#### 1 Resource conservation initiatives

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.

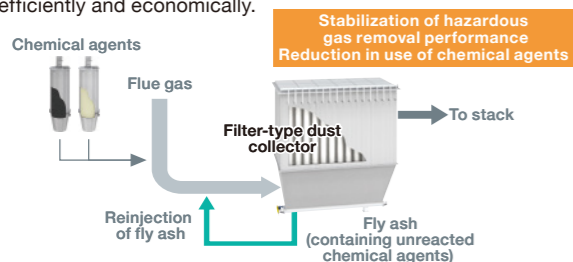
##### ● High-performance stoker furnace

Takuma stokers incorporate enhancements and improvements that draw on our track record of deliveries, which makes us the No. 1 supplier of such systems in Japan, along with our treatment experience. We pursue ash recycling 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 recycling.



##### ● 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.

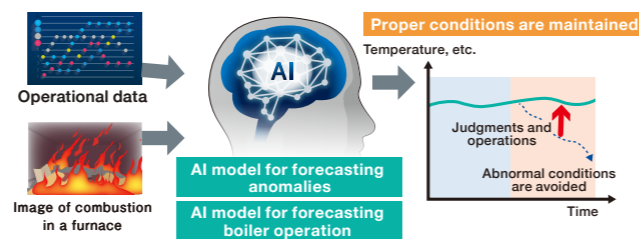


#### 2 Environmental protection initiatives

The introduction of AI-enabled combustion control and high-efficiency power generation serves to safeguard the environment in the surrounding area and reduce CO<sub>2</sub> emissions.

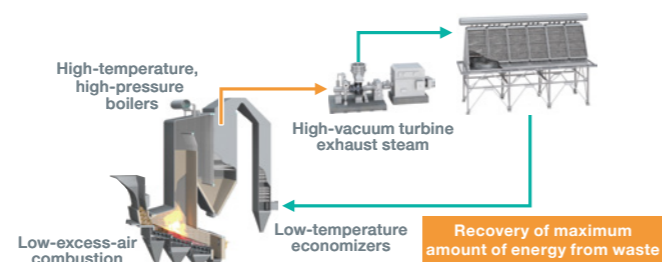
##### ● AI-enabled combustion control system

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.



##### ● High-efficiency power generation system

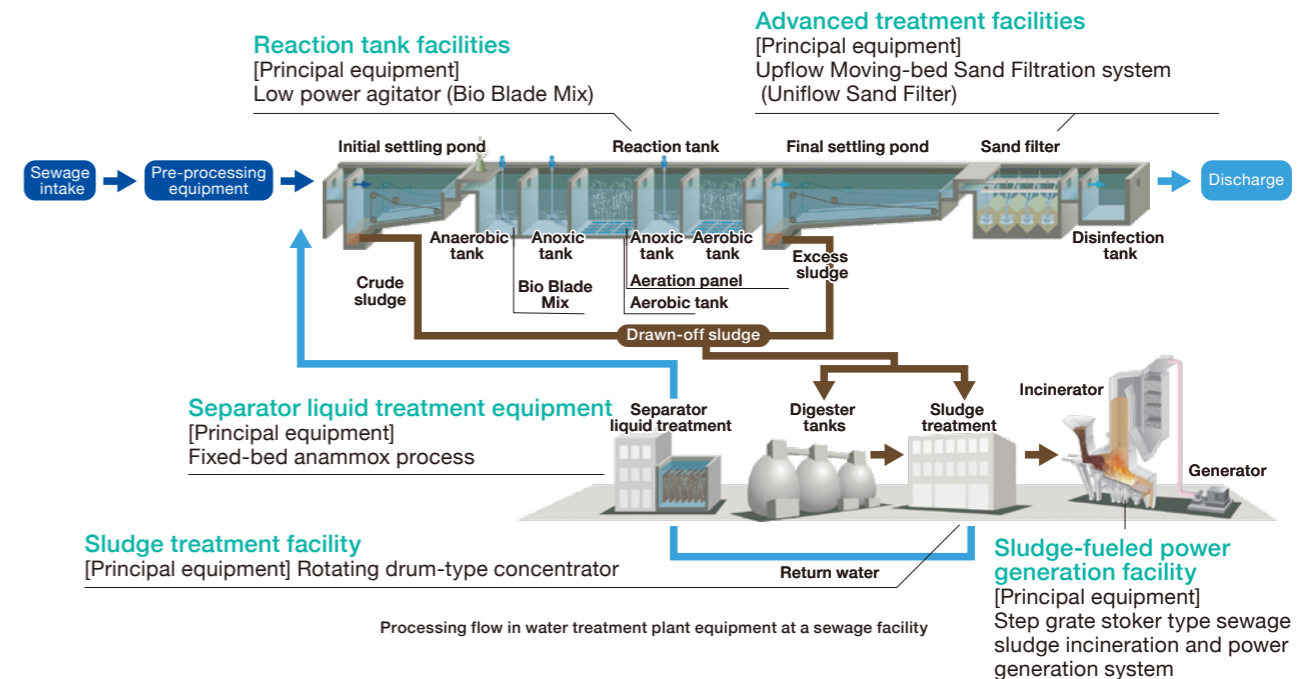
Municipal solid waste treatment plants demand high-efficiency power generation technology from the standpoint of reducing CO<sub>2</sub> emissions. We help protect the Earth's environment through such technology, including high-temperature, high-pressure boilers; low-excess-air combustion; low-temperature economizers; and use of high-vacuum turbine exhaust steam.



### Conserving resources and protecting the environment

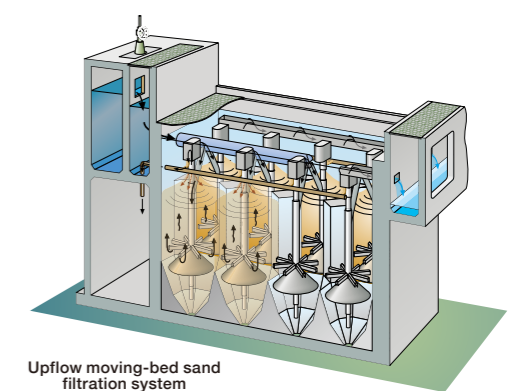
— Initiatives to protect resources and the environment in our Water Treatment Plant Business

Since entering the water treatment business in 1962, Takuma has manufactured a variety of water treatment equipment over the course of more than 60 years while working to protect the water resources required by society and the greater water environment. 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.



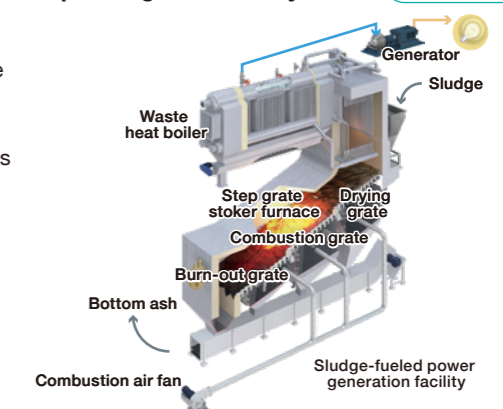
#### 1 Upflow moving-bed sand filtration system

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 2,800 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.

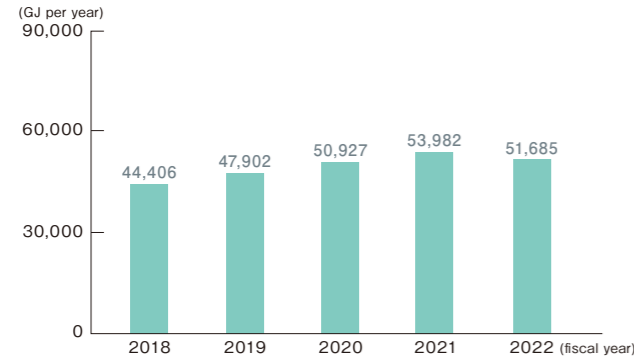


Environmental reporting

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.

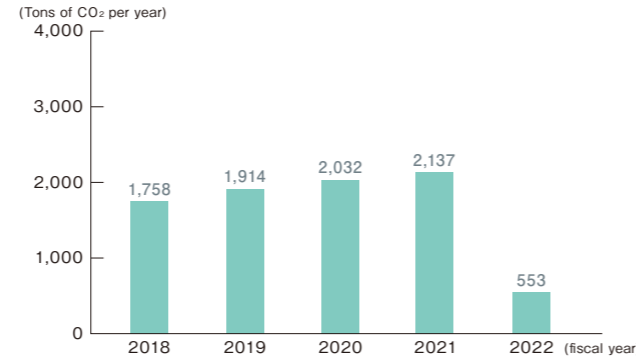
Environmental data (non-consolidated)

Total energy input volume



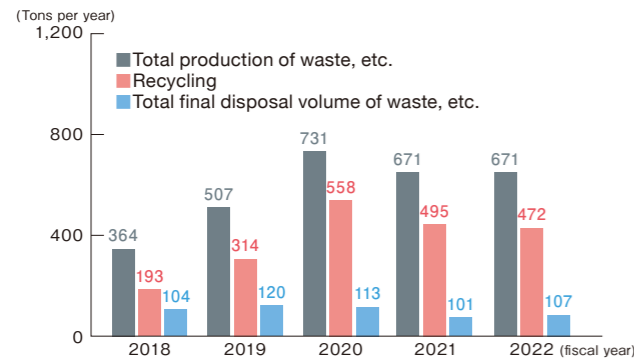
The total energy input volume of the fuel and the electricity consumed at Takuma during FY2022 fell slightly compared to FY2021 levels. We will continue to promote energy savings from here on out.

Greenhouse gas emissions



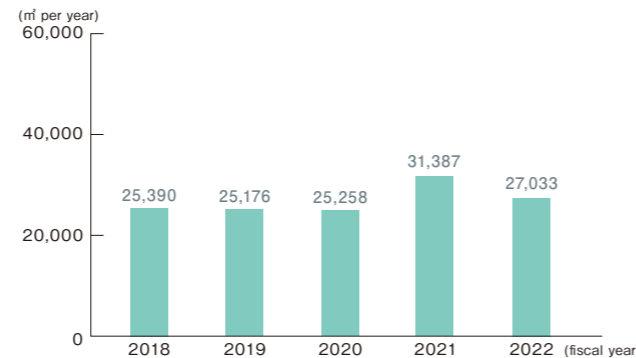
The greenhouse gas emitted by Takuma is limited to carbon dioxide (CO<sub>2</sub>). FY2022 emissions fell significantly from FY2021 due to the introduction of power derived from 100% renewable energy at Takuma's Head Office building and Harima Factory. We will continue striving to reduce CO<sub>2</sub> emissions.

Total production of waste, etc.



Takuma generated about the same volume of waste in FY2022 as during FY2021, but a slight reduction in appropriate processing such as recycling led to small increase 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.

Input volume of water



Water resource inputs by Takuma during FY2022 fell compared to FY2021. We will continue striving to reduce water resource inputs.

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.

Dichloromethane (CAS No. 75-09-2)

FY	2018	2019	2020	2021	2022
Emissions (tons per year)	0.27	0.08	0.00	0.00	0.11

Toluene (CAS No. 108-88-3)

FY	2018	2019	2020	2021	2022
Emissions (tons per year)	0.06	0.09	0.07	0.13	0.12

Ethylbenzene (CAS No. 100-41-4)

FY	2018	2019	2020	2021	2022
Emissions (tons per year)	0.98	1.34	1.41	1.51	1.02

Xylene (CAS No. 1330-20-7)

FY	2018	2019	2020	2021	2022
Emissions (tons per year)	1.12	1.47	1.54	1.62	1.05

These materials are used for anti-rust 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. As our business activities mainly involve environmental conservation plants and their equipment, Takuma Group employees have a significant awareness of the need for environmental conservation, and we have been implementing approaches toward such issues within the Takuma Group.

Environmental conservation cost

Item	Investment (thousand JPY)	Expense (thousand JPY)
<b>Business area costs</b>		
Pollution prevention costs	235,529	263,398
Global environmental conservation costs	81,214	106,246
Resource circulation costs	—	15,059
<b>Administration costs</b>		
R&D costs	67,586	1,908,385
<b>Social activity costs</b>		
Total	384,329	2,339,468

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.

Environmental conservation effect

Item	FY2021	FY2022
<b>(1) Environmental conservation benefit related to resources input into business activities</b>		
Total energy input volume (GJ)	109,051	100,685
Input volume of water (m <sup>3</sup> )	52,425	46,094
<b>(2) Environmental conservation benefit related to waste or environmental impact originating from business activities</b>		
Volume of greenhouse gas emissions (tons-CO <sub>2</sub> )	4,587	2,626
Total production of waste, etc. (tons)	1,167	1,198
Final waste disposal volume (tons)	148	149
Wastewater volume (m <sup>3</sup> )	51,926	46,183

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.

Economic benefits of environmental conservation measures

Breakdown of benefits	Income from the sale of waste for recycling, etc. (thousand JPY)	12,378
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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.

Period covered: April 1, 2022, to March 31, 2023

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 Co., Ltd.; 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 Co., Ltd., have also acquired ISO 14001 certification.

# 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, 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

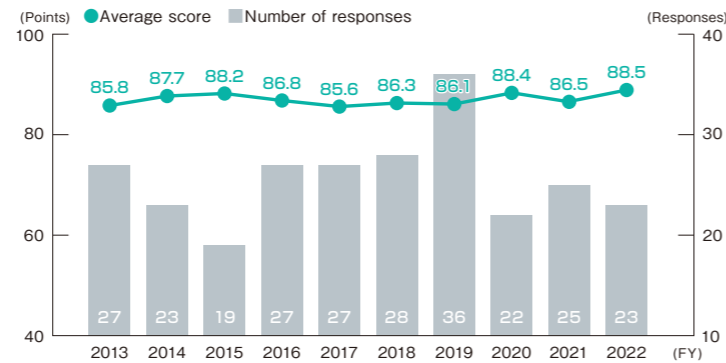
- Creating value to earn customer satisfaction:** Ascertaining customer needs and making improvements based on past experience
- Carrying out risk management:** Addressing changes in the business environment and human error
- Implementing human resources management:** Implementing human resource development 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 an Operational Skill Achievement Checklist designed to improve employees' operational skills (once a year)

#### 3 Customer satisfaction survey

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



Questionnaire average score (out of 100 possible points)

Scores averaging higher than 86 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.



### Machida High Trust Co., Ltd.

Machida City Bio-energy Center, which Takuma has been contracted to operate, held three events during FY2022, in April, July, and November, with the goal of raising awareness about the 3Rs (reduce, reuse, and recycle). The events, which were attended by more than 500 residents, had a little something for everyone, including a facility tour with a stamp rally, recycling-related craft workshops, experiential learning for waste collection, and a fishing game about waste sorting using felled bamboo.

### Hokutan High Trust Co., Ltd.

Clean Park Hokutan, which Takuma has been contracted to operate, hosts a variety of events that let attendees experience nature throughout the year using a *satoyama* environment that was built as a place where people could encounter nature around the plant while learning about the rich natural world and the importance of life.

In October 2022, numerous families participated in a "Potato-digging and Mushroom-foraging Festival," which began with the harvesting of sweet potatoes that had been planted in spring and continued with a talk about mushrooms by an expert, after which attendees hiked up a nearby mountain and continued their study.



## 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 such as DBO, which offers operation and maintenance management service collectively for municipal solid waste treatment plants.

Since drawing on the extensive expertise that we have gained in the area of plant operation and maintenance management from our long-term comprehensive operation business to earn our first private-sector O&M (operation management and maintenance management) contract from SARA Inc., 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. We are also leveraging remote site support using wearable cameras to realize stable plant operation. 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 expertise that Takuma and group company Takuma Technos Co., Ltd., have accumulated over many years of operations to realize optimal operation and maintenance management of plants.



An equipment inspection



Use of wearable cameras to provide site support

# 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 Engineering, Procurement, and Construction (EPC), operation management, and maintenance are no exception, and we believe that the transition to digital technologies will only accelerate going forward against the backdrop of trends including labor shortages. 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.



### 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 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.

## 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 promote further 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

#### 1 Conversion of CO<sub>2</sub> in flue gas into solid carbon

This technology manufactures solid carbon using CO<sub>2</sub> separated and captured from the flue gases from municipal solid waste treatment plants as the raw material and energy from the same plant. The solid carbon is expected to be used as a raw material for the manufacture of chemicals such as carbon black, and we are currently involved in a research and development project that is receiving technological guidance from Shizuoka University.



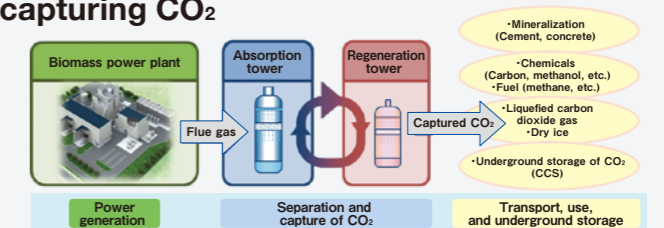
#### 2 Biomethanation, which also yields a substitute for natural gas

This technology generates high-concentration biomethane from biogas from the methane fermentation of garbage and other waste and CO<sub>2</sub> contained in flue gases by adding hydrogen and relying on a microbial process to convert the mixture into methane. It is characterized by low facility energy consumption and high operational stability. The technology offers a high level of versatility since biomethane can be used as a fuel to generate electricity or as a substitute for natural gas, and we are currently conducting joint research with Kyoto University, Hokkaido University, the National Institute for Environmental Studies, Toho Gas, and Ebara Jitsugyo.



#### 3 Technology for separating and capturing CO<sub>2</sub> (chemical absorption method)

Working with the National Institute of Advanced Industrial Science and Technology, we are conducting joint research to develop technology for separating and capturing CO<sub>2</sub> using a chemical absorption method that utilizes non-water absorbent for use with CO<sub>2</sub> in flue gases from biomass power plants and municipal solid waste treatment plants. Under the Research, Development and Demonstration Project of CCUS Technology, which Takuma is carrying out with Nippon Paper Industries Co., Ltd., under contract from the New Energy and Industrial Technology Development Organization (NEDO) and which is conceived to yield energy savings and downsizing of equipment, we will research the targeted technologies, and we will look to use the absorbent to treat plant flue gases in the future as we evaluate its performance and work to commercialize it.



# Promoting Activities of Human Resources

In an effort to achieve the goals of the 13th medium-term management plan, which is the first step towards realizing Vision 2030, our long-term vision, we are investing in human resources through the following policies as ways to strengthen our management foundation and undertake business activities that help resolve customers' and society's issues.

## Policy on Human Resource Development

In an effort to precisely identify changes in the market environment and diversifying customer needs and contribute to the long-term, sustained development of society through the resolution of customers' issues, we will hire human resources with diverse values and backgrounds, improve employees' skills, provide opportunities for them to use those skills, and encourage their growth.

## Policy on Takuma's Internal Environment Improvement

We are working to put in place human resources programs and a workplace environment that boost motivation while making it easy for employees to do their jobs so that a diverse workforce can pursue careers at Takuma over the long-term.

## Securing and training human resources

### 1 Securing human resources

To realize Vision 2030, our long-term vision, we are employing human resources with the goal of about 25 new-graduate and about 35 mid-career as part of efforts to strengthen our management foundation.

With regard to new-graduate hires, we have implemented a variety of measures at each stage—forming a pool of prospective applicants, motivating them to apply, and screening their applications. In particular, we are working to motivate prospective applicants to apply and join Takuma by communicating information about topics like our businesses, corporate culture, and what we consider ideal employee characteristics in order to raise Takuma's visibility, for example by using YouTube; visiting universities, vocational schools, and high schools; participating in campus seminars and joint job fair; offering internships; and hosting "work experience" days. With regard to mid-career hires, we are strengthening initiatives and diversifying our recruiting routes, for example to implement scouting and referral recruitment, even as human resources introductions remain the principal channel through which we find new employees.



#### Employee data (non-consolidated)

\*As of March 31, 2023

Number of employees	1,002 (Including 917 men and 85 women)	Average years of service	14.8
Average age	42.8	Rate of attrition for personal reasons	1.7% (FY2022)

#### Trend in number of regular employment (number of female employees in parentheses)

FY	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023 *New-graduate hires only
New-graduate hires	21 (2)	20 (2)	25 (3)	26 (2)	28 (4)	35 (4)
Mid-career hires	20 (1)	24 (1)	37 (2)	53 (5)	41 (3)	—
Total	41 (3)	44 (3)	62 (5)	79 (7)	69 (7)	35 (4)

### 2 Putting in place educational systems

We have working to put in place and enhance educational programs in an effort to advance employees' abilities, for example by improving their skills and management capabilities across a broad range of levels, including just hired new-graduate and mid-career as well as management candidates.

Recently, we have identified the decline in internal exchanges due to the COVID-19 pandemic at a time when employment is growing as an issue that needs to be addressed, and we are particularly focusing on providing training designed to strengthen communication skills.

#### Education and training programs



Lecture

Group activity

Plant tour

#### Educational program diagram

Rank-specific training

COM training: Communication training



Field-specific training



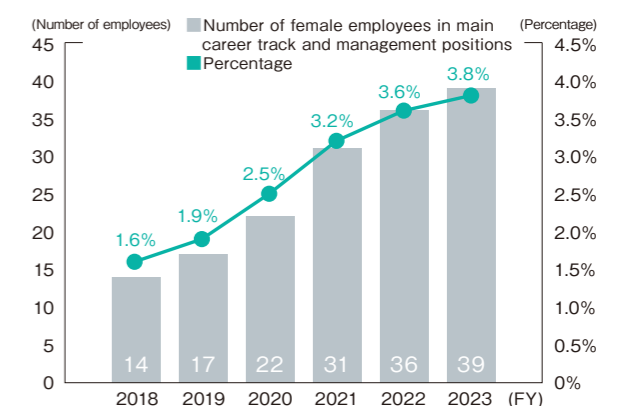
## Promoting diversity

### 1 Increasing female participation

We have set a cumulative goal for FY2021 to FY2025 of adding at least 35 new female employees by hiring women for main career track and management positions and by promoting employees in general positions as part of our general employer action plan under the Act on the Promotion of Women's Active Engagement and as a key performance indicator (KPI) for our Key Issues (Materiality).

As we strive to achieving our targets, we have worked to increase our points of contact with female students in connection with new-graduate hiring, for example through participation in corporate research projects for female students organized by local governments, information sessions hosted by women's colleges and universities, and joint information sessions for female students. In mid-career hiring, we are working to increase the number of positions conceived to be held by women while cooperating on hiring women with departments that are seeking to hire new employees.

During FY2022, we offered main career track and management positions to a total of six women (three new graduates and three mid-career applicants), bringing the cumulative total for FY2021 and FY2022 to 16.



The number and percentage of female employees in main career track and management positions

2 Encouraging senior citizen participation

As of April 2023, a total of 41 post-retirement-age employees continued to work at Takuma.

To implement Vision 2030, our long-term vision, it will be necessary for senior employees to take advantage of their extensive knowledge and experience as they contribute to the company. The fifties are a time of transition in areas such as physical strength, health, and family environment, and work life is no exception; even as older employees are able to take advantage of the extensive knowledge and experience they have accumulated, it is also important for them to change their past experiences, ways of thinking, and values as necessary in response to the development of technology and the diversification of values.

To that end, we have augmented a review of our human resources programs by offering an educational (e-learning) program designed to facilitate learning and new realizations through self-study so that employees in their fifties can take advantage of the knowledge and experience they have accumulated to date, encounter new ways of thinking and values, and embrace their jobs.



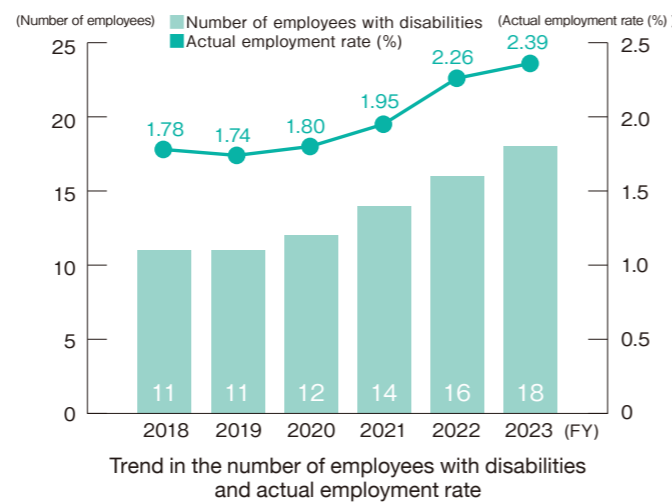
Feedback from employees in their fifties who have participated in the educational program

- Through the program, I realized anew that there are a lot of things that I want to do and that I need to do. I look forward to using the experience and knowledge I have accumulated to date and working to keep up with new information and communications technologies while learning how to adapt to new things with flexibility as I strive to realize those goals.
- I was aware of the need to care for my parents, but I had not been studying at all, so this course was extremely useful. I learned that a variety of procedures have already been put in place, so in the future I would like to consider them more deeply in light of my own situation.

3 Promoting employment of people with disabilities

In addition to establishing a specialized section within the Human Resources Department in April 2020 and assigning staff members to assist with hiring of people with disabilities as part of a focused effort to support such hiring, Takuma is working to make support for hiring of people with disabilities a permanent part of the company's culture with the assistance of outside organizations dedicated to helping companies hire people with disabilities. As of April 2023, a total of 18 people with disabilities were performing jobs that suited their abilities, including cleaning offices, entering data at the request of various departments, sorting and sending mail and packages, and placing orders for business cards.

We are also working to hire human resources, for example by visiting schools for people with disabilities, accepting people for workplace training, and participating in joint interviews.



Improving employee satisfaction

1 Respecting human rights and preventing harassment

Our company sets out its respect for basic human rights and prohibition of discriminatory acts in the Takuma Group Ethics Charter, Takuma Group Code of Conduct, and labor regulations.

We are also working to put in place a safe workplace environment and to prevent harassment through regular educational programs (including e-learning and in-person training).

Topics

Hosting "Activating the Workplace Environment," a business skill enhancement training session

In November 2022, we offered business skill enhancement training session for section managers. The training, which featured an outside instructor, sought to activate the workplace environment by improving communication skills and creating guidelines to address harassment by promoting understanding, facilitating inspections of current conditions, and fostering prevention.



2 Parenting support and promotion of flexible workstyles

We have set utilization of parenting support programs (childcare leave, maternity/paternity leave, flex time, shortened working hours, and telework) of 25% (average for FY2021 to FY2025), which is more than double the figure for FY2020, as a KPI, and we have introduced the programs described below in order to help employees balance their work responsibilities with the demands of parenting and nursing care. Thanks to multipronged efforts to spread awareness of these offerings, for example by offering information about programs to employees with recently born babies on an individual basis, the average cumulative utilization rate for FY2021 and FY2022 rose to 35%.



In addition, we are continuing to take advantage of our telework program in order to help employees balance their work and personal responsibilities, including parenting, nursing care, and recovery from illness, while increasing productivity, even after COVID-19's reclassification by the Japanese government as a Class 5 disease, as part of a larger effort to reassess programs to ensure employees can do their jobs without regard to time or place.

- Childcare leave and maternity/paternity leave
- Nursing-care leave
- Flex time
- Telework
- Shortened working hours
- Special leave for husbands whose wives are giving birth

Rate of male employees' utilization of childcare and paternity leave during FY2022

Number of male employees whose spouse gave birth	Number of male employees who utilized childcare leave and related programs	Percentage of male employees who utilized childcare leave and related programs
34	11	32.3%

\*In addition to the above, 19 male employees took time off for reasons related to childcare, bringing the utilization rate of related programs to 88.2%.

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

Infancy is an important time for both baby and parents, and I decided to take childcare leave because my wife and I wanted to focus on working together to raise our new child.

Because I took advantage of this leave program, I was able to see my child's daily growth, which made me extremely happy, and at the same time, I personally experienced the difficulty of parenting. Comparing myself before and after taking childcare leave, I now take the initiative to help out with household chores and parenting, with the result that I do not leave my wife to do as much as before, and I have come to value time with our newborn child.

(From a male sales employee in his 30s)



# 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 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. 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 FY2023: eliminating failures to identify hazards that could lead to serious accidents during safety assessments; providing precisely targeted safety guidance through safety patrols; strengthening guidance during safety and health management activities by worksite managers, foremen, and safety and health managers; 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.

● Number of safety inspections completed in FY2022: 98



A safety inspection meeting

### 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.

● Number of safety patrols implemented in FY2022

By Safety and Health Committee (members, advisors)	68
By Safety Control Department	238
By Construction Division	334



Safety patrols

## 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 2023	Cumulative number of trainees	39,352
	Number of trainees passing the completion exam	22,401



Education for construction site representatives (Head Office)



Inspection of safety and protective gear

### 2 Construction employee education

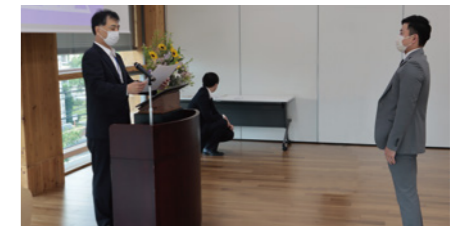
We offer safety and health education to construction work employees at affiliates so that they can follow safety rules while working safely.

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

We are promoting a qualitative transformation (DX) in our safety and health management activities 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.

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

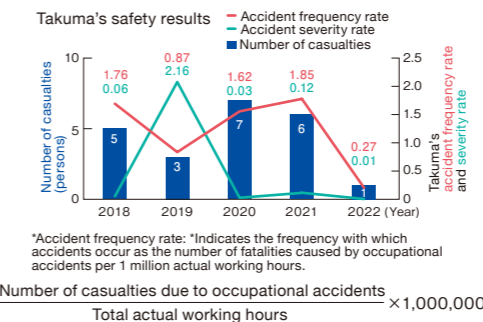
Takuma recognized employees who worked to prevent occupational accidents at worksites and set zero-accident records at an internal award ceremony held on the anniversary of the company's founding. Although we had planned to similarly recognize primary partner companies who helped set zero-accident records at the Safety and Health Promotion Meeting, we were forced, with great regret, to cancel the event along with the awards ceremony again in FY2022 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 2022 was about 3.64 million hours. Both the number of occupational accidents and accidents resulting in work stoppages fell from 2021, in terms of both the accident frequency rate and the accident severity rate.



Year	Accident frequency rate	Accident severity rate
2018	1.09	0.30
2019	1.69	0.29
2020	1.30	0.24
2021	1.39	0.41
2022	1.47	0.22

Reference: Nationwide average accident frequency and severity rates for the construction industry (general construction)  
 \*Accident frequency rate: Indicates the frequency with which accidents occur as the number of fatalities caused by occupational accidents per 1 million actual working hours.  
 \*Accident severity rate: Indicates the seriousness of accidents as the number of work-days lost per 1,000 actual working hours.

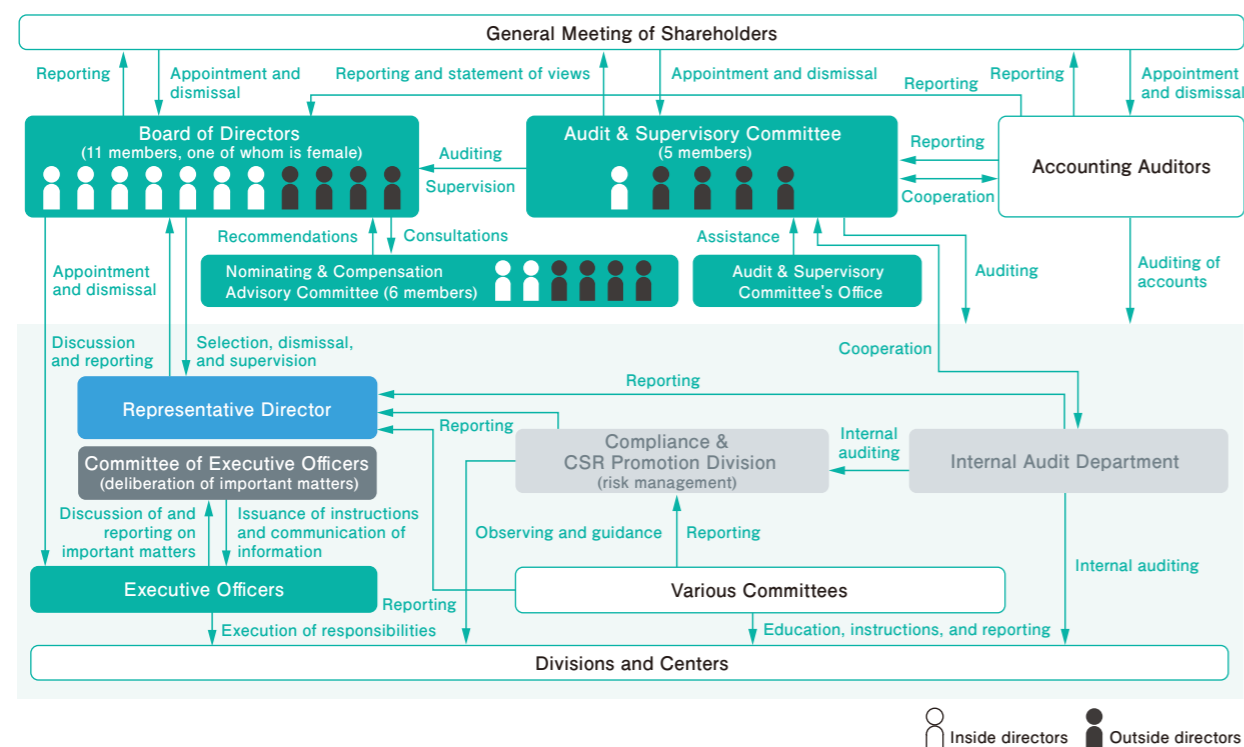
## Managing employee health

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 and their subjective symptoms, recommending they meet with an industrial physician, having the Human Resources Department conduct interviews as necessary, and taking corrective action with regard to supervisors. Furthermore, we have created opportunities to consult with the labor union concerning working hours, and we share information about the topic and exchange views about and discuss associated measures.

# Strengthening Corporate Governance

## Corporate governance structures

We have put in place the following governance structures: (As of June 27, 2023)



### Basic policy on corporate governance

In order to safeguard and steadily increase the Group's corporate value over the long term, it is essential not only to ensure the development of the company's businesses, but also to clearly define governance in corporate operations—that is, to ensure that shareholders' oversight of operations is carried out appropriately and that officers carry out their operational responsibilities by means of a process that is clear, rational, efficient, and legally compliant. For that reason, we believe that understanding the Corporate Governance Code and putting it into practice in an autonomous and systematic manner are top-priority management issues.

### Board of Directors

As of June 27, 2023, the Board of Directors was comprised of six directors (excluding directors who are members of the Audit & Supervisory Committee) and five Audit & Supervisory Committee members (of whom four were outside directors). The Board of Directors meets regularly once a month as a rule and whenever else it is necessary to make decisions about important issues related to business management and issues established by law and ordinances, as well as to oversee the execution of the directors' duties.

Directors: 11 (10 men and 1 woman), including 4 outside directors (3 men and 1 woman)

During FY2022, the Board of Directors complied with internal regulations concerning its discussion and reporting responsibilities by approving resolutions related to the Company's basic policies concerning management, matters related to the execution of important operations, and matters designated by law and in the Company's Articles of Incorporation; by reporting on important topics outlined in the medium-term management plan, including progress towards achieving KPIs related to the Key Issues (Materiality), initiatives to enhance human capital, initiatives to implement the digital transformation (DX), the general direction of Takuma's M&A strategy, and R&D themes deemed likely to lead to medium- and long-term business growth; and by offering feedback on the contents of exchanges of views with investors in the context of Takuma's IR activities.

### Executive Officers

In order to accelerate management decision-making and clarify where management responsibilities are placed, we have adopted an executive officer system in which we appoint executive officers who are entrusted with the responsibility of executing our business activities. As of June 27, 2023, there were 15 executive officers (including those who also serve as directors). Moreover, we have also established a Committee of Executive Officers, which is chaired by the president/chief executive officer, as an organization that deliberates matters that are brought up at meetings of the Board of Directors and other important issues related to the execution of our business activities. This committee communicates and provides direction about items decided by the Board of Directors and other important items related to the execution of our business activities appropriately to the divisions that are to execute them.

### Audit & Supervisory Committee

We have established an Audit & Supervisory Committee to serve as our auditing structure. That committee, which consists of five members, of whom four are outside directors, is responsible for accounting and operational audits. Members of the committee attend important meetings, including those of the Board of Directors and the Committee of Executive Officers, and they strive to understand and observe the status of business execution in a timely and appropriate manner. They express their opinions as necessary, administer self-inspections and evaluations by all executive officers of the internal control system at year-end, and otherwise conduct strict auditing of the business execution performed by the directors. In addition, members work together to conduct audits of worksites, departments, and subsidiaries in accordance with audit policies and other guidelines established by the Audit & Supervisory Committee while exchanging information regularly, for example by receiving reports from accounting auditors and the Internal Audit Department about topics such as audit plans and the status of ongoing audits. Members also receive business reports as necessary from subsidiaries as they work to communicate and exchange information with those companies' directors, auditors, and other personnel. During FY2022, the committee discussed topics including audit policies, audit plans, division of responsibilities, evaluation of the accounting auditor, development of a consensus on director appointment and remuneration proposals (except for directors who are members of the committee), and audit report drafts. It also identified the following as key audit items in the audit plan and pursued related activities:

- Progress in implementing the internal control system
- Progress in implementing the medium-term management plan
- Status of initiatives related to occupational safety and health (including infectious disease measures)

In addition, the committee examined issues surrounding directors' and executive officers' execution of their responsibilities, for example by asking whether the key policies set forth in the medium-term management plan were being appropriately implemented and by reviewing the following:

- Duty of diligence, fiduciary duty, misconduct, etc.
- Duty to report to the Audit & Supervisory Committee
- Duty to develop and administer the internal control system

### Audit & Supervisory Committee's Office

Takuma has put in place structures to ensure Audit & Supervisory Committee members can do their jobs effectively by establishing an Audit & Supervisory Committee's Office to help carry out the committee's work.

### Nominating & Compensation Advisory Committee

We have established the Nominating & Compensation Advisory Committee to increase transparency and objectivity in the selection of candidates for director and executive officer positions and in the determination of the compensation and other terms so as to enhance the oversight function of the Board of Directors. The Committee includes a total of six members, the majority of whom are independent outside directors: four independent officers (independent outside directors), a representative director, and the executive officer in charge of human resources. The Nominating & Compensation Advisory Committee, which reports to the Board of Directors, discusses topics related to executive appointment, dismissal, and compensation as well as topics related to CEO succession planning. Having received that report, the Board of Directors makes final decisions on related matters after sufficient discussion while respecting the Committee's report.

During FY2022, the committee deliberated the following topics and reported to the Board of Directors:

- Appointment of executive officers and titled executive officers
- Nomination of candidates for Board of Directors positions
- Selection of representative directors and titled directors
- Establishment of the order in which deputies of the president exercise their authority
- Status of the implementation of training of successor human resources
- Proposed remuneration packages for executive officers (fixed compensation, bonuses, restricted stock compensation)
- Proposed remuneration packages for directors who are not members of the Audit & Supervisory Committee (fixed compensation)

## Appointment and dismissal criteria for directors and executive officers

### 1 Policy on the Appointment and Dismissal of Executives

To maintain an appropriate number of members who can conduct effective discussions and assure that the body can appropriately carry out its role of decision-making on basic policies and important matters related to the company's management and supervision of directors' and executive officers' execution of their job responsibilities, Takuma takes various steps to ensure that the Board of Directors' membership exhibits a good balance of knowledge, experience, and ability. The Policy on the Appointment and Dismissal of Executives put in place by the Board of Directors establishes appropriate processes for appointing and dismissing executives along with basic requirements for director candidates and executive officers; criteria for appointing director candidates, executive officers, and other positions; and criteria for dismissing directors and executive officers.

### 2 Procedures for appointing and dismissing executives

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 the appointment and dismissal of directors and executive officers, including the position of president and CEO, in accordance with the Policy on the Appointment and Dismissal of Executives put in place by the Board of Directors. The Board of Directors makes final decisions in such matters after sufficient discussion based on factors including directors' past and present performance of their responsibilities while respecting reports and advice from the Committee.

### Selection criteria for independent officers

Takuma designates all outside officers who satisfy certain qualifications as independent officers. We assess the independence of outside officers based on standards of independence adopted by the Tokyo Stock Exchange as well as our own internal Standards for Determining the Independence of Outside Officers.

#### Standards for Determining the Independence of Outside Officers

In Takuma's view, the following individuals do not exhibit sufficient independence to qualify as an independent officer:

- (1) Individuals/entities whose principal business partner is Takuma\*1 and their officers\*2
- (2) Principal business partners of Takuma\*3 and their officers
- (3) Consultants, accounting experts, and legal experts who are receiving financial compensation or other assets in excess of a certain amount\*4 from Takuma, apart from executive compensation (If the entity receiving such assets is an organization such as a corporation or an association, then this criterion refers to individuals belonging to that organization.)
- (4) Individuals/entities that receive donations or aid in excess of a certain amount\*4 from Takuma, apart from executive compensation (If the entity receiving such assets is an organization such as a corporation or an association, then this criterion refers to individuals belonging to that organization.)
- (5) Major shareholders\*5 of Takuma and their officers

\*1: "Individuals/entities whose principal business partner is Takuma" refers to individuals and entities that earned at least 2% of their consolidated net sales during the most recent business year from Takuma.

\*2: "Officers" refers to managing directors, executive officers, and other personnel.

\*3: "Principal business partners of Takuma" refers to individuals and entities whose payments to Takuma constituted at least 2% of Takuma's consolidated net sales during the most recent business year.

\*4: "A certain amount" refers to at least JPY 10 million (for individuals) or at least 2% of gross sales (for organizations) during the most recent business year.

\*5: "Major shareholder" refers to an individual or entity that holds at least 10% of the total voting rights.

### 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 once a year. 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 FY2022 evaluation, the effectiveness of the Board of Directors was analyzed and evaluated from five perspectives: the body's composition, its operation, the responsibilities of its members, its overall effectiveness, and the operation of the Nominating & Compensation Advisory Committee, which was established with the goal of enhancing the Board's oversight function. 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 placing discussions on strategic themes from a medium- and long-term perspective and progress reports on the agenda for Board meetings.

At the same time, recognizing that the evaluation identified the need to ensure sufficient time for participants to review materials explaining proposed resolutions in advance, the Board will work to further boost its effectiveness by taking action such as distributing some materials earlier than in the past.

### 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.

<b>Fixed compensation</b>	Fixed compensation is set depending on the role and responsibilities of each position and paid on a monthly basis.
<b>Bonuses</b>	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).
<b>Stock compensation</b>	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 in May are used as target values in the evaluation.

### Non-monetary compensation and other 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 (FY2022)

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)	273	189	45	39	6
Director (Audit & Supervisory Committee member) (outside director)	54 (33)	54 (33)	-	-	6 (5)

\*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).

### 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. These 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.

Executive Profiles

(As of June 27, 2023)

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 Deputy Executive Manager of Project Center, Executive Officer of the Company  
 April 2014 Deputy Executive Manager of Project Center, Engineering Group and General Manager of Energy Engineering Department 1  
 June 2015 Executive Manager of Project Center, Engineering Group  
 April 2016 Director & Executive Officer of the Company  
 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 the operations and management of the Company. The Company proposes his re-appointment as a candidate for Director as it expects that he will play an appropriate role in determining important management matters and management supervision for the sustainable improvement of the corporate value of the Group utilizing this experience and knowledge.



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 the 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 Senior Managing Executive Officer and Executive Manager of the Engineering Group, which oversees engineering. He possesses abundant experience and knowledge regarding the 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  
 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, Executive Manager of Corporate Services Division  
 April 2021 Director and Managing Executive Officer (up to the present)  
 Executive Manager of Corporate Marketing Group and International Division  
 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 the 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 the operations and management of the Company.



Director & Managing 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 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  
 April 2022 Director & Managing Executive Officer (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 Managing 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 the 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, Corporate Planning and Administration Division, General Affairs Department, and Legal Affairs Department, and currently serves as a Standing Audit & Supervisory Committee Member.



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 of Kyoto University Law School  
 June 2019 Director (Audit & Supervisory Committee Member) of the Company (up to the present)  
 June 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)  
 April 2022 Visiting Professor of Kyoto University Law School (up to the present)  
 June 2023 Registered attorney (California, U.S.A.)

Ms. Tomomi Fujita is involved in the management of the law firm Innoventier as Partner while serving as Vice President of the Licensing Executive Society JAPAN and Visiting Professor at 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 an Outside Director who is an Audit & Supervisory Committee Member of the Company, she serves as an Outside Auditor for a listed company. She possesses knowledge of financial and accounting matters through her experience in these duties.



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. (currently Mizuho 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  
 June 2020 Standing Auditor, Yushu Building Co., Ltd. (currently Yushu Corporation)  
 June 2020 Director (Audit & Supervisory Committee Member) of the Company (up to the present)  
 June 2023 Representative Director and President, Yushu Corporation  
 Resigned, Yushu Corporation

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)  
 September 1984 Studied at graduate school of Economics, Brown University, U.S.A. (where he earned a master's degree)  
 May 1994 Director of Trade Research Office, Trade Policy Bureau, the Ministry of International Trade and Industry (currently the Ministry of Economy, Trade and Industry)  
 May 1995 Ministry of Foreign Affairs (seconded)  
 Counselor 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, the Ministry of Economy, Trade and Industry  
 September 2005 Trade Negotiator, Trade Policy Bureau, the Ministry of Economy, Trade and Industry  
 October 2007 Trustee, 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 Mitsu 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)  
 June 2007 Left Century Audit Corporation  
 July 2007 Representative, Endo Certified Public Accountant Office (up to the present)  
 June 2015 Outside Auditor, Sakurajima Futo Kaisha, Ltd.  
 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)  
 June 2023 Resigned, Outside Auditor, Sakurajima Futo Kaisha, Ltd.

After participating in the auditing of publicly listed companies as a certified public account 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.

Director's skills matrix

Name	Position at Takuma	Number of years serving as a director	Skill sets necessary for the Board of Directors of the Company							Attendance at Board of Directors meetings during FY2022	Attendance at Audit & Supervisory Committee meetings during FY2022	Attendance at Nominating & Compensation Advisory Committee meetings during FY2022
			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	8	●	●	●	●			17 of 17 (100%)	-	2 of 2 (100%)	
Tsuyohito Nishiyama	Director & Senior Managing Executive Officer	7	●		●			●	17 of 17 (100%)	-	-	
Hideki Takeguchi	Director & Senior Managing Executive Officer	7	●	●		●			17 of 17 (100%)	-	-	
Koji Tanaka	Director & Managing Executive Officer	6	●		●	●		●	17 of 17 (100%)	-	-	
Kunio Hamada	Director & Managing Executive Officer	2	●	●				●	17 of 17 (100%)	-	-	
Hiroshi Oishi	Director & Managing Executive Officer	2						●	17 of 17 (100%)	-	2 of 2 (100%)	
Keizo Masugi	Director (Audit & Supervisory Committee Member)	2						●	17 of 17 (100%)	18 of 18 (100%)	-	
Tomomi Fujita	Outside Director (Audit & Supervisory Committee Member)	4	●					●	17 of 17 (100%)	18 of 18 (100%)	2 of 2 (100%)	
Tetsuya Kaneko	Outside Director (Audit & Supervisory Committee Member)	3	●			●			17 of 17 (100%)	18 of 18 (100%)	2 of 2 (100%)	
Seiichi Nagatsuka	Outside Director (Audit & Supervisory Committee Member)	1			●	●			13 of 13 (100%)	13 of 13 (100%)	1 of 1 (100%)	
Masahiro Endo	Outside Director (Audit & Supervisory Committee Member)	1						●	13 of 13 (100%)	13 of 13 (100%)	1 of 1 (100%)	

\*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,  
Energy Plant Division

Mitsuaki Adachi

Managing Executive Officer  
Executive Manager,  
Project Center

Norio Maeda

Executive Officer  
Executive Manager,  
Engineering Center

Kiyoshi Shibata

Managing Executive Officer  
Executive Manager,  
Technology Center

Akira Taguchi

Managing Executive Officer  
Executive Manager,  
Construction Center

Keiji Nakamura

Executive Officer  
Deputy Executive Manager,  
Energy Plant Division

Masayuki Sugita

Managing Executive Officer  
Executive Manager,  
Environmental Plant Division

Hidetoshi Tomita

Executive Officer  
Executive Manager,  
Compliance & CSR Promotion Division

Yasushi Enomoto

Executive Officer  
Deputy Executive Manager,  
Construction Center

Junichi Hashimoto

Messages from Outside Directors



FY2023 is the final year of the 13th Medium-Term Management Plan (FY2021 to FY2023).

The world changed dramatically during FY2021 and FY2022 due to the COVID-19 pandemic and geopolitical developments including the crisis between Russia and Ukraine, but Takuma managed to listen seriously to its customers and steadily advance its business despite those challenges.

In addition, as the importance of initiatives addressing climate change, human capital, and diversity grows as part of a trend highlighted by the mandatory inclusion of sustainability disclosures in financial reports starting in FY2023, Takuma is actively tackling priorities in those areas in keeping with its Company Motto of "Value Technology, Value People, Value the Earth".

This fiscal year, we will continue to advance our businesses while resolving a variety of challenges as we work to achieve the goals set forth in the 13th Medium-Term Management Plan.

I believe that having an effective Board of Directors is an essential prerequisite in order to advance the company's business while operating it in an appropriate manner, and I am happy to report that Takuma's Board of Directors, which is comprised of people representing a variety of backgrounds, fosters animated discussions.

Evaluations of the Board's effectiveness and other tools have established that we are playing the functions expected of us, even as we strive to become a more effectively body.

I look forward to helping increase Takuma's corporate value by fulfilling my role as an outside director.

Tomomi Fujita  
Outside Director (Audit & Supervisory Committee Member)



When I became an outside director in 2020, the COVID-19 pandemic had just begun, with the result that many meetings were held online, and it was impossible for me to visit various sites as I had planned. Fortunately, I was able to deepen my understanding of the company during FY2022 as the number of real, in-person meetings grew, and I was able to visit some of the company's sites.

In particular, those site visits allowed me to come into direct contact with Takuma's extensive technological capabilities and dynamic energy, and I was also able to listen directly to some of the challenges faced by those sites. I feel that as I draw on the knowledge gained from site visits while participating in discussions by the Board of Directors and other bodies, I am able to offer frank opinions concerning the company's overall direction, the issues with which it is grappling, and the solutions being undertaken in a way that is consistent with my understanding of its worksites.

As the importance of the ESG perspective grows, I look forward to continuing to pour all my energy into thinking about how Takuma's technology can contribute most effectively and how it can increase the magnitude of that contribution. It may be necessary to promote Takuma's contribution to resolving environmental issues more assertively.

With the new TAKUMA Building (Training Center) opening, construction of the new Harima Factory reaching completion, and the number of mid-career hires growing, we are also focusing on bolstering Takuma's human resources. As we pursue numerous long-term projects, the benefits of those efforts will not appear in the company's performance numbers overnight, but I believe that the mission we have been given is to explore how we can leverage these investments most effectively so that they function to augment medium- and long-term growth. And I feel that Takuma has the ability to do that.

Tetsuya Kaneko  
Outside Director (Audit & Supervisory Committee Member)

## 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

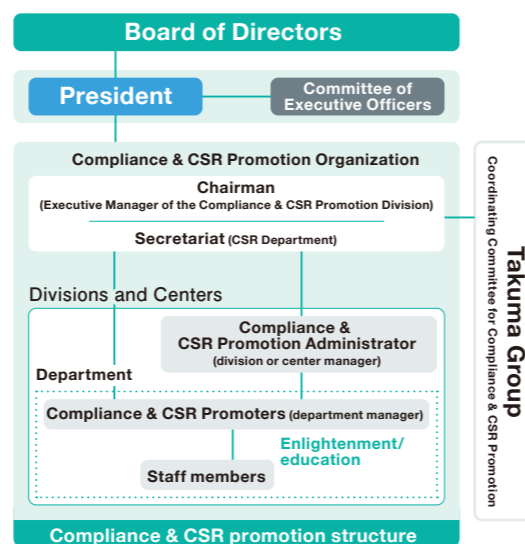
### Compliance & CSR promotion structures

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 & 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 five compliance and CSR promotion education sessions during FY2022. In addition, in October 2022, we invited an outside expert instructor to give an internal talk on CSR for executives.

- First session:** Insider Trading; Accident Reduction and Corporate Disaster Resilience
- Second session:** Learning about Unconscious Bias
- Third session:** Basics of Security Export Controls 2022
- Fourth session:** Corporate Scandals: Personal Corruption vs. Organizational Corruption
- Special training:** Preventing Harassment at Worksites and Takuma's Internal Reporting System

Number of sessions	Number of departments	Cumulative number of trainees
5 per year	49	6,074

#### CSR lecture for executives

Date	October 27, 2022
Lecture theme	Business and Human Rights, Environment, and Climate Change for Japanese Corporations and Their Response to ESG Issues
Lecturer	Japan Center for Engagement and Remedy on Business and Human Rights (JaCER) Representative Director Attorney at Law (Japan and New York, USA) Sakon Kuramoto

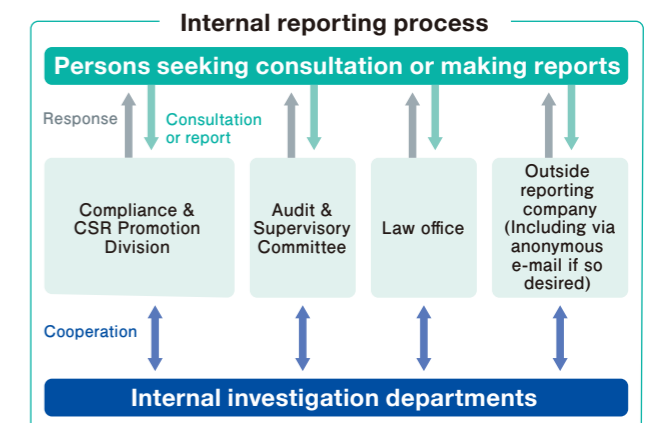


### Internal reporting system

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 hotline 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.