

List of Materialities, initiatives, and KPIs

	Materiality	Issue	Reason for selection	Risks and opportunities	Specific initiatives	KPI	Progress (FY2022)
E	Helping combat climate change	1. Promoting renewable energy (non-fossil energy) 2. Improving energy efficiency	We will help alleviate the global problem of climate change using the technology and expertise we have accumulated over more than 80 years.	<p>[Risks]</p> <ul style="list-style-type: none"> Accommodation of policies and regulations intended to realize a decarbonized society Changes in customer requirements, for example additional improvements in energy efficiency Reduction in support from policies, for example as a result of the review of the FIT program <p>[Opportunities]</p> <ul style="list-style-type: none"> Growth in the market for renewable energy and environmental businesses due to strengthening of environmental regulations Growth in energy usage demand for biomass (including waste, sewage sludge, and other resources) in order to alleviate climate change 	<ul style="list-style-type: none"> Supply of biomass power plants Supply of fuel conversion (biomass, RPF, etc.) boilers Supply of renewable energy and CO2-free power Reduction in CO2 emissions (energy consumption) by Takuma Improvement in energy efficiency at facilities Takuma operates on a contractual basis Proposal of energy efficiency improvements for customer facilities and equipment 	<p>1. Magnitude of potential reduction in CO2 emissions due to newly delivered power plants(*1)</p> <ul style="list-style-type: none"> FY2023: 800,000 tons per year FY2030: 2.5 million tons per year <p>2. In-house CO2 emissions reduction targets(*2,*3,*4,*5)</p> <ul style="list-style-type: none"> FY2023: Zero effective CO2 emissions from Scope 1 and Scope 2 at the Takuma Head Office and Harima Factory FY2030: Zero effective CO2 emissions from Scope 1 and Scope 2 at all Takuma domestic worksites (Head Office, branch companies, branches, factories, and construction sites) 	<p>1. Magnitude of potential reduction in CO2 emissions due to newly delivered power plants:</p> <p>184,000 tons per year(*6)</p> <p>2. In-house CO2 emissions:</p> <p>356 tons per year(*7) (Compared to FY2021 -1,616tons)</p>
	Conserving resources and protecting the environment	1. Conserving resources and reducing environmental impacts 2. Making effective use of unutilized resources	We will contribute to the effective use of unutilized resources and to the conservation of resources with Takuma technologies while helping make it possible to reduce environmental impacts and realize a Sound Material-Cycle Society.	<p>[Risks]</p> <ul style="list-style-type: none"> Reduction in domestic waste volume due to the shrinking of the population <p>[Opportunities]</p> <ul style="list-style-type: none"> Growth of appropriate treatment of waste and growth in demand for use of energy from waste in emerging nations Growth in expectations towards resource-saving and low-environmental-impact systems and the effective use of unutilized resources 	<ul style="list-style-type: none"> Supply of high-efficiency, low-environmental-impact Energy from Waste plants Supply of sewage sludge-fueled power plants Supply of advanced treatment sand filter systems Establishment of combustion technology for unutilized biomass Development of technology for reusing incineration ash Development of technology for recovering and using CO2 	<ul style="list-style-type: none"> FY2023: Zero effective CO2 emissions from Scope 1 and Scope 2 at the Takuma Head Office and Harima Factory FY2030: Zero effective CO2 emissions from Scope 1 and Scope 2 at all Takuma domestic worksites (Head Office, branch companies, branches, factories, and construction sites) 	<p>2. In-house CO2 emissions:</p> <p>356 tons per year(*7) (Compared to FY2021 -1,616tons)</p>
S	Strengthening relationships of trust with customers and communities	1. Pursuing customer satisfaction 2. Ensuring the stable, continuous operation of plants and equipment 3. Recycling local resources and creating new value for communities	We will help resolve issues facing customers and communities and strengthen relationships of trust by providing safe, high-quality products and services and undertaking initiatives that address local resource recycling.	<p>[Risks]</p> <ul style="list-style-type: none"> Loss of trust in the event Takuma fails to provide safe, high-quality products and services Shrinking budgets of local governments <p>[Opportunities]</p> <ul style="list-style-type: none"> Growth in demand for biomass power generation as a type of energy that can be produced and consumed locally Growth in expectations toward the creation of new value for communities, for example through disaster prevention facilities and energy centers Additional growth in the use of private-sector entities to provide government services 	<ul style="list-style-type: none"> Supply of products and services that satisfy customers Improvements in the quality of Takuma's operation and O&M businesses Increasing sophistication of maintenance service Initiatives addressing the Regional Circular and Ecological Sphere (Regional CES), regional use, and decentralized power supplies Initiatives such as PPP that address additional use of private-sector entities 		
	Pursuing partnerships and innovation	1. Utilizing digital technologies (AI, IoT, robots, etc.) 2. Developing open partnerships 3. Pursuing innovation	We will facilitate the supply of highvalue-added products and services by introducing digital technologies and expanding partnerships with outside companies.	<p>[Risks]</p> <ul style="list-style-type: none"> Opportunity loss due to lag in accommodating new technologies such as Artificial Intelligence (AI) and the Internet of Things (IoT) <p>[Opportunities]</p> <ul style="list-style-type: none"> Growth in demand for efficiency-boosting and labor-saving technologies in plant operation (remote monitoring and operation, data analysis, maximization of amount of power sold, etc.) Creation of revolutionary technologies and services as well as new business opportunities through the expansion of partnerships 	<ul style="list-style-type: none"> Increases in the added value of facilities and plants Strengthening of competitiveness in EPC operations, operation management, and maintenance service Pursuit of open innovation Pursuit of new businesses that contribute to the enhancement of existing businesses and services Development of technologies and products that are sought by society and customers 	<ul style="list-style-type: none"> Number of main career track and management positions filled by women: At least 35 (cumulative total for FY2021 to FY2025) Utilization of parenting support programs: At least 25% (average for FY2021 to FY2025) 	<ul style="list-style-type: none"> Number of main career track and management positions filled by women: 16 (cumulative total for FY2021 to FY2022) Utilization of parenting support programs: 35% (average for FY2021 to FY2022)
	Promoting activities of human resources	1. Securing, and training human resources 2. Promoting diversity 3. Improving employee satisfaction	Putting in place an environment in which all employees can make the most of their abilities is essential in order to facilitate the company's growth and strengthen its competitiveness.	<p>[Risks]</p> <ul style="list-style-type: none"> Reduction in competitiveness due to a shortage of employees with specialized skills Discontinuity in the passing down of skills as highly experienced employees reach retirement age and leave the workforce <p>[Opportunities]</p> <ul style="list-style-type: none"> Strengthening of competitiveness through human resources development and management that promotes diversity 	<ul style="list-style-type: none"> Hiring of new graduates and mid-career employees Development of optimal human resources programs in response to social changes Development of an effective training system Active hiring of diverse human resources and development of career support programs 	<ul style="list-style-type: none"> Number of fatal accidents: 0 	<ul style="list-style-type: none"> Number of fatal accidents: 0 (FY2022 Actual)
	Ensuring safety and health	1. Ensuring occupational safety and health 2. Managing employee health 3. Creating a comfortable working environment	Safeguarding the physical and mental health of workers and building a comfortable working environment helps create a stable foundation for Takuma's value creation activities.	<p>[Risks]</p> <ul style="list-style-type: none"> Reduction in productivity and social trust due to problems involving the safety and health of employees and affiliates (loss of order opportunities due to the occurrence of serious occupational accidents, etc.) <p>[Opportunities]</p> <ul style="list-style-type: none"> Improvement in productivity and strengthening of competitiveness through improvements in the workplace labor environment 	<ul style="list-style-type: none"> Reduction in the occurrence of occupational accidents Prevention of health problems and rectification of overwork Implementation of workstyle reforms 		
G	Strengthening corporate governance	1. Strengthening corporate governance 2. Strengthening risk management 3. Ensuring compliance	Strengthening corporate governance both supports companies' stable growth and helps avoid and reduce losses and other adverse events by making possible the organizational management of risk.	<p>[Risks]</p> <ul style="list-style-type: none"> Reduction in business sustainability due to a lack of appropriate decision-making Cessation of business due to violations of competition or environmental law or regulations on conduct such as corruption, and associated reduction in social trust <p>[Opportunities]</p> <ul style="list-style-type: none"> Improvement in the ability to create value along with avoidance and reduction of risk as a result of strengthened corporate governance 	<ul style="list-style-type: none"> Sustained improvement through practices such as evaluations of the effectiveness of the Board of Directors Continued conduct of appropriate internal audits Additional improvement in the effectiveness of risk management activities Even more thorough project risk management Implementation and ongoing reassessment of Business Continuity Planning (BCP) Ongoing implementation of compliance education 	<ul style="list-style-type: none"> Number of serious compliance violations: 0 	<ul style="list-style-type: none"> Number of serious compliance violations: 0 (FY2022 Actual)

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

(*2) The Scope 1 target includes offsets using environmental value such as J-credits.

(*3) The Scope 2 target is calculated using post-adjustment emission factors.

(*4) FY2030 targets including group companies remain under consideration.

(*5) CO2 emissions from procured products and use of Takuma products by customers (Scope 3) also remain under consideration.

(*6) Calculated based on the amount of electricity (renewable energy) that can be generated at plants delivered in FY2021-2022 (four waste treatment, one sewage sludge, and ten biomass plants) from the month following delivery.

(*7) Scope 1 and Scope 2 at the Takuma Head Office and Harima Factory