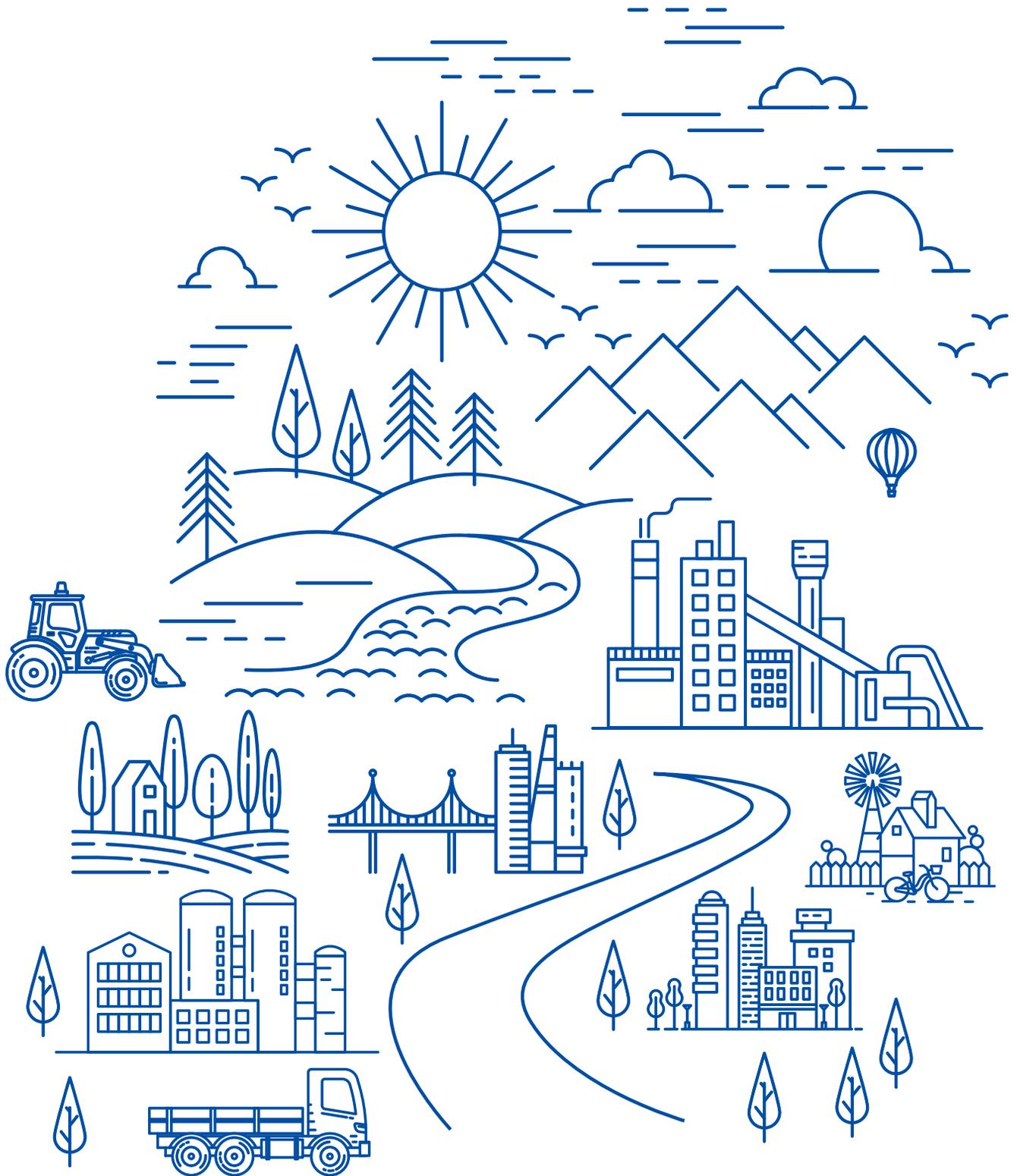


# CSR REPORT

# 2019

TAIHEIYO CEMENT CORPORATION  
Corporate Social Responsibility  
Report 2019



TAIHEIYO CEMENT CORPORATION

## Commitment of Top Management

### Addressing Social Issues and Pursuing the Group- wide Future Vision for Continuing Growth

#### Masafumi Fushihara

President and Representative Director  
Taiheiyo Cement Corporation

*Masafumi Fushihara*

#### Promoting the 20 Medium-Term Management Plan by Focusing on the Management of People

The Future Vision and Direction for the mid-2020s is to be an enterprise group capable of providing a sense of safety and security to communities in the Pacific Rim by demonstrating the group's overall capabilities. To achieve the Future Vision we have been following three strategic steps in order to steadfastly implement the plan. The first of these was the 17 Medium-Term Management Plan (fiscal 2015-2017), allowing us to achieve a stronger financial structure, with a focus on the future, for the entire group.

I assumed the office of the president of Taiheiyo Cement Corporation in fiscal 2018, the first year of the 20 Medium-Term Management Plan. At the time cement demand in Japan was strongly driven by the start of construction work for the Tokyo Olympics and Paralympics as well as brisk investment in urban redevelopment. However, we also faced unexpectedly high coal prices and transportation costs. These we handled by gaining the understanding of our customers and negotiating fair cement prices and, in doing so, we were able to maintain profits at the same level as in the previous year. In our international business, we were able to increase sales and profits due to mild economic growth in the U.S. and growing demand in Vietnam and the Philippines. The overall results of the first year of the 20 Medium-Term Management Plan were satisfactory.

One principal theme of our 20 Medium-Term Management Plan is how to best develop business based on a stronger business foundation, a significant achievement of the previous medium-term management plan. In this context, I would like to focus on managing our human resources as an essential driver for business operations. The attitudes and lifestyles of working people are significantly diversifying in anticipation of the severe labor shortage on the horizon. The group must transform into an organic organization that allows diverse people to demonstrate their abilities fully. Consequently, we will improve labor productivity and establish comfortable workplaces by improving workstyles and employee health.

### **Examining What Remains to Be Done in Japan**

We set a goal in the 20 Medium-Term Management Plan to invest 120 billion yen in growth areas. To achieve this every business division is discussing how to proceed with the investments. The extent to which we achieve our goal will determine our future. To identify the fields in which we will invest I visited our plants in Japan and abroad and encouraged everyone to engage in conversations and raise up their ideas for achieving growth that fully leverage the characteristics of each plant. Particularly in our domestic business, we must thoroughly explore fields other than cement that have potential for continued growth. I believe we will discover such seeds in the boundaries between conventional business categories such as cement, environmental, mineral resources and construction materials. Opportunities may also be found in a combination of businesses. Our immediate task is to confirm these possibilities thoroughly by uniting member capabilities across group companies.

A stronger international business is absolutely essential for sustainable growth. Beyond re-examining our business site strategy focused on the Pacific Rim, we must increase the deployment of human resources and our R&D activities by fully leveraging the close relationships across the group. I am confident the Taiheiyo Cement Group will become stronger by consolidating its employees and R&D activities as well as its financial results.

### **Promoting CSR to Strengthen Our Management Foundation**

The group has established quantitative targets in the areas of (1) Prevention of accidents, (2) Reduction of greenhouse gas emissions, and (3) Workplace diversity as CSR Objectives for 2025 and incorporated them into the 17 Medium-Term Management Plan. We will continue to pursue CSR Objectives for 2025 in the 20 Medium-Term Management Plan.

In preventing accidents, we have adopted such safety measures as strict compliance with the “promise of seven safety principles.” As a result, we achieved zero fatalities\* in fiscal 2018. Our perennial challenge is to create a safety culture that secures the happiness of our employees and their families, and so we will continue to focus on safety.

With regard to reducing greenhouse gas emissions, recent efforts toward realizing a decarbonized society have surfaced as a major challenge in the public’s perception, putting the cement industry under scrutiny due to the significant volume of CO<sub>2</sub> it emits during production processes. Against this backdrop, we declared our support for the Task Force on Climate-related Financial Disclosures (TCFD) in June 2019. In order to maintain our essential role in society for the long-term we will advance the development of new technologies such as recovering CO<sub>2</sub> as part of our growth strategy and setting a goal of achieving an 80% reduction in CO<sub>2</sub> emissions associated with cement production by 2050.

In terms of diversity, as stated as a key focus in the 20 Medium-Term Management Plan, we will continue to promote people-oriented management. We will recruit and retain excellent human resources regardless of nationality or gender. Also, we will focus on developing global human resources.

### **Being a Company that Society Can Always Depend on**

The Taiheiyo Cement Group is committed to creating a sustainable society through sustainable growth focused on the cement business and developing the advanced technologies required for a safe and secure future. On the other hand, we must free ourselves from the attitude that we can do everything on our own. The perspective we must adopt for the times ahead requires extensive collaboration across the group, partnership with diverse industries and harmony with society to achieve our common goal for a sustainable society. Through these efforts we will be able to remain a company recognized and trusted by stakeholders, seize the initiative in relation to our ESG commitment, and achieve the SDGs as our contribution to society.

\*Boundary of data: employees of the group and our contractors in each of the group’s business sites, including those overseas.

## Mission of the Taiheiyo Cement Group » GRI 102-16 Relevant indicators of the GRI Standards are shown next to titles in the report.

Our mission is to contribute to social infrastructure development by providing solutions that are environmentally efficient, enhance our competitive position and bring value to our stakeholders.

## Business Principles Governing the Way the Company Conducts Business » GRI 102-16

- We are committed to creating sustainable value for our shareholders by generating synergies among the Taiheiyo Cement Group of companies.
- We aim to manage the environmental impact of our operations while supporting the development of a recycling-based society.
- We will act in an ethical manner and abide by the laws and regulations of those countries in which we operate.
- We will openly communicate with our stakeholders and proactively report on our business activities in a transparent manner.
- We are committed to the ongoing development and application of innovative technologies in order to provide products and services that benefit our customers and society.
- We are committed to maintaining an international outlook and conducting our business in accordance with global standards.
- We will strive to anticipate the changing business environment to assess new opportunities for growth.
- We are committed to achieving our full potential through training and self-development.
- We are devoted to providing a safe and healthy working environment where our employees are valued and the human rights of all individuals involved in our business are respected.

Under the Mission of the Taiheiyo Cement Group, which was established in June 2002, the company pledges to focus its management on the triple bottom line, the economy, the environment and society, to realize sustainable development, a shared principle of the WBCSD of which we are a member. In December 2002 we formulated the Business Principles of Taiheiyo Cement, which comprise nine principles for realizing the Mission of the Taiheiyo Cement Group, and are striving to implement them.

# Contents

<b>Top Commitment</b> .....	02
Mission of the Taiheiyo Cement Group, Business Principles, and Contents .....	04
Review of Operations at the Taiheiyo Cement Group .....	06
Business Operations and Material Issues of the Taiheiyo Cement Group .....	08
<b>Fifteenth Stakeholder Dialogue</b> With the Transition to a Sustainable Society, How Should We View Environmental and Social Risks? .....	14
<b>Special Feature: The Oita Plant</b> A Cement Plant to Support Social Infrastructure for the Next 100 Years .....	16

<b>Our Commitment to:</b>	
<b>Management</b> .....	22
<b>The Environment</b> .....	34
<b>Collaborating with Society</b> .....	50
WBCSD-CSI and GCCA Key Performance Indicators .....	70
Independent Assurance Report on WBCSD-CSI and GCCA Key Performance Indicators .....	71
Editorial Policy, Scope and Boundaries of this Report, Reporting in Accordance with the GRI Standards, and Contact Information .....	72
Third-Party Opinion .....	73

## Future of the Taiheiyo Cement Group » GRI 103-1, 2

Vision and direction targeting the mid-2020s

To become an enterprise group that utilizes all of its capabilities to provide a sense of safety and security to society in the Pacific Rim region.

### CSR Objectives for 2025



#### I. Prevention of Accidents

Fatalities: **0**



#### III. Workplace Diversity

Ratio of female to male employees among new hires at least: **30** %

Ratio of female to male employees at least: **10** %

Ratio of newly appointed female to male managers at least: **10** %



#### II. Reduction of Greenhouse Gas Emissions

Reduce by at least: **10** %

\*Specific net CO<sub>2</sub> emissions per tonne in comparison to fiscal 2000 levels  
Scope of Implementation

- I. Employees of the Taiheiyo Cement Group including overseas business sites and contractors
- II. Cement production sites of Taiheiyo Cement and group companies, including overseas sites  
Non-consolidated
- III. Non-consolidated (including employees on loan to group companies and other companies)

## Framework Formulated for Our Long-range Vision of Greenhouse Gas Emissions Reduction » GRI103-2

Reducing CO<sub>2</sub> emissions in cement production

Long-term goal: **80** % reduction by 2050

Contributing with cement products to avoid CO<sub>2</sub> emissions

Long-term goal: contribute to avoiding emissions equivalent to **20** % of the CO<sub>2</sub> emissions in cement production

The Oita Plant

### CSR Objectives for 2025

Area	Target (by FY2025)	Policy for Achieving the Target	Scope of Implementation
I 	Zero fatalities	(1) Promote safety activities that ensure all employees of the group, affiliated companies and contractors can independently implement PDCA cycles within each company. (2) Improve working environments to eliminate incidents of workers being caught by or dragged into equipment or falling.	Employees of the Taiheiyo Cement Group including overseas business sites and contractors
II 	Reduce the specific net CO <sub>2</sub> emissions per tonne of cementitious product by at least 10% from fiscal 2000 levels by fiscal 2025.	(1) Further contribute to creating a recycling-based society. • Promote the global expansion of our recycling technologies for producing cement with conventional waste and by-products. • Promote the development of technologies for handling wastes that are difficult to recycle, with a focus on reusing them as alternative energy resources. (2) Promote further energy saving. • Introduce energy efficient equipment and install additional in-house power generation equipment such as waste heat power generation systems. • Promote further energy saving by adopting renewable energy sources. (3) Promote R&D activities that contribute to reducing global environmental impact, including R&D into innovative cement production technologies. • Promote the development of new technologies for practical applications.	Cement production sites of Taiheiyo Cement and group companies, including overseas sites
III 	• Increase the ratio of female to male employees under "G Course" (employees without work location restrictions) categories to at least 30%. • Build an appropriate portfolio of human resources by increasing the ratio of female to male employees to at least 10%. • Promote the appointment of female employees to management positions with the objective of raising the ratio of newly appointed female managers to 10%.	(1) Build an appropriate portfolio of human resources and actively promote attraction and retention strategies for recruiting and retaining talented women, while also implementing initiatives to achieve this goal. (2) Improve productivity and promote work-life balance management toward building an organization in which a variety of human resources can fully demonstrate their abilities in the workplace, while also implementing initiatives to achieve this goal.	Non-consolidated (including employees on loan to group companies)

## Review of Operations at the Taiheiyo Cement Group

» GRI 102-1, 3, 4, 5, 6, 7, 8, 10, 45, 103-2, 3, 201-1, 401-1, 405-1

### Taiheiyo Cement Profile (as of March 31, 2019)

Company name	TAIHEIYO CEMENT CORPORATION
Established	May 3, 1881
Capital	86.2 billion yen
Headquarters	Daiba Garden City Building, 2-3-5, Daiba, Minato-ku, Tokyo 135-8578, Japan
Number of employees	Consolidated: 13,083 Non-consolidated: 1,760 (excluding employees on loan to group companies)
Net sales	Consolidated: 916 billion yen Non-consolidated: 329.5 billion yen
Subsidiaries	192 (including 119 consolidated subsidiaries and 6 equity-method subsidiaries)
Affiliates	103 (including 37 equity-method affiliates)

#### Headquarters/Branches

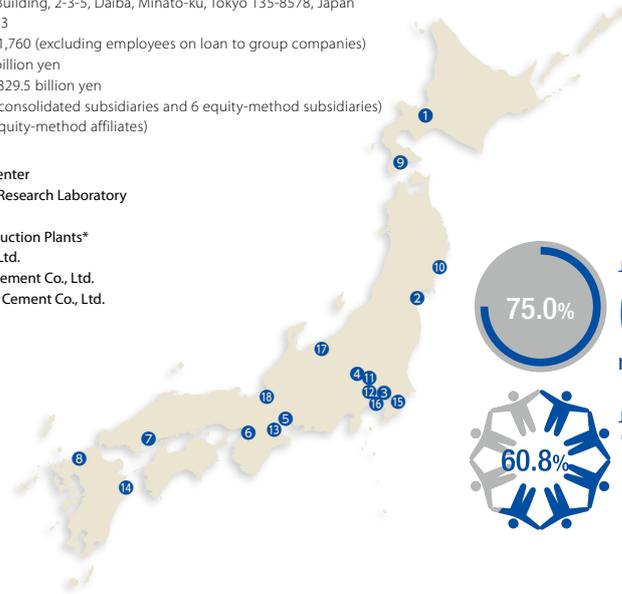
- ① Hokkaido Branch
- ② Tohoku Branch
- ③ Headquarters/Tokyo Branch
- ④ Kanto Branch
- ⑤ Chubu Hokuriku Branch
- ⑥ Kansai Shikoku Branch
- ⑦ Chugoku Branch
- ⑧ Kyushu Branch

#### Research Center

- ⑨ Central Research Laboratory
- Group Production Plants\*
- ⑩ DC Co., Ltd.
- ⑪ Myojo Cement Co., Ltd.
- ⑫ Tsuruga Cement Co., Ltd.

#### Cement Plants\*

- ⑬ Kamiiso Plant
- ⑭ Ofunato Plant
- ⑮ Kumagaya Plant
- ⑯ Saitama Plant
- ⑰ Fujiwara Plant
- ⑱ Oita Plant



Japan: Net sales (consolidated, fiscal 2018)

**687,422**  
million yen



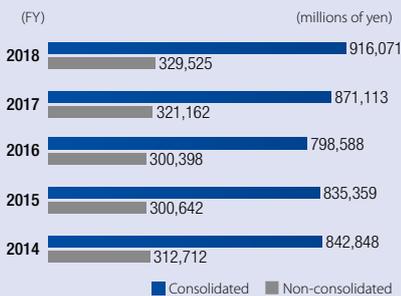
Japan: Number of employees (consolidated, fiscal 2018)

**7,958**  
Male 6,916  
Female 1,042

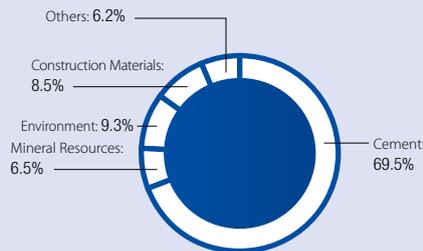
### Financial Data

#### Economy

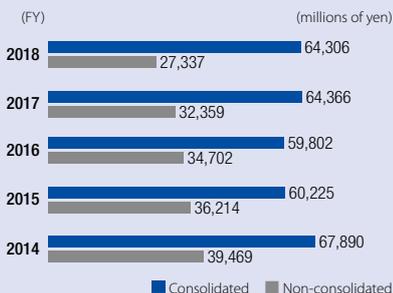
##### Net Sales



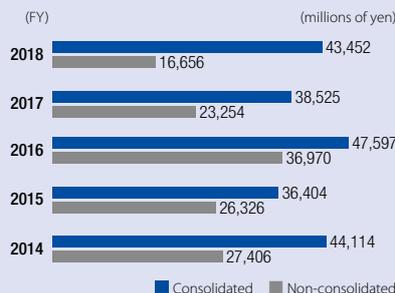
##### Net Sales by Segment (Consolidated, Fiscal 2018)



##### Ordinary Income



##### Profit Attributable to Owners of Parent (Consolidated), Net Income (Non-consolidated)

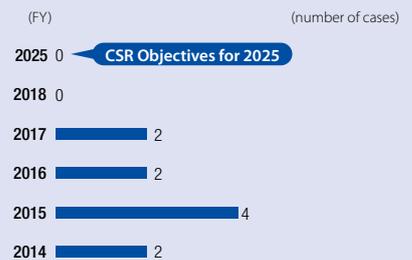


### Non-financial Data

(Detailed data of reporting organizations are provided on page 72.)

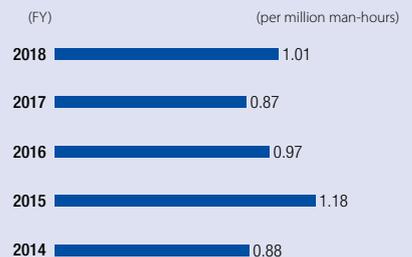
#### Safety

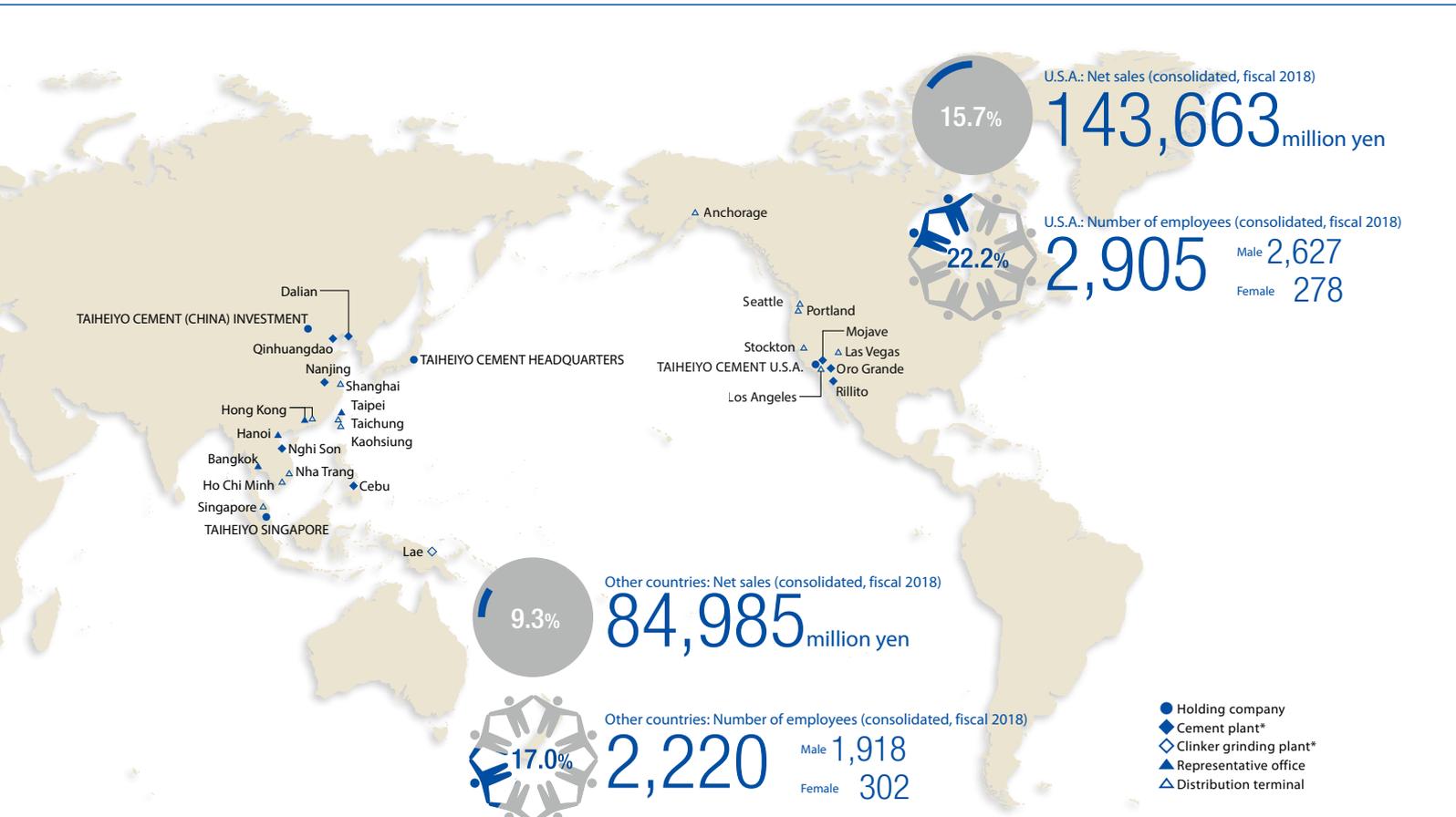
##### Number of Fatalities



##### Lost Time Injury Frequency Rate

WBCSD | GCCA

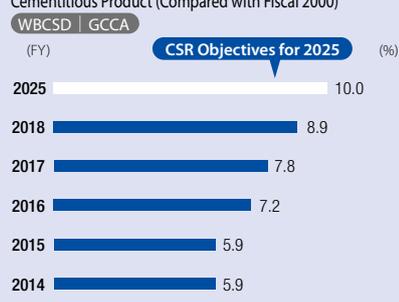




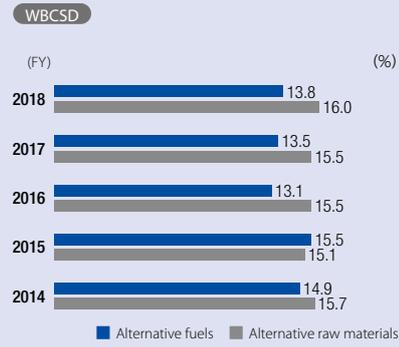
\*Business locations where data for WBCSD-CSI and GCCA KPIs are collected (fiscal 2018)

## Environment

Reduction Rate of Specific Net CO<sub>2</sub> Emissions per Tonne of Cementitious Product (Compared with Fiscal 2000)



Ratio of Alternative Raw Materials and Fuels



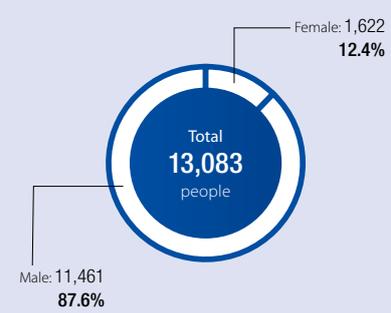
## Diversity

Ratio of Female to Male Employees (Non-consolidated)



\*Including employees on loan to group companies.  
 \*The data is collected retroactively from the past fiscal years to ensure uniformity across all fiscal years.

Number of Employees by Gender (Consolidated)



## Management Plan

### Fundamental Policies

To become an enterprise group that anticipates future changes in the business environment and seeks innovations on all fronts, thereby advancing along a pathway of growth.

To commit to national resilience as a member of the social infrastructure industry by contributing to the establishment of a sense of safety and security in society through the stable provision of high-quality products and solutions as well as the development of advanced technology.

To push ahead with the strengthening of our earnings base for businesses and further improve our financial structure through exhaustive cost reductions as well as by actively executing investments in promising fields that will contribute to the Group's sustainable growth.



**Establish a solid business foundation.**

### CSR Objectives for 2025

Disaster prevention, Reduction of greenhouse gas emissions, Diversity

### Outline of the 20 Medium-Term Management Plan (FY2018-FY2020)

Management Targets	FY2018 results	Target for FY2020
Operating income on sales	7.2%	9% or more
ROA (Ordinary Income)	6.3%	8% or more

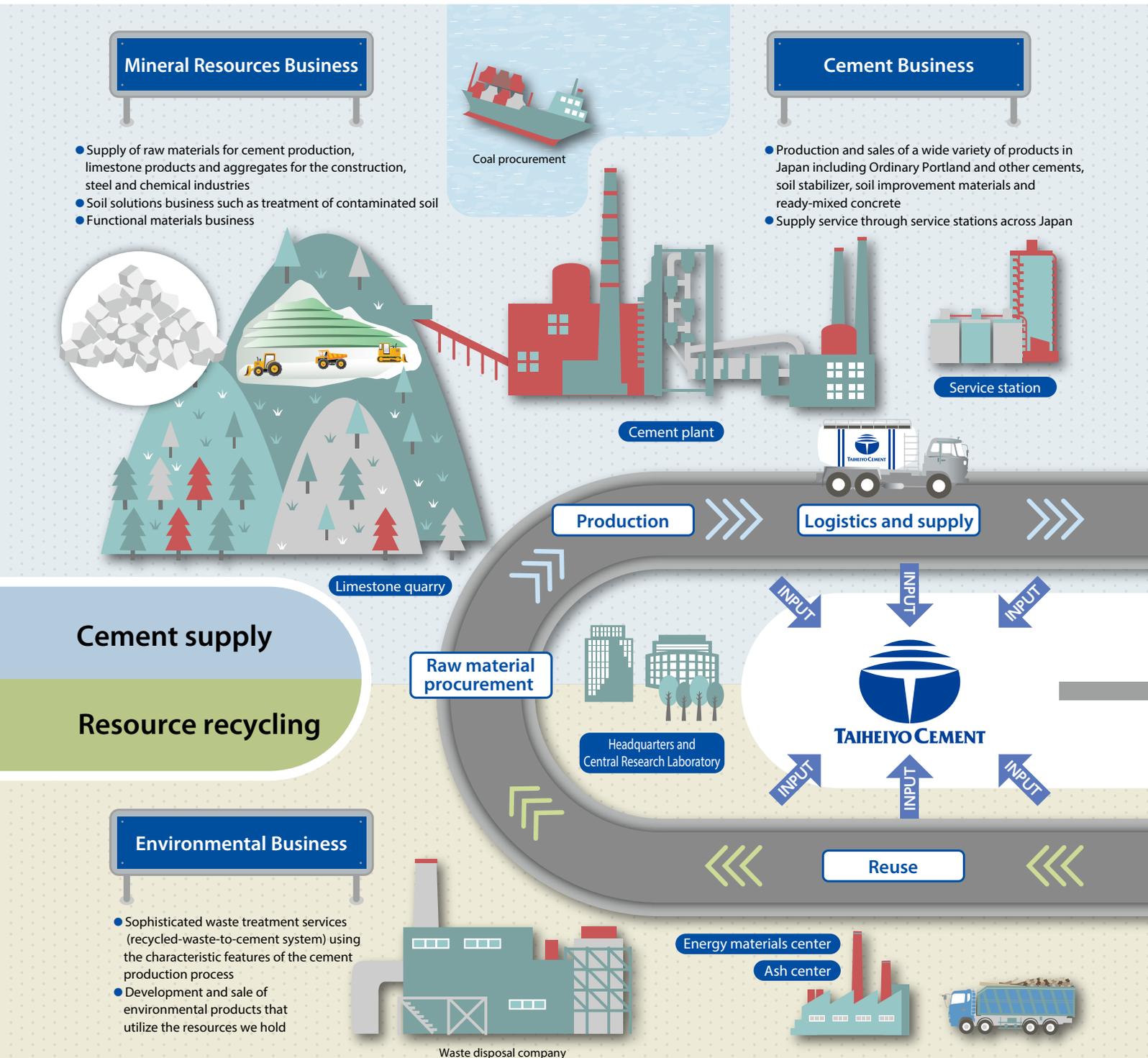
# Business Operations and Materiality

## Business Operations and Material Issues of the Taiheiyo Cement Group

» GRI 102-2, 9, 11, 15, 29, 32, 40, 42, 43, 44, 46, 47, 103-1, 2, 3, 201-2, 203-1

The cement industry has two major social roles. One is to ensure a stable supply of base materials for building social infrastructure, and the other is to take advantage of cement production technology to encourage the circulation of resources in society through the safe recycling of wastes and by-products as alternative raw materials and fuels for cement.

The social value Taiheiyo Cement Group seeks to create under its growth strategy calls for performing these two social functions in the Pacific Rim region, providing a sense of safety and security, and thereby contributing to sustainable development.



# STEP 01 | Identification of Issues

We organized our environmental and social issues based on an overview of our value chain.

## International Business

- Cement, ready-mixed concrete and aggregates business around the Pacific Rim
- Solutions for saving energy and reducing environmental impact that incorporate our cement production technologies



## Other Business

Real estate business

Information processing business

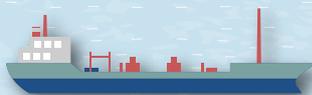
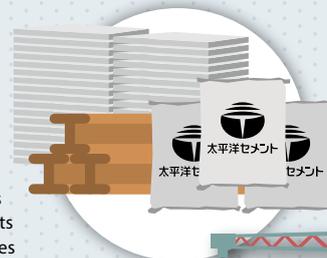
Transportation and warehousing business

Engineering business

and others

## Construction Materials and Building Construction & Civil Engineering Business

- Manufacture and sales of a wide variety of construction materials
- Manufacture and sales of cement-related and concrete products
- Civil engineering work such as ground improvement projects
- Diagnostic and repair services for existing concrete structures



Construction site

Ready-mixed concrete plant

Sea transportation



### OUTPUT

Cement supply

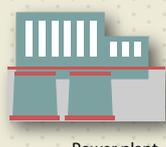
Recycling waste and by-products

### OUTCOME

Building safe and secure social infrastructure

Creating recycling-oriented society

Use



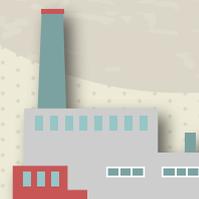
Power plant



Steel mill



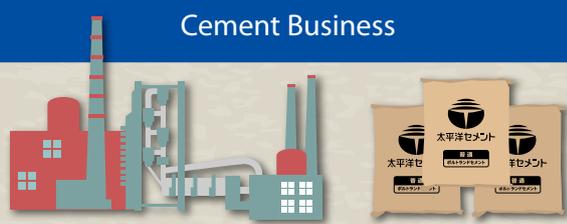
Water supply and drainage treatment plant



Waste incineration plant



## Social Contribution and Initiatives by Segment and Relevant SDGs ( STEP 01 )

	Cement Business	Mineral Resources Business
	 <p><b>Products and Services</b> We contribute to the building of safe and secure social infrastructure by supplying a variety of high-quality construction materials.</p> <p><b>Initiatives through our Business Operations</b> We contribute to the protection of the global environment and the creation of a recycling-based society through the use of waste and by-products that are difficult to recycle in other industries as alternative raw materials and fuels for cement. Before accepting any waste or by-products we conduct environmental impact assessments and, under strict regulations governing their use, we ensure the stable operation of our cement plants and avoid the discharge of pollutants. Moreover, waste is stored in fully enclosed facilities inside our plants so that odor cannot escape into the surrounding areas.</p> <ul style="list-style-type: none"> <li>● <b>Manufacturing:</b> To maintain highly reliable product quality, we have implemented a quality management system in accordance with ISO 9001. We work to ensure that our cement production kilns are being safely operated and install equipment to protect the environment, including energy-saving equipment to maximize energy efficiency and equipment to reduce air polluting emissions. We also measure emissions of pollutants and then disclose the results.</li> <li>● <b>Sales:</b> We place the highest priority on customer satisfaction and quickly and effectively respond to customer requirements through the collaboration of sales and technical staff and each business unit.</li> <li>● <b>Technical divisions:</b> We conduct a wide range of activities, such as responding to customers' technical requests related to product use, and providing support for improving customers' technical capabilities as well as quality assurance.</li> <li>● <b>Cement plants:</b> We communicate with the local population and contribute to their lives by holding community briefings on plant operations, offering worksite tours, making our facilities available for public use and participating in local festivals and events.</li> </ul>	 <p><b>Products and Services</b> In addition to supplying essential raw materials and minerals for the manufacturing and construction industries, we also provide products and services that meet environmental needs. These products and services include the recycling of construction soil as raw materials and fuels for cement, and solutions such as DENITE® for treating contaminated soil that is difficult to recycle. DENITE® is a heavy metal immobilization product for the effective treatment of contaminated soils. Furthermore, we produce and sell a material for LEDs called ChiccaLight® and high-purity silicon carbide which is a single crystal material for power semiconductors.</p> <p><b>Initiatives through our Quarry Operations</b> In quarry operations, representing our core business, we strive to ensure safety and reduce environmental impact during all stages, from development to closure. Specific efforts vary by quarry and site location. In consideration of the environment, we endeavor to prevent pollution associated with quarry operations such as air and water pollution, noise and vibration. We also promote the greening of quarries by soil dressing and tree planting. For support and advice on quarry's safety, we set up a working group that includes outside experts as needed and we continue to maintain stable conditions at old quarry sites, deposited soil sites and quarry slopes. In addition to these efforts, we leave the perimeter of the quarry intact which works effectively as a raised embankment to protect the scenery at some locations. With regard to our efforts to conserve biodiversity we have been successful in the preservation and growth of rare plant species by using biotechnology.</p>
		
Research and Development	<p><b>Cement segment</b></p> <ul style="list-style-type: none"> <li>● Development of our innovative quality predictive system with a focus on maintaining and improving product quality.</li> <li>● Promotion of R&amp;D activities, such as lowering costs, protecting the environment, saving energy and reducing CO<sub>2</sub> emissions in the production of cement.</li> </ul> <p><b>Concrete segment</b></p> <ul style="list-style-type: none"> <li>● Promotion of our "Concrete Solution Menu" to provide useful information to each user through a dedicated website utilizing the technical data we have accumulated.</li> <li>● Focus on R&amp;D activities on cement-based materials with the world's highest strength</li> <li>● Development of diagnostic and repair technologies that contribute to ensuring the safety and security of infrastructure.</li> <li>● Striving to expand the use of concrete as a pavement material.</li> </ul>	<ul style="list-style-type: none"> <li>● Development of functional materials that add value to the mineral resources we hold, such as hollow spheres and ultra-high-purity silicon carbide.</li> <li>● R&amp;D activities on immobilizing agents, a technology for treating contaminated soil.</li> </ul>

## Key Stakeholders' Expectations and Demands Related to CSR Issues ( STEP 01 )

We strive to fulfill our responsibilities in response to the expectations and demands of stakeholders while directly and indirectly maintaining sound relationships with them. Listed right are the Taiheiyo Cement Group's key stakeholders, identified through consideration of our business characteristics and environment.

	Stakeholders	Major Opportunities for Engagement
Shareholders	Shareholders, investors and financial institutions	● Publication of various reports (financial statements, annual reports and CSR reports, etc.) ● Website and IR site ● IR activities ● Response to surveys
Customers	Sales agents, ready-mixed concrete companies, ordering parties and waste disposal companies	● Sales contact at the head and branch offices ● User societies and industry associations ● Technical journal and product catalogue ● Technical workshop ● Website
Employees		● Labor-management consultation and briefing sessions ● Training programs ● Setting up contact points for consultation and whistleblowing ● Website and intranet ● In-house newsletter ● CSR report
Society	Local communities in which we do business	● Briefing sessions, debriefing sessions, tours and environmental monitoring system ● Social contribution activities ● CSR reports ● Dialogue
	Local governments	● Notifications to local governments ● CSR reports ● Dialogue
	NGOs and NPOs	● Meetings and gatherings ● Surveys ● Dialogue ● Social contribution activities
Suppliers	Business partners (procurement)	● Procurement briefing sessions
	Partner companies (facilities operation)	● The Health and Safety Cooperative Committee

Environmental Business	Construction Materials and Building Construction & Civil Engineering Business	International Business
		
<p><b>Products and Services</b></p> <p>Our recycled-waste-to-cement system enables us to safely recycle large volumes of various waste and by-products generated in other industries. By recycling waste and by-products as resources we not only extend the lifetime of landfills but also help prevent natural resource depletion and reduce environmental impacts.</p> <p>In the environmental product business we contribute to the creation of a recycling-based society by recycling resources, using a recycling system in which we not only sell limestone to thermal power stations as a flue-gas desulfurization material but also receive the gypsum generated by the power stations as a by-product, which we then use as raw material for cement.</p> <p>We are also expanding our environmental business in the area of water filtration and purification by consolidating water-related technologies across the group to address environmental issues.</p> <p><b>Initiatives through our Business Operations</b></p> <p>As a company engaged in the environmental business we also aim for good relationships with business partners and local communities and secure their trust by focusing on compliance and managing risk and safety matters. In order to safely handle waste we follow our manual for its acceptance and use and make sure that the waste has no adverse impact on the cement production process, on accident prevention or on environmental protection.</p>	<p><b>Products and Services</b></p> <p>We manufacture and sell construction materials and also install them as a contractor for various construction site needs.</p> <p>In the field of construction materials we deal in cement-related products such as high-performance premix products and additives for concrete and concrete products, including autoclaved lightweight concrete (ALC) panels and paving blocks. We also conduct sales using the distribution network developed by the group.</p> <p>In our building construction and civil engineering business we perform ground improvement projects and seismic retrofitting projects. We have also been conducting diagnostic and repair services to extend the life of concrete structures. Through these activities we contribute to the long-term safe and secure use of social infrastructure.</p>	<p><b>Products and Services</b></p> <p>In the overseas market, blended cement incorporating slag and fly ash dominates the market due to strict environmental regulations. We expanded the capacity of the silo for blended cement in our Singapore cement terminal, allowing us to produce and store cement suitable for each local quality standard as well as the usage environment to meet the international market needs. We are also focusing on the cement trading business, including the export of cement produced at our domestic and overseas plants and triangular trade, capitalizing on our international distribution network.</p> <ul style="list-style-type: none"> <li>● <b>U.S.:</b> Our operations include cement manufacture, ready-mixed concrete, aggregates and more on the West Coast.</li> <li>● <b>China:</b> We operate three core joint venture companies for the production and sale of cement. We intend to expand our business operations, including in the energy saving and environmental business, while drawing upon our cement production technologies.</li> <li>● <b>Southeast Asia:</b> We manufacture cement and produce ready-mixed concrete from our operations in Vietnam, we manufacture cement in the Philippines, operate an imported clinker grinding business in Papua New Guinea, and are involved in the purchase and sale of mineral products as well as other businesses in Thailand.</li> </ul>
		
<ul style="list-style-type: none"> <li>● Development of technologies for recycling waste that is difficult to recycle and recovering rare materials.</li> <li>● Development of water-related technologies such as for wastewater purification and phosphorus recovery.</li> <li>● Development of technologies for removing materials contaminated by radiation.</li> </ul>	<ul style="list-style-type: none"> <li>● Proceeding with an initiative to serve as a center for generating synergies across the group's R&amp;D activities.</li> </ul>	<ul style="list-style-type: none"> <li>● We are developing a system to design, specify and provide cement and concrete to meet local market requirements under our globalization/localization ("glocalization") initiative as well as to provide technical support in the area of environmental protection and reduced environmental impact.</li> </ul>

Stakeholder Expectations and Demands

Economy	Environment	Society
<ul style="list-style-type: none"> <li>● Management stability and growth potential</li> <li>● Stable redistribution of profits</li> <li>● Information disclosure</li> </ul>	<ul style="list-style-type: none"> <li>● Effective allocation of management resources</li> <li>● Information disclosure</li> </ul>	<ul style="list-style-type: none"> <li>● Effective allocation of management resources</li> <li>● Information disclosure</li> </ul>
<ul style="list-style-type: none"> <li>● Stable supply of products</li> <li>● High value-added products</li> <li>● Improved economic efficiency of waste disposal</li> </ul>	<ul style="list-style-type: none"> <li>● Provision of environmental products</li> <li>● Reduced environmental impact from waste treatment</li> </ul>	<ul style="list-style-type: none"> <li>● Maintaining product quality and safety</li> <li>● Provision of information on product use</li> <li>● Technical support for product use</li> <li>● Response to complaints</li> <li>● Improved resource circulation in the community</li> </ul>
<ul style="list-style-type: none"> <li>● Payment of reasonable price</li> </ul>	<ul style="list-style-type: none"> <li>● Promotion of environmentally sound management</li> </ul>	<ul style="list-style-type: none"> <li>● Respect for human rights</li> <li>● Respect for diversity</li> <li>● Elimination of discrimination; fair evaluation and equal opportunity</li> <li>● Secured occupational safety and improved work environment</li> <li>● Support for skill and career development</li> <li>● Ensuring opportunities for conversation</li> </ul>
<ul style="list-style-type: none"> <li>● Sharing social costs</li> </ul>	<ul style="list-style-type: none"> <li>● Reduced environmental impact on the community</li> <li>● Countermeasures to mitigate climate change</li> <li>● Contribution to resource recycling</li> <li>● Improved energy efficiency</li> <li>● Appropriate use of water resources</li> <li>● Conserving biodiversity</li> <li>● Information disclosure</li> </ul>	<ul style="list-style-type: none"> <li>● Contribution to infrastructure development</li> <li>● Maintaining the quality of product and service safety</li> <li>● Job creation</li> <li>● Respect for human rights and the community</li> <li>● Social contribution activities</li> <li>● Information disclosure</li> </ul>
<ul style="list-style-type: none"> <li>● Tax payment</li> </ul>	<ul style="list-style-type: none"> <li>● Fair evaluation of environmental considerations</li> <li>● Support for environmental measures</li> <li>● Promotion of environmentally sound management</li> </ul>	<ul style="list-style-type: none"> <li>● Equal and fair relationships</li> <li>● Respect for human rights</li> <li>● Secured work safety and improved work environment</li> </ul>
<ul style="list-style-type: none"> <li>● Activity support and sponsorships</li> </ul>		
<ul style="list-style-type: none"> <li>● Payment of reasonable price</li> </ul>		

# Risks and Opportunities for our Business Operations and their Relationship to SDGs (STEP 01)

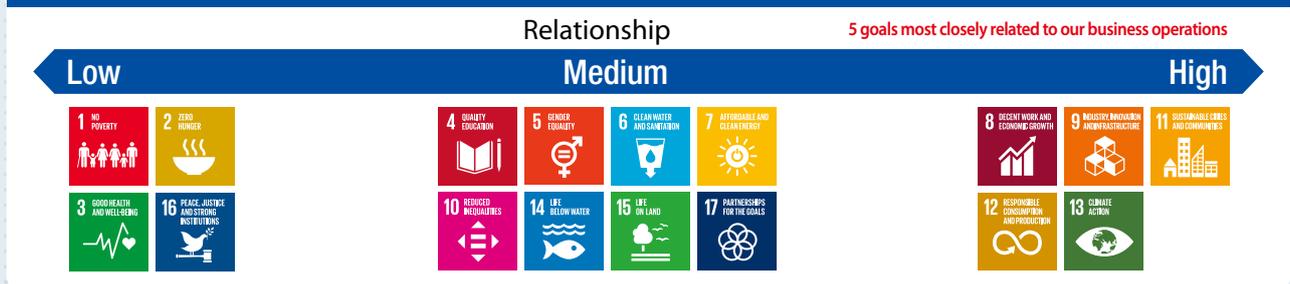
The Taiheiyo Cement Group recognizes and evaluates group risks and opportunities from the perspective of ESG (environment, society and governance). Furthermore, it strives to reduce potential, medium- to long-term business risks, fully utilize its resources and create social value and expand business opportunities.

		E: Environment	S: Society	G: Governance
Business environment; Risks	Japan	<ul style="list-style-type: none"> <li>Climate change</li> <li>Severe natural disaster</li> <li>Resource constraints</li> <li>Waste treatment</li> <li>Reinforcement of environmental regulations</li> </ul>	<ul style="list-style-type: none"> <li>Declining birth rates, an aging population and a labor shortage</li> <li>Progress in deterioration of infrastructure</li> <li>The Tokyo Olympics and Paralympics.</li> <li>Large infrastructure projects</li> <li>Restoration and reconstruction in disaster-stricken areas</li> <li>Technological innovations (ICT, IoT, AI, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Unfair trade</li> <li>Corruption and bribery</li> <li>Falsification of data</li> </ul>
	Overseas	<ul style="list-style-type: none"> <li>Climate change</li> <li>Resource constraints</li> <li>Waste treatment</li> <li>Reinforcement of environmental regulations</li> </ul>	<ul style="list-style-type: none"> <li>Expansion of production and consumption</li> <li>Rapid urbanization</li> <li>Growing infrastructure improvement</li> <li>Technological innovations (ICT, IoT, AI, etc.)</li> </ul>	
Opportunities		<ul style="list-style-type: none"> <li>Creation and development of a recycling-oriented society</li> <li>Provision of environmentally friendly products</li> <li>Technical assistance for emerging economies</li> </ul>	<ul style="list-style-type: none"> <li>Stable provision of high-quality products</li> <li>Anti-disaster projects and efforts to restore deteriorating infrastructure</li> <li>Provision of solutions</li> <li>Provision of labor-saving products</li> <li>Restoration and reconstruction in disaster-stricken areas</li> <li>Retention and development of capable human resources</li> </ul>	<ul style="list-style-type: none"> <li>Compliance</li> <li>Risk management</li> </ul>

## Key Directions for the Group

- Stable provision of products and services
- Creation and development of a recycling-oriented society
- Construction of new business model
- Enhancement of group governance
- Efforts to mitigate and adapt to climate change
- Expansion of strategic business domain
- Retention and development of capable human resources
- Strengthening of corporate governance

## Relationships between SDGs and Our Business Operations



## STEP 02 | Prioritization

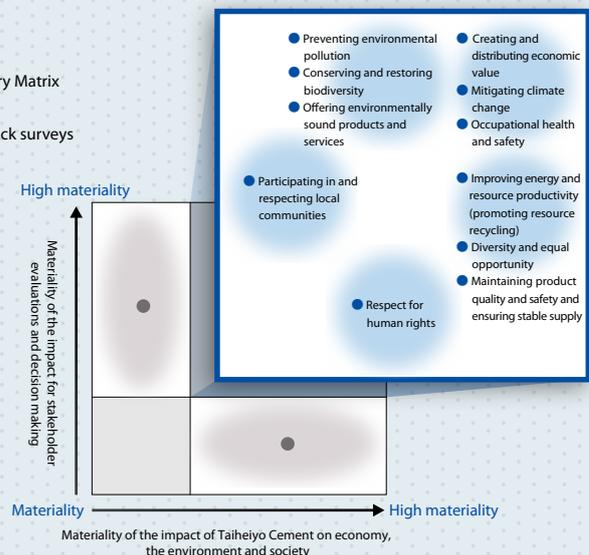
We identified sustainability issues while referring to international guidelines and stakeholder feedback in the context of our business. Through internal meetings we then held discussions on the priority themes for the Taiheiyo Cement Group, resulting in 11 priority aspects of the material issues.

### In the process of steps 1 and 2 we referred to:

- GRI Sustainability Reporting Standards (GRI Standards) 2016/2018
- SDGs, SDG Compass, SDGs Industry Matrix
- ISO 26000
- SASB
- AA1000SES (AA1000 Stakeholder Engagement Standards)
- Internal questionnaire and feedback surveys
- ESG surveys and evaluations
- CSR report questionnaire survey
- Stakeholder Dialogue
- Opinions and advice from outside experts and advisors

### Various sustainability issues

- Appropriate use of water resources
- Appropriate management of chemical substances
- Compliance with environmental laws and regulations
- Mitigation of environmental impacts of transfer and transport
- Human resource development
- Work-life balance management
- Sound labor-management relations
- Fair trade
- Corruption prevention
- Marketing communication
- Personal information protection
- Information disclosure
- Protection and use of intellectual property



## Material Issues and Approaches of the Taiheiyo Cement Group ( STEP 02 )

Categories	Material Aspects	Boundaries of Major Impact		Management Approaches	Report Page
		Taiheiyo Cement	Value chain		
Economic	Creating and Distributing Economic Value	✓	✓ Society	Policy: <ul style="list-style-type: none"> <li>• Conducting business activities in accordance with our 20 Medium-term Management Plan (fiscal 2018 to fiscal 2020)</li> </ul>	PP. 06-07 PP. 66-69
Environmental	Improving Energy and Resource Productivity (promoting resource recycling)	✓	✓ Industry and regional waste-related facilities	Policy: <ul style="list-style-type: none"> <li>• Environmental management policy</li> <li>• WBCSD-CSI "CSI Charter"</li> <li>• GCCA Sustainability Charter</li> </ul> System: <ul style="list-style-type: none"> <li>• Setting up Environmental Management Committee</li> <li>• All plants, head office, branches and the Central Research Laboratory are operating in compliance with ISO 14001</li> </ul>	PP. 36-41 P. 47
	Mitigating Climate Change	✓	✓ Industry and regional waste-related facilities		PP. 36-38 P. 47
	Preventing Environmental Pollution	✓	✓ Areas around plants	Evaluation: <ul style="list-style-type: none"> <li>• CSR Objectives for 2025</li> <li>• Group environmental targets and KPIs based on the CSI Charter and the GCCA Sustainability Charter</li> <li>• Monitoring and review by the Environmental Management Committee</li> </ul>	PP. 44-45
	Conserving and Restoring Biodiversity	✓	✓ Areas around plants		PP. 42-43
	Offering Environmentally Sound Products and Services	✓	✓ Society		P. 46 PP. 50-53 P. 65
Social	Occupational Health and Safety	✓	✓ Contractors	Policy: <ul style="list-style-type: none"> <li>• Occupational Health and Safety Policy</li> </ul> System: <ul style="list-style-type: none"> <li>• Establishment of the Environmental Management Committee</li> <li>• OSHMS has been running in all plants and mines</li> </ul> Evaluation: <ul style="list-style-type: none"> <li>• CSR Objectives for 2025</li> <li>• Monitoring of data on health and safety including information from contractors</li> </ul>	PP. 62-64
	Diversity and Equal Opportunity	✓		Policy: <ul style="list-style-type: none"> <li>• The Basic Policy Concerning the Development of Human Resources</li> </ul> System: <ul style="list-style-type: none"> <li>• The Basic Policy Concerning Diversity</li> <li>• Development of a long-term human resource development system, a fair evaluation system and comfortable working environments</li> </ul> Evaluation: <ul style="list-style-type: none"> <li>• CSR Objectives for 2025</li> <li>• Quantitative targets for diversity</li> <li>• Monitoring various kinds of personnel data</li> </ul>	PP. 56-61
	Maintaining Product Quality and Safety and Ensuring Stable Supply	✓	✓ Cement users Society	Policy: <ul style="list-style-type: none"> <li>• Quality Policy</li> </ul> System: <ul style="list-style-type: none"> <li>• A unified ISO 9001-based management system for product development, design and production</li> <li>• Technical support in the framework of Taiheiyo Brand Cement/Concrete (TBC) activities</li> </ul> Evaluation: <ul style="list-style-type: none"> <li>• Analyzing suggestions and inquiries related to quality</li> <li>• Regularly disclosing safety-related data on our website</li> </ul>	PP. 50-52
	Participating in and Respecting Local Communities	✓	✓ Areas around plants	Policy: <ul style="list-style-type: none"> <li>• Identifying communication with communities as a material issue in the Mission of the Taiheiyo Cement Group and the Basic Policy of CSR</li> </ul> System: <ul style="list-style-type: none"> <li>• Promoting company-wide activities by the Stakeholder Communication Committee</li> </ul> Evaluation: <ul style="list-style-type: none"> <li>• Managing progress and sharing information under the company-wide action plan</li> </ul>	PP. 66-69
	Respect for Human Rights	✓	✓ Contractors	Policy: <ul style="list-style-type: none"> <li>• Basic Policy Concerning Human Rights and Labor Practices</li> </ul> System: <ul style="list-style-type: none"> <li>• Promoting company-wide activities under the Human Rights Committee</li> <li>• Contact points for counseling</li> </ul> Evaluation: <ul style="list-style-type: none"> <li>• Managing progress according to the company-wide action plan and facilitating the exchange of opinions and negotiations at labor-management consultations</li> </ul>	P. 56

### STEP 03 | Validation

We confirmed the Principles of Completeness and Stakeholder Inclusiveness are applied to finalize the identification of the report content.

- ➔ Discussion at the CSR report editing task force meeting
- ➔ Reporting and approval at the CSR Management Committee



### STEP 04 | Review

We implement a review every fiscal year for the report issued.

- Internally
  - ➔ Report booklets are distributed to all employees of Taiheiyo Cement Corporation and a questionnaire survey is conducted.
  - ➔ CSR report briefing sessions are held at all business sites and plants (17 sites in fiscal 2018).
- Externally
  - ➔ Third-party opinion by experts
  - ➔ CSR report questionnaire survey
  - ➔ Review by external advisors

# Stakeholder Dialogue

Fifteenth Stakeholder Dialogue » GRI 102-27, 43, 44

## With the Transition to a Sustainable Society, How Should We View Environmental and Social Risks?

Every three years the Taiheiyo Cement Group identifies and evaluates risks across the Group, and 2019 is the current year for this review. With efforts toward sustainability emerging as a global challenge, we must adopt a fresh approach to evaluating and responding to risks associated with our business.

How should companies prepare and act in terms of appropriately identifying and responding to risks related to sustainability, which represents the state of the world today? We invited external experts to participate in a discussion at the CSR Management Committee, which includes all board directors as members. The dialogue took place in July 2019.



## Responding to Risks under a Sound Governance System



**Yoshinao Kozuma**

Professor Emeritus,  
Sophia University

As an expert in environmental and international accounting, Mr. Kozuma is an authority in related research, education and guidance, which reflects the state of CSR activities in Japan and abroad. He has served in a number of public posts such as chair of the Study Group for Establishing the Environmental Reporting Guidelines 2016 Edition and Environmental Accounting Guidelines 2016 Edition, as well as chair of the Study Group for Amending the Environmental Reporting Guidelines for the 2017 Edition. Moreover, he is an author of the book *Carbon Label to Visualize CO<sub>2</sub>* (CHUOKEIZAI-SHA, Inc.)

### Lecture Summary

The major environmental and social risks for companies today might be those associated with the transition to a sustainable society. Laws, regulations and social values are evolving toward the creation of a society that facilitates sustainable development, a goal for the UN's SDGs. Under these circumstances, companies that continue to operate as they have in the past are more likely to run the risk of losing business opportunities and facing higher costs.

I identify climate change and human rights violations, as well as the respective environmental and social impacts,

as the risks that the cement industry can be expected to face. While the cement industry emits about 5% of all global CO<sub>2</sub> emissions, it must innovate its business model to reduce such emissions in light of the coming enforcement of the Paris Agreement. Although human rights-related risks specific to the industry may be small, in a time when companies must take responsibility for the actions of their supply chains, human rights-related risks will also warrant greater attention.

The Carbon Disclosure Project, CDP, is an international NGO collaboration operated by institutional investors that calls on companies to disclose information on their responses to climate change and water risks. CDP has analyzed the climate change measures taken by the world's leading companies and the resulting report concluded that Taiheiyo Cement faced relatively high risks related to climate change and water stress, and has not associated those risks with the creation of business opportunities. To ensure that Taiheiyo Cement will be able to respond effectively to its environmental and social risks and adapt to the transition to a sustainable society, it must create a proprietary, global information network and establish a process for making reasonable decisions without being influenced by political pressures or irrational majority voting. By doing so Taiheiyo Cement can accurately discern the long-term direction of international society. The transition to a sustainable society will in fact take many years, and therefore the company must establish a sound governance system in order to prevent inconsistency in its basic management principles in response to prevailing ideologies.

**Question** We contribute to creating a recycling-based society by recycling waste such as discarded plastic, which has recently become an urgent issue, and by-products as raw materials and fuel for cement production. We publicly share our CSR efforts through our CSR report and other channels. The recycling process involves incinerating materials at least once, which makes it difficult for people to appreciate the real value of this process. This is our dilemma.

**Answer**  
**Kozuma:** First, you should be fully aware that some people have a strong interest in this issue. In Europe, information disclosure is a part of corporate business strategy while, in Japan, generally a specific department handles the issue which makes an effective response difficult. But I want to point out that your company's CSR report has been favorably received by experts.

**Fukushima:** I recommend that your company maintain a policy of candidly disclosing information through its CSR report or other means to enable readers to understand your efforts. The point is to ensure that the reported details are crystal clear to readers knowledgeable in this field. I don't think you would want to produce an overly simplified CSR report in a brochure format just so that all readers could understand it easily.

**Question** In July 2019, Taiheiyō Cement announced its long-term goals (KGIs) for reducing greenhouse gas emissions by 2050. From the perspective of ESG, have you observed a trend toward setting KPIs and KGIs for society and governance as well?

**Answer**  
**Kozuma:** The response of Japanese companies to environmental concerns are ahead of similar efforts related to society. That said, some have noted the absence of the "big picture." In Japan, immediate needs are nearly always given top priority. In Europe, on the other hand, people believe that a system to ensure social equity must be in place in order for your action to make significant movement. In this sense, efforts to protect human rights in Japan lag far behind other countries.

**Fukushima:** Naturally, setting goals for society and governance, not only the environment, is imperative. Environmental and social issues, though, are different in their essential nature and circumstances. Their base years and target years will also be different as well as the relative effectiveness of quantitative targets, which will make it difficult to find practical benchmarks.

**Lecture Summary** When we hear the term "Environmental and Social Governance (ESG) evaluation" we often think about the evaluation by investors and shareholders, such as through ESG investments. However, the ESG assessments of customers may actually wield a larger impact on the business world. Japanese companies tend to think that simply providing high-quality, environmentally sound products and services would be sufficient. Nevertheless, customers also pay attention to the ethical stance and moral principles of a corporation that creates products and services. We often find situations in which high scores for environmental friendliness are offset by a low ESG evaluation of the company itself. Now that ESG evaluation is a critical factor for determining whether or not a company will prevail over its competitors, we must be fully aware of ESG evaluation as a major factor for business success.

But in nearly every situation, the salesperson, as a representative of the company, is the first to be evaluated by customers. The point is to what extent that salesperson correctly recognizes the significance of being evaluated from the ESG perspective. I know of so many companies in which sales personnel did not understand the real meaning of ESG evaluation and did not take any remedial action. Every company now faces the challenge of fully applying ESG evaluation to its supply chains beyond the boundary of the corporate group. It is difficult to ask suppliers to respond to such questions or cooperate in other ways. Also, small-scale suppliers lack the capacity to deal with ESG issues, so companies must proactively support them instead of

## Incorporating ESG Evaluation in Business Transactions



**Takashi Fukushima**  
 President of Sustainability Accounting Co., Ltd. and SusTB communications Co., Ltd.

Certified Public Accountant. Since 1996 Mr. Fukushima has served as a consultant for environmental management and CSR in general as well as the manager of verification services at a leading auditing firm. In 2006 he left the accounting firm and established Sustainability Accounting Co., Ltd. and SusTB communications Co., Ltd. to focus on supporting major corporations in promoting their CSR initiatives and improving CSR evaluation as well as assisting them in voluntary, sound information disclosure. He is also an author of *CSR Episodes* (Gentosha Inc.).

simply reviewing their efforts. Naturally, if a company does not operate a system for conducting ESG evaluation, it must establish and activate one before reviewing the efforts of its suppliers. Consequently, sustainable management is a challenge that companies must address over the long run.

# A Cement Plant to Support Social Infrastructure for the Next 100 Years

The history of the Oita plant, a principal facility of Taiheiyo Cement, goes back as far as a hundred years. In this feature we report on the key role the plant will continue to play in supporting social infrastructure over the next century.

## Principal Plant with a Geographical Advantage

The Oita plant is in Tsukumi City in southern Oita Prefecture. The city is flanked by the Bungo Channel, a rich fishing ground and low hills, and is famous for its mild climate and beautiful landscape. It developed during the Edo period and Meiji era as an orange-growing region and limestone quarry site. Tuna fishing was also common there, mainly in the waters around Hodo Island during the Taisho and Showa eras. When walking around the plant we came across a quarter called “Cement-cho” (the cement quarter), which reminded us of the city's distinctive history and association with the cement industry.

The Tsukumi region produces the largest quantity of limestone in Japan. It boasts some of the highest quality limestone as well, with reserves estimated to be about four billion tonnes. The Oita plant is situated in an ideal spot for a cement plant with a large vein of limestone along the back side of the facility. At its front is an excellent natural port. Sakura Cement Co., Ltd., originally started operations in 1917. The plant was then merged with Onoda Cement Co., Ltd., a predecessor of Taiheiyo Cement, when Onoda Cement started operations in the city in 1938. After a series of successive reorganizations it ultimately became the current Oita plant of Taiheiyo Cement and marked its 100th anniversary in October 2017.



## Operating a Large-scale Quarry that Produces High-quality Limestone

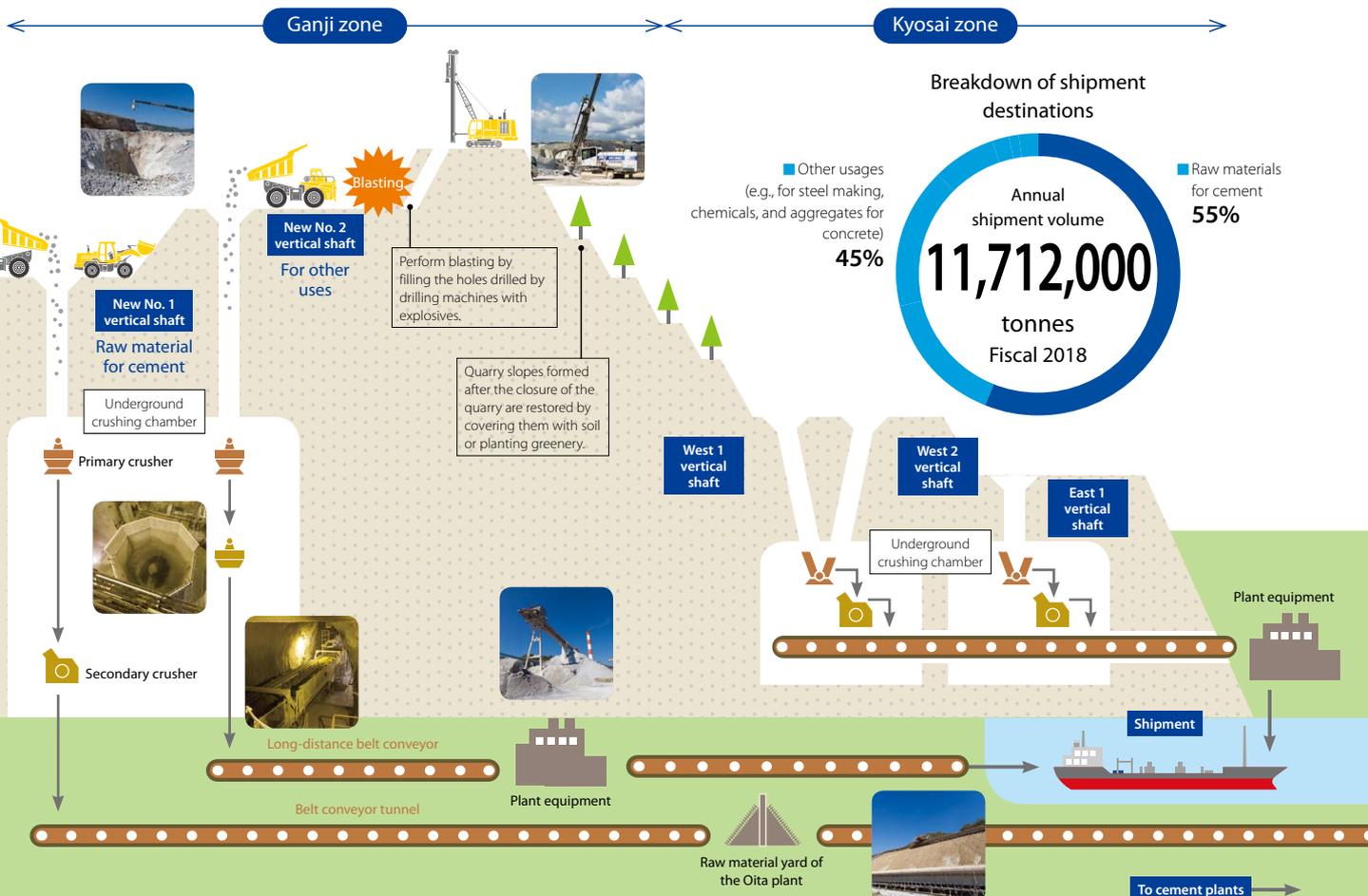
Four mining companies quarry 24 million tonnes of limestone a year in the Tsukumi region. One company alone, Oita Taiheiyo Mining Corporation, Shin-Tsukumi Quarry, annually produces 11 million tonnes. Shin-Tsukumi Quarry operates two quarry sites, the Negaidera and Kyosai zones. Limestone quarried in these places is used as a primary raw material for cement as well as for the steel, chemical and other industries.

Limestone is quarried using what we call the “Bench Cut” method, which requires blasting by explosives to extract the limestone on terraces while securing a flat, safe work area. In the Shin-Tsukumi Quarry, we reduce vibration and noise by lowering the level of the bench on the urban side. Limestone crushed by blasting is injected into what we refer to as a “vertical shaft” with large-scale heavy machinery.

After that, it is further crushed and screened by equipment in and outside the pit so that it can be processed into final products such as raw materials for cement plants and other uses. The Tsukumi Quarry is very close to the plant, just three kilometers away, which facilitates the efficient transportation of the limestone. Some products are directly shipped to domestic and overseas destinations from the shipping berth adjacent to the plant. The plant has adopted several measures to protect the environment, such as reducing dust, using sprinkling vehicles and bag filters, and preventing the discharge of turbid water with sedimentation tanks.

The quarry is being prepared for next-generation operations in the coming 100 years. We are currently implementing environmental impact assessments on the construction prior to its commencement, and we will subsequently conduct ongoing assessments to predict and evaluate the future impacts of the quarry development.

### Production Process for Limestone



# Shin-Tsukumi Quarry



1: Pre-heater and No. 4 and No. 5 kilns  
 2: Belt conveyors running in the plant  
 3: Overview of the Shin-Tsukumi Quarry from the plant  
 4: Storage yard for limestone  
 5: Central control room with lines of monitors

## Realizing the Stable Supply of High-quality Cement Products

The Oita plant has a production capacity of 4.5 million tonnes of clinker a year which is used to produce cement products, particularly Portland cement and blended cement. The advanced production process includes three kilns and other production facilities as well as energy-efficient equipment that prevent pollution.

The central operations monitoring system in the central control room remotely manages the entire production process from raw material and burning to finishing. Its automated system ensures stable quality and processing while reducing or saving labor. The plant is also equipped with a waste heat power generation system using heat from the kilns and a thermal power generation system using fuels such as coal, oil and petroleum coke. The in-house power generation ratio exceeds 85%. In addition, the plant strives to provide stable-quality products by operating a quality control system in compliance with ISO 9001. Fully aware that systems operating over long periods tend to lack extensive reviews, we are focusing on retraining employees in charge of system checkups and operations.

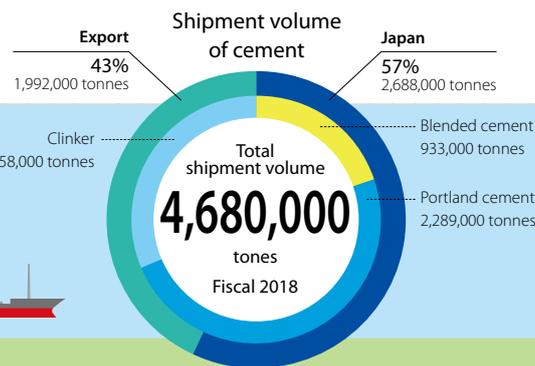
As Taiheiyo Cement's sole production plant in western Japan, the Oita plant plays a crucial role and assumes key responsibility for the stable supply of cement in that part of the nation. Furthermore, it is the largest export base for Taiheiyo Cement. The Oita plant is located along a rias coast with both calm and deep water, and operates three berths capable of mooring 60,000-tonne tankers. The plant is therefore ideally located for marine transport by large ships for exporting cement, clinker and limestone, and importing coal. Given these advantages, half its production volume is exported to Taiwan, Singapore and other Asian countries as well as Africa and Oceania.



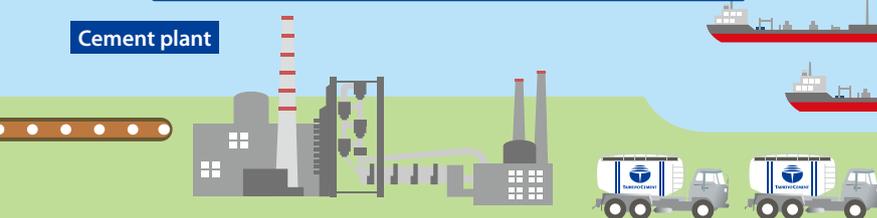
6: Shipping berth where export ships are moored

### Overview of the Oita Plant

Land area:	<b>471,000 m<sup>2</sup></b>	Cement production volume	<b>4,680,000 tonnes/year</b>
Production capacity of the kilns	<b>13,400 tonnes/day</b>	No. 3 kiln:	<b>3,800 tonnes/day</b>
		No. 4 kiln:	<b>4,800 tonnes/day</b>
		No. 5 kiln:	<b>4,800 tonnes/day</b>
Power generation capacity	<b>74,000 kW</b>	Waste heat power generation:	<b>18,000 kW</b>
		Thermal power generation:	<b>56,000 kW</b>
		In-house power generation ratio: more than	<b>85%</b>
Port facilities (Berths A, B, D)			
Water depth:	<b>13 m</b>	Berthing capacity:	<b>60,000 tonnes</b>



### Cement plant



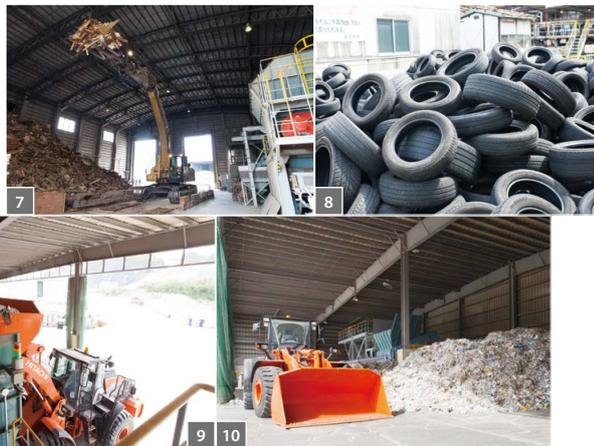
# The Oita Plant

## Promoting the Recycling of Waste

Today cement plants play an essential role in the recycling of waste and by-products generated in Japan.

The production process of cement plants has the capacity to utilize a large volume of household and industrial waste and by-products as alternative raw materials and fuels. Treatment in cement plants yields the benefit of generating no secondary waste. Cement plants can therefore contribute to realizing a recycling-based society by reducing the consumption of resources as well as environmental impact.

The Oita plant primarily accepts coal ash, construction soil, bottom ash, waste oil, waste plastic and wood chips. In turn, it recycles 1.82 million tonnes of waste and by-products a year. Fly ash generated by the incineration of municipal waste in waste treatment facilities has long been considered difficult to recycle as a raw material for cement production. The plant began accepting fly ash in fiscal 2019. After installing equipment to remove the high-concentration chlorine contained in the fly ash, the plant has become capable of treating 15,000 tonnes of it a year. As a result, it will significantly contribute to extending the lifetime of landfills in Oita Prefecture and other regions in Japan.



7. Treatment facility for wood chips and waste straw mats (tatami mats)  
8. Used tires recycled as raw material and fuel  
9. and 10. Crushing facility for waste plastic



11. Vehicle to transport recycled raw materials and fuels  
12. Waste plastic treatment facility  
13. Inside of waste treatment facility  
14. Control room of the recycling facility  
15. New facility for washing fly ash

## Operating in Collaboration with the Local Community

The Oita plant places a premium on collaboration with local governments. Taiheiyo Cement concluded the Agreement on Promoting the Creation of a Recycling-based Society with Oita Prefecture and Tsukumi City governments in December 2016. Beyond the explicit promise of its title, the agreement stipulates: "In preparation for a large-scale disaster with an epicenter offshore of the South Sea Trough, the Parties shall routinely maintain a system to treat waste generated by a disaster." Therefore, the Oita plant's business operations become part of an effective social infrastructure for treating waste in Oita Prefecture.

A large volume of waste was generated throughout Tsukumi City after a disastrously heavy rainfall and subsequent flooding in March 2017. The plant accepted 14,000 tonnes of wood chips and debris and treated them for recycling. The local governments and residents appreciated our contribution to the quick recovery from the disaster.



16. Sludge vacuum truck supporting restoration work after the flood  
17. Debris generated by the flood

Voice



**Yoshihito Izawa**  
Manager of the Oita plant

### Meeting domestic and overseas demand for cement from our base in Tsukumi

The limestone resource that the Oita plant processes is famous for its excellent quality. The plant leads the international cement industry in the field of production and environmental technologies. Although our Shin-Tsukumi Quarry possesses 20 to 30 years of deposits, overseas demand for cement will continue to grow, particularly in emerging countries. We believe that the mission of the Oita plant is to meet this demand and hand down our expertise in the cement industry to the next generation, and currently we are preparing to develop new quarries

in recognition of that responsibility.

The year of the flood that struck Tsukumi City happened to be the 100th anniversary of our plant. The disaster thus further reinforced our close ties with the local community. As we continue to improve the quality of our cement products we will also ensure employee safety, conserve the environment and earn the trust of the community. We are committed to pursuing opportunities to ensure that our continued operations in the city over the next 100 years contribute to the development of the community as well.

## Our Commitment to:

Management	P. 22
The Environment	P. 34
Collaborating with Society	P. 50





## CSR Management

We aspire to be a pioneer in the creation of a sustainable future for the earth. To achieve this group aspiration we established the CSR Management Committee as a means for sharing information about CSR issues and activities across departments, and aligning our CSR initiatives with our business operations.

### Corporate Framework for CSR

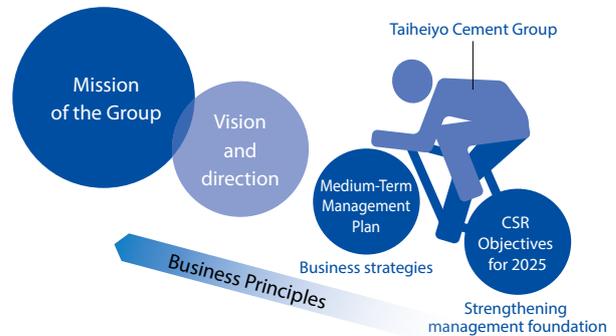
» GRI 102-15, 16

The Mission of the Taiheiyō Cement Group is the highest level concept and guiding principle of our business activities. Our Business Principles present more specific guidelines for action based on the Mission.

The vision and direction targeting the mid-2020s has been established as our vision for the future based on the Mission to present the value and direction of the group in qualitative terms.

The Medium-Term Management Plan sets forth our management strategy and targets for the next three years, while the CSR Objectives for 2025 are long-term, quantitative CSR targets. We strive to realize our vision and direction based on these targets.

\*The Mission of the Taiheiyō Cement Group: page 4; Business Principles: page 4; CSR Objectives for 2025: page 5



### » Basic Policy for Promoting CSR Management «

1. Based on our Mission and Business Principles, the company will clarify the ideal form of CSR management to be pursued and strive to advance operations based on CSR.
2. Promoting a corporate culture that places great importance on compliance, we aspire for all directors and all employees to always make the most appropriate independent judgments.
3. We will manage the company with awareness that our social mission includes environmental protection, defense of human rights and contribution to communities.
4. We will proactively engage on key CSR issues and undertake the most appropriate prioritization and resource allocation.
5. We will practice appropriate information disclosure and communication with stakeholders, based on the status of our CSR management promotion, and build relationships of trust.
6. We will treat CSR management and promotion as a group-wide activity.

### Basic Policy for Promoting CSR Management

» GRI 102-16

We promote CSR management in accordance with our CSR guidelines which specify actions that are essential for realizing the Mission of the Taiheiyō Cement Group and implementation of our Business Principles. The guidelines direct the company in conducting activities in and outside of the business that fulfill our social responsibility while we pursue sustainable growth for both the company and society as a whole. Moreover, they lay down basic policies for promoting CSR management.

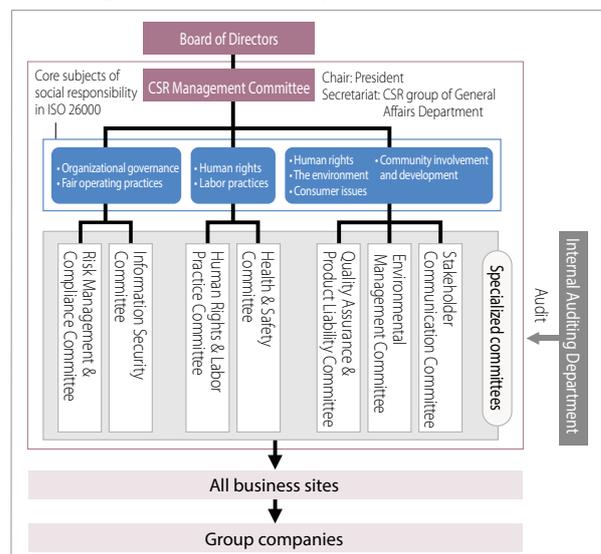
### CSR Management Promotion System

» GRI 102-18, 19, 20, 21, 28, 29, 30, 32

To promote our CSR management we have created a cross-departmental CSR Management Committee, chaired by the president with all board directors as members, under the direct oversight of the Board of Directors.

The CSR Management Committee's role is to screen CSR action plans and other material items, and review their progress. Reporting to this committee are seven specialized committees for individual CSR subjects, each chaired by the director responsible for that area. The department most closely associated with any given issue acts as the secretariat for the related committee.

### CSR Management Promotion System (CSR Management Committee and Specialized Committees)



## CSR Training and Education

» GRI 102-27

We provide CSR education through training programs for each position, including sessions for newly hired employees, follow-up courses for second-year employees, career development (around ten years after joining the company) and training for newly appointed managers. For education on specific issues such as human rights, each specialized committee provides the relevant training programs. We also conduct executive-level CSR training once a year, including for group companies.

In fiscal 2018 we continued to conduct CSR report presentations at all our business sites, either through site visits or teleconferencing. We also conducted a questionnaire survey after the presentations, an activity that 62% of the respondents indicated we should continue next year.

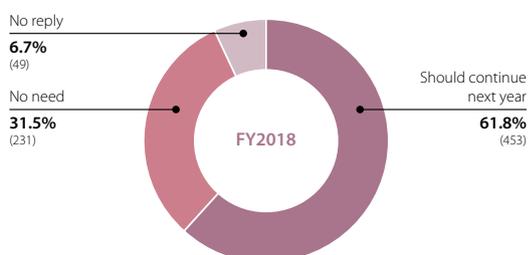
### Executive-level CSR Training (FY2018)

Date	Companies in Attendance	Topic
November 2018	91	<ul style="list-style-type: none"> <li>Waste Management and Public Cleansing Law and disqualification requirements under the Law</li> <li>Anger management, which helps prevent harassment</li> <li>Implementing the "Four management value principles system and compliance practice"</li> </ul>

### CSR Report Presentations

Date	Location	Attendees
October to November 2018	• 17 sites, including the headquarters, branches, plants and central research laboratory	733

### Results of the Questionnaire Survey on CSR Report Presentations (FY2018)



## Collaboration with External Organizations

» G102-11, 12, 13

### » Global Cement and Concrete Association

The Global Cement and Concrete Association (GCCA) was founded in 2018 as a trade association for the industry. As a founding member company, Taiheiyo Cement is the sole Japanese cement and concrete manufacturer participating

in the GCCA's activities.

The association succeeded the activities of the Cement Sustainability Initiative (CSI), a sector project of the World Business Council for Sustainable Development (WBCSD), in January 2019. Under the strategic partnership, the GCCA collaborates with the WBCSD toward sustainable development.

The WBCSD-CSI and GCCA deal with important matters such as responding to climate change, the effective use of raw materials and fuel, reduction of air pollutant emissions, biodiversity, global water issues, employee health and safety, and supply chain management. Members have set up working groups that are working toward resolving each issue while also developing key performance indicators (KPIs; see page 70 for fiscal 2018 performance) and various guidelines to meet the challenges. Member companies set and publish their individual targets in areas such as emissions reductions and take their own actions to create a sustainable society.

With respect to climate protection in particular, the CSI has developed a common methodology for calculating CO<sub>2</sub> emissions and energy use, a standard CO<sub>2</sub> and energy protocol for reporting by the world's cement companies, and a regime for providing highly reliable information on energy usage and CO<sub>2</sub> emissions. The CSI also built a global database and reports actual CO<sub>2</sub> emission volumes and energy use data for a significant number of the world's cement plants. We recognize that issues the WBCSD-CSI and GCCA address are the same as the company's key management challenges, which is why we are working diligently to tackle them.

### » Participation in the Industrial Federation for Human Rights, Tokyo

We participate in the Industrial Federation for Human Rights, Tokyo. Established in November 1979, the federation now consists of 123 companies (representing about 1 million employees as of April 2019), most of which are headquartered in Tokyo. Under its basic philosophy of voluntary management and full participation, the federation endeavors to resolve the issue known as Dowa, a discrimination issue in Japan, and other human rights issues.

## Results of FY2018 CSR Efforts » GRI 102-11, 44

	Plan	Results	Evaluation	See Also
Organizational Governance and Fair Operating Practice	<b>Organization Risk Management &amp; Compliance Committee</b>			
	1. Continually improve risk management based on PDCA cycles, including group companies, respond to new risks, and enhance efforts to resolve existing issues			
	• Comply with the Amended Air Pollution Control Act (mercury); establish control method	• Responded to by the Environmental Management Committee, which conducted a review during the meeting.	○	28-30
	• Enhancement of information security	• Updated anti-malware software. • Conducted a third party investigation into information leaks, and no leaks of corporate information were identified.	○	28-30
	• Product/service accidents	• Amended each quality assurance standard for cement, cement-related products, and mineral resources products. • Formulated and established an emergency response manual for cement-related products and mineral resources products. • Verified a relevant group company's contact system when an accident occurred and the state of responses to complaints. • Provided guidance to relevant group companies on raising awareness of quality data falsification.	○	28-30
	• Aging of facilities and equipment	• Implemented maintenance/renewal work as planned and no incidents were associated with the aging of equipment.	○	28-30
	• Preventing traffic accidents	• Responded to by the equipment division and relevant division of non-operating business units; the committee conducted a review during the meeting.	○	28-30
	• Strengthening of overseas crisis management measures	• Explained to and exchanged opinions with representatives of overseas business sites on the Guideline on Overseas Crisis Measures (evacuation manual) and revised it.	○	28-30
	• Enhancement of group corporate governance including risk management and the compliance system	• Launched an e-learning program to overseas group companies for overseas anti-bribery measures. • Presented a lecture and training session on compliance for group executives and a workshop for risk management and compliance promoters in November. • Implemented countermeasures to reduce risk of being disqualified as a waste treatment operator.	△ ○ ○	28-30
	• Work-related accidents	• Achieved zero fatalities (CSR Objectives for 2025).	○	28-30
	• Response to shortage of human resources	• Relevant division explained and exchanged opinions on various measures to deal with the shortage of employees, drivers and business partners.	○	28-30
	• Continuous improvement of risk management using PDCA cycles	• Strict guidance provided to each business site with regard to including risks assessed as either C or D in FY2017 as part of a voluntary review of the FY2018 risk countermeasures action plan, and an aggregate report from all business sites showed 94% of items assessed rated A or B.	○	28-30
	2. Further raise awareness of compliance			
	• Improve education/training programs and provision of information	• Ensured that all employees have taken a monthly e-learning program (participation ratio: 74.3%). • Distributed the Standard of Conduct Casebook to new group company employees. • Implemented training (response to disasters) for risk management and compliance promoters at business sites (head office and branches).	○	30-31
	<b>Organization Information Security Committee</b>			
1. Enhance Information Security Management System and ensure its ongoing operation and improvement				
• Maintain and manage the company's information security	• No case required the holding of the committee's extraordinary meeting. • Conducted a disaster recovery drill in March, which was planned to last 5 hours and 40 min but actually lasted 7 hours and 40 min; activation was delayed in 3 systems; and we improved procedures and a setting. • One set of computers and some files on a file server were infected with ransomware, and their use was suspended at a group company.	○	31	
• Strengthen group information security structure	• Result of information security level survey: 2.8 (average) (last year: 2.8). • Introduced concrete initiatives on priority items at a meeting of group companies' information divisions. • Made follow-up visits to 1 group company: Taiheiyō Precast Concrete Industry.	△		
2. Implement security countermeasures based on the plan				
• Improve the security level by implementing information security-related projects	• Ensured the compatibility of company systems with Windows 10 and started to distribute Windows 10 computers in the second half of September. • Updated antivirus software. • A vulnerability check was conducted by an external expert; no corporate information leaks were identified.	○	31	
3. Conduct education/training/awareness-raising programs				
• Raise employee awareness of security across the group	• Conducted information security training in position-specific courses (5 sessions); published security news (2 sessions); conducted an e-learning program (1 session); and provided materials to group companies (5 times).	○	31	
4. Monitor and assess the status of information security				
• Promote the appropriate use of information through periodic monitoring	• Detected a virus due to the access of attachments or links of suspicious e-mails (20 cases); implemented response drills in February and March. • Monitored file transmissions to external parties; and monitored suspicious application transmissions by exit countermeasures; no incidents were found.	○	31	
• Conduct an internal information security audit	• Conducted paper audits; conducted on-site audits (2 business sites).	○		
5. Continue operation and improvement of the Personal Information Protection Management System				
• Set up a task force and respond to issues when necessary • Verify and respond to the state of compliance, education and audits	• Loss of company smartphones: 4 cases; however, there was no possibility of insider information leakage. • Responded to GDPR (EU's General Data Protection Regulation). • Stored e-mail address book on the cloud following a change of e-mail software; explained to and obtained consent from group companies that share the e-mail address book (continued shared use of the book).	○	31	
<b>Organization Human Rights &amp; Labor Practices Committee</b>				
1. Raise human rights awareness and continue training programs throughout the group				
• In-house training and awareness raising	Human rights training courses by position and other training type (attendees included group company employees): (1) Top management seminar for group companies in November on anger management that helps prevent harassment (lecturer: Kumi Toda, Japan Anger Management Association); 125 (2) Training for new employees in April: 151, (3) Follow-up training (employees with a one-year career): 95, (4) Communication + on-the-job training (staff employed for four years): 71, (5) Career development training (leader and sub-leader): 78, (6) Training for newly appointed managers in July: 36, (7) Training for foremen in February: 18, and (8) Techno-school special lecture in July: 7.	○	56-57	
• Conduct measures to prevent harassment based on findings of the questionnaire survey on harassment	(1) Distributed top management's message on prevention of harassment and attached the message to a booklet on harassment prevention, (2) Added harassment provisions to working rules in April, (3) Conducted the second questionnaire survey on harassment in April and published its findings on a group bulletin board in August, and (4) Planned and conducted training based on findings related to the analyzed current state of the company and planned appropriate countermeasures.	○	56, 60	
• Training in and raising of human rights awareness for group companies	(1) Supported participation in our training program by position and conducted training at Kansai Taiheiyō Kōsan Co., Ltd. while confirming the fair recruitment of 27 staffers in charge of recruitment at 26 group companies; and (2) Distributed copies of the book <i>Toward Tomorrow</i> (issues 58 and 59), published by the Industrial Federation for Human Rights, Tokyo, and materials related to human rights.	○	56-57	
• The Industrial Federation for Human Rights	• Participated in meetings (training sessions, group meetings, working group, etc.).	○	23	
2. Continue to achieve Statutory Employment Ratio for Persons with Disabilities and promote their working opportunities				
• Review and implement the Medium-term Persons with Disabilities Employment Plan	FY2018 results: Taiheiyō Cement 1 employed; Nippo Onoda Corporation 2 employed; Taiheiyō Service Corporation 1 resigned, Nippo Onoda Corporation 2 resigned; conducted visits to schools and teachers' visit to workplaces; collaborated with organizations that support persons with disabilities; participated in an event to promote the employment of persons with disabilities.	○	58	
• Respond to issues related to special purpose subsidiaries	• Reviewed the system of Taiheiyō Service Co., Ltd. (reviewed the wage system in April 2019; created and introduced the severance pay program in May 2019).	○	58	
3. Report the state of initiatives to address issues related to human rights and labor practices				
• Report the state of initiatives for the empowerment of women and group-wide improvement of operational efficiency and efforts with regard to human rights and various labor-related issues in the promotion of group human resources	• Conducted an initiative to change summer lifestyles from June to October. • Promotion of the wider use of the flextime system and Early Leaving Office Day (Wednesday and Friday) throughout the year. • Conducted the Premium Friday initiative. • Held the second (October) and third (November) Diversity Forum. • Created the second-term working group in July 2018; and reviewed the possibility of introducing teleworking. • Reviewed the Elder Temporary Employee System.	○	56-59	
• Report the state of implementation of education/training and global human resource development programs based on the new training system	• Undertook the overseas trainee program (at the Production and Facilities Departments and the Central Research Laboratory): 3 from the Philippines, 3 from Vietnam and 1 from U.S. • Foreign scholarship: dispatched 1 person to the U.S. • Planned to revise the global human resource development program, effective in FY2019.	○	57	
• Report the state of initiatives to promote the health of employees	• Implemented specific initiatives on the following three items approved at the Employees Health Promotion Committee: (1) Tracking health management data, (2) Enhancing health guidance on lifestyle disease, and (3) measures to prevent mental disease.	△	59-60	
• Progress of CSR Objectives for 2025	• Ratio of female employees under "G Course" categories to at least 30%; FY2018 36.4% (20 of 55 new recruits; FY2019 20% (14 of 70 of them), April 2018: 36.4% • Ratio of female employees of at least 10%; 8.8%, as of February 11, 2019 (204 of 2,328 employees) • Ratio of newly appointed female managers to 10%; 0%, (0 of 25 employees) as of March 11, 2018; 3% (1 of 33) as of March 11, 2019	○	07, 56-61	

Plan	Results	Evaluation	See Also
<b>Organization Health &amp; Safety Committee</b>			
1. Companywide Health & Safety Committee—Objectives			
(1) Fatalities for the group: zero (CSR Objectives for 2025) (2) Lost-time injuries for the group: 30 or less (3) Number of work-related accidents for the group: 80 or less (4) Absence rate (non-consolidated): 0.3% or slightly higher	• Held the company's Health & Safety Committee every quarter and verified statistical data. • To prevent the recurrence of accidents, discussed and developed measures to be rolled out horizontally while taking into account the frequency and seriousness of accidents. FY2018: (1) fatalities: 0, (2) lost-time injuries: 39, (3) number of work-related accidents: 85 (4) absence ratio: 0.647%.	△	06-07, 62-64
2. Promote health and safety activities			
• Group-wide basic safety activities to achieve CSR Objectives for 2025. • Promote concrete activities to reduce accidents • Provide information quickly after an accident occurs • Horizontal roll-out of countermeasures taken by the accident site • Prevent the occurrence of serious or frequent work-related accidents at specific business sites and affiliates	• Conducted safety patrols at group companies. • Distributed messages about National Safety Week, National Occupational Health Week and the no-accident campaign at year-end and during the New Year holidays. • Committee members conducted patrols (Tokyo Concrete Co., Ltd.); Safety Management G conducted patrols for group companies: TCPI, Hanoi DT, Saigon RDC, Central Research Laboratory, Taiheyo Materials Corporation (Onoda), Onoda Chemical Industry Co., Ltd. (Onoda, Moji), MITSUI WHARF Co., Ltd., Yakushima Denko Co., Ltd., Clion Co., Ltd. (Kanto). • Enhanced management by designating business sites that required special attention in the areas of safety and security: excluded one site in FY2018.	○	62-64
3. Review the health and safety system			
• Check countermeasures taken after an accident occurs	• Revised the Health and Safety Rules to be applied to group companies; revised the organizational chart for Health and Safety (121 → 151 companies).	○	62-64
4. Promote compliance			
• Ensure that the requirements of the central government and administrative bodies are met	• Conducted stress checks in October and reported the results to the committee in March.	○	60
<b>Organization Quality Assurance &amp; Product Liability Committee</b>			
1. Quality Management System			
• Improve the system: revise the quality control rules to reduce risks • Ensure the operation of QMS (ISO9001) related to the cement business	• Reviewed and revised each of the regulations on cement and cement-related and mineral resources products. • Conducted group training to ensure smooth operations of the QMS system in July and September. • Reviewed and formulated the rules of the method to manage business sites positioned as subcontractors in line with the streamlining of operations.	○	50-51 50
2. Quality Risk Management			
• Identify customer needs and establish quality standards • Countermeasures against individual quality compliance risks • Appropriate response when a serious quality problem occurs	• Reviewed the quality standards in Quality Assurance Regulations. • Strictly complied with internal standards for minor component concentrations and radioactivity levels. • Reviewed the creation of the Manual for Emergency Response for all products.	○	50-51 50-52 30, 50
3. Response related to group companies			
• Improve quality assurance system for group companies	• Verified the contact system when quality deficiency occurred; verified the state of response to quality complaints; raised awareness of quality data falsification; and addressed issues related to the review of the response we took by FY2017.	○	50-52
4. Countermeasures for quality deficiency and complaints: initiatives to improve customer satisfaction			
• Reduce the number of claims and quality deficiencies (targets for FY2018 are shown in parentheses)	• Cement products (1) Serious claims: 0 (0) (2) Claims: 13 (10 or less) (3) Quality deficiency: 14 (15 or less) • Cement-related products: Mineral Resources + Environmental (1) Serious claims: 0 (0) (2) Claims: 2 (0) (3) Quality deficiency: 2 (0)	○ △ △	50-51, 54-55
<b>Organization Environmental Management Committee</b>			
1. Promote company-wide EMS			
• Set EMS objectives and targets, and plan, operate and evaluate EMS	• Revised the Environmental Management Policy on April 1; revised the Environmental Manual on May 7 and December 25. • Revised 4 regulations of low-level documents. • Implemented a program to train EMS internal auditors (42 participants) and another for follow-up training (120 participants).	○	34-35
2. Countermeasures to mitigate climate change			
• Reduce greenhouse gas emissions (CSR Objectives for 2025): reduce specific net CO <sub>2</sub> emissions per tonne of cementitious product by 10% or more from FY2000 levels by FY2025 (by -0.41% from FY2017) • Report to and cooperate with people outside the company on countermeasures to mitigate climate change (1) Comply with the Energy Conservation Act and the Act on Promotion of Global Warming Countermeasures (2) Follow up Commitment to a Low Carbon Society Action Plan and Agenda for Action, a voluntary action plan of the industry (3) Saitama Prefecture Action Plan (second planned period)	• Reduced by 7.8% (reduction rate: -0.2%/year) for FY2017 from the FY2000 level at the company and in the group, including overseas companies. (1) Benchmark index by sector of 3,739 MJ/t or less (including shipment) for FY2020: the result for FY2018 was 3,688 MJ/t (decreased by 100MJ/t from the FY2017 level). (2) Reduction of energy consumption per unit of cement production by 125 MJ/t from FY2010 levels by FY2020: decreased in FY2018 by 78 MJ/t from FY2017. (3) Reduction of greenhouse gas emissions from FY2015 to FY2019 by 13% from FY2005 to FY2007: reduced by 26% in FY2017.	○	05, 36-37 36-37
3. Environmental risk (air pollution) measures			
• Followed up response to the enforcement of the regulations on mercury contained in emissions.	• Supported the filing of the installation of facilities that emit mercury; verified and supported the state of initiative at each plant; and provided information to affiliates and supported them.	○	44
4. Education, awareness raising and information dissemination regarding the environment			
• Collect and provide information on environmental issues	• Conducted initiatives related to Environmental Month (distributed the president's message, promoted initiatives at each business site and reported results) and took advantage of the environmental portal site; reduced electricity consumption; raised awareness of biodiversity; and reported these initiatives in an in-house newsletter.	○	35
5. Promote initiatives across the Group			
• Launch and establish group-wide initiatives	• Created regulations on environmental management and started related operations at each group company in April (102 companies).	○	—
<b>Organization Stakeholder Communication Committee</b>			
1. Activate communication within the company			
• Instill the management policy • Communicate company activities • Identify issues to address and measures to take in order to activate internal communication	• Held discussion sessions with executive officers at 18 business sites with 1,228 participants and verified their effectiveness through a questionnaire survey. • Held CSR report briefing sessions at 17 business sites (733 participants) and verified their effectiveness through a questionnaire survey. • Made this effort at a meeting for regional risk communication staff and the CSR report task force.	○	61 23 —
2. Develop and publish the CSR report			
• Publish CSR Report 2018 in Japanese at the end of September and in English at the end of October	• Published the CSR report in Japanese in September and in English in October and reported in accordance with the core criteria of the GRI Standards 2016; updated the website.	○	72
3. Response to the SRI Survey, etc.			
• Respond to principal CSR-related external surveys such as the SRI Survey	• Responded to DJSI, CDP, the Japan Research Institute, Toyo Keizai, the Good Bankers Co., Ltd., etc., and was selected as an excellent company in the Asia Pacific region in the DJSI survey for the fifth consecutive year; and acquired the DBJ environmental rating Grade A.	○	—
4. Promote communication with society			
• Promote activities to communicate with local communities	• Held an event to commemorate the 20th anniversary of the plant; held a picture drawing competition for elementary school children at the plant: 461 pictures were submitted with applications; awarded one 20th anniversary memorial prize for each plant and 51 excellence prizes; held a photo competition: 135 photos were submitted with applications; and selected one 20th anniversary memorial prize and two excellence prizes as well as ten honorable mentions. • Built and operated an information database related to local communities.	○	66-69
5. Promote Committee's activities at group companies			
• Create means to exchange information on group companies' activities.	• Created a section for introducing group companies in in-house newsletter and started to exchange information.	○	65
<b>Organization Others</b>			
• Hold a CSR Workshop for group executives	• Held in December (96 companies participated).	○	23
• Periodically report relevant information about group companies to local communities (twice per year)	• Implemented in April and October.	○	—
• Hold group legal roundtables	• Held the 27th roundtable on legal issues related to labor practices in July (8 companies; 14 participants). • Held the 28th roundtable on key points of Amended Civil Code and its impact on operations; and provided a practical response to the amendment in November (88 participants from 89 companies).	○	31

Note: The content in the "Results" column has been prepared using information reported by specialized committees as of the end of March 2019.

## Corporate Governance

Strengthening corporate governance is essential in order to increase corporate value and fulfill our commitment to shareholders and all other stakeholders. As a reliable company we continuously strive to ensure the sound management of our organization.

### Taiheiyo Cement Group Management Organization

» GRI 102-18, 19, 22, 23, 24, 28, 29, 30, 33, 35, 36, 37

#### » Corporate Governance System

Based on a resolution of the Board of Directors, we strive to ensure the sustainable growth of the company and medium- to long-term increase in corporate value by continuously improving our corporate governance in accordance with the Taiheiyo Cement Corporation Basic Policy on Corporate Governance established on December 22, 2015.

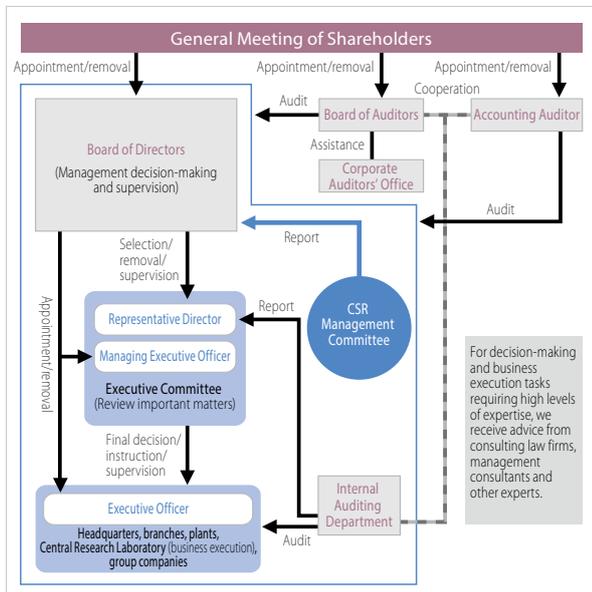
Our organizational structure is anchored by our Board of Directors and Board of Auditors. We have also introduced an executive officer system in order to separate management decision-making and monitoring/supervisory functions from business execution.

We have a Corporate Auditor's Office consisting of 1 manager and 2 subordinates, which comprehensively supports corporate auditors in performing their duties, including the provision of previously released information. Our Internal Auditing Department conducts internal audits, identifies issues that require improvement and reports audit results to the president to increase the effectiveness of internal audits.

Also, our CSR Management Committee determines the ideal direction for our business activities from the perspective of CSR and promotes the strengthening of corporate governance.

In fiscal 2018 we held 15 board meetings, with absences in 4 meetings (1 director was absent for 1 meeting and 1 auditor was absent for 3 meetings).

#### Corporate Governance System



#### Overview of Corporate Governance System (as of June 30, 2019)

Area	Number of People
Organizational structure	Company with board of auditors
Board chairman	Chairman and director
Number of board directors (female board directors) (one-year term)	14 (1)
Number of outside directors (independent directors)	2 (2)
Executive officers system	Yes
Number of corporate auditors (female corporate auditors)	4 (1)
Number of outside directors (independent directors)	2 (2)

#### Major Meetings Held in FY2018

Meetings	Meetings Held	Attendance Rate of Outside Directors
Board of Directors	15	95%
Board of Auditors	13	100%
Executive Committee	23	—

#### » Evaluating the Effectiveness of the Board of Directors

In accordance with the Basic Policy on Corporate Governance, we annually analyze and evaluate the overall effectiveness of the Board of Directors.

In fiscal 2018 we engaged all directors in a self-assessment survey, after which the results were analyzed and evaluated by the board chairman and outside directors, and reported to the Board of Directors for future discussion and confirmation on related issues and measures.

As a reflection of these efforts, the Board of Directors is considered to be generally well managed and its overall effectiveness ensured, although further ingenuity and improvements are required.

#### » Appointment of Board Members

The president proposes candidates for board directors and auditors to the Board of Directors, including outside directors, in accordance with the Basic Policy on Corporate Governance. After deliberation and decision by the Board of Directors candidates are recommended at the General Meeting of Shareholders and appointed based on its resolution. For nomination of auditors, the president proposes candidates to the Board of Directors with prior approval from the Board of Auditors, including outside auditors.

### ➤ Appointment of Outside Directors

Outside directors are appointed in accordance with our criteria for their independence.

#### Outside Directors (as of June 30, 2019)

Name	Attribute	Reason for Appointment
Yoshiko Koizumi	Lawyer	Extensive experience as a lawyer and broad insight into corporate legal affairs
Yuzo Arima	Former director of another company	Abundant experience as a business manager and keen insight into overall management issues

Please visit our website for more information on the criteria for independence of outside directors (Basic Policy on Corporate Governance Appendix 1).

- <https://www.taiheiyo-cement.co.jp/english/About Us> → Corporate Governance

### ➤ Board Member Remuneration

Resolutions of the General Meeting of Shareholders determine the upper limits of remuneration for board directors and auditors. The levels of remuneration for individual board directors are decided by resolution of the Board of Directors and those for individual auditors by the Audit and Supervisory Board Members. Remuneration of internal board directors consists of fixed and variable compensation while remuneration of the outside directors and auditors consists solely of fixed compensation.

#### Annual Remuneration of Board Members (FY2018)

	Board Members Who Received Remuneration	Amount of Remuneration Paid (Million Yen)
Board directors	14	827
Corporate auditor	4	72
Total	18	899

### Internal Control System

» GRI 102-30

In accordance with our Basic Policy for Building an Internal Control System we are creating a system that will enable us to enhance various activities from the following three perspectives: (1) efficiency of business operations, (2) risk and compliance, and (3) financial reporting. Under this policy our Internal Control Report has confirmed that internal control over financial reporting for fiscal 2018 was effective. An auditing firm we appoint has expressed its opinion that the report was appropriate. In the Business Report for fiscal 2018 we have presented an overview of system operation to ensure the proper execution of operations in accordance with the basic policy.

### Status of Compliance with Japan's Corporate Governance Code

The Taiheiyo Cement Group discloses information as required and in accordance with Japan's Corporate Governance Code, outlined below.

Principles	Disclosure by		
	Website <sup>#1</sup>	Basic Policy <sup>#2</sup>	Report <sup>#3</sup>
Principle 1.4	Cross-shareholdings		Article 22 ●
Principle 1.7	Related party transactions		Article 23
Principle 2.6 <sup>#4</sup>	Roles of corporate pension funds as asset owners		●
Principle 3.1 Full disclosure	Company objectives (e.g., mission), management strategies, management plans	●	
	Basic concepts and policies on corporate governance		●
	Policies and procedures in determining the compensation of senior management and directors		Article 15
Principle 3.1 Full disclosure	Policies and procedures on the appointment of senior management, and nomination of director and corporate auditor candidates		Article 5 Article 9 Article 12
	Board of Directors' decisions and scope of matters delegated to management		Article 3
Principle 4.9 <sup>#5</sup>	Independence standards and qualification for outside directors		Article 4 ●
Supplementary Principle 4.11.1	Views on appropriate balance between knowledge, experience and skills of the Board of Directors as well as on diversity and appropriate board size		Article 4
Supplementary Principle 4.11.2	Status of concurrent positions at other listed companies held by directors and corporate auditors of the Taiheiyo Cement Group		Article 7 Article 14
Supplementary Principle 4.11.3	Analysis and evaluation of the overall effectiveness of the Board of Directors and summary of results		Article 19 ●
Supplementary Principle 4.14.2	Training policy for directors and corporate auditors		Article 18
Principle 5.1	Policy for constructive dialogue with shareholders		Article 24

\*1 Our website

\*2 Our Basic Policy on Corporate Governance

\*3 Reports related to our corporate governance

\*4 Principle to be disclosed under the revised Corporate Governance Code (June 1, 2018)

\*5 In addition to the above three methods of disclosure we disclose information in our securities reports and materials for our general shareholders' meeting.

Please visit our website for more information on the Corporation Basic Policy on Corporate Governance/Corporate Governance Report.

- <https://www.taiheiyo-cement.co.jp/english/About Us> → Corporate Governance

## Risk Management and Compliance

We believe that risk management is the foundation for reducing management uncertainty and achieving management goals, and see compliance as essential for conducting business activities.

We are striving to conduct activities to manage risks and thoroughly ensure compliance across the group.

### Basic Risk Management and Compliance Policies

» GRI 102-16

#### » Basic Risk Management Policy and Regulations

In our Business Principles we declare “we will strive to anticipate the changing business environment to assess new opportunities for growth.” We consider risk management as a foundation for reducing management uncertainties and achieving management objectives. We manage risks that make the achievement of management goals uncertain, such as social change, changes in the global environment, natural disasters, accidents and scandals, based on our basic risk management policy. In addition, we have established risk management regulations to incorporate the risk management policy into specific risk management activities. Risk management regulations include emergency responses.

#### » Basic Risk Management Policy «

1. We prevent and reduce risks in order to ensure the quality and safety of our products and services, protect the lives and safety of our employees and their families, and earn greater trust from our stakeholders.
2. We create a system to appropriately manage a wide range of risks associated with our business activities.
3. We promote risk management through a plan-do-check-act cycle.
4. We quickly and appropriately deal with risks as they are identified.
5. In collaboration with group companies we build a system for immediately detecting new risks arising from changes in our business environment and for quickly and appropriately dealing with risks at the group level.

#### » Basic Compliance Policy

Under our Business Principles, we pledge that we will act in strict compliance with the law and in accordance with social mores. Fully aware that compliance is the foundation of CSR management, we published the Basic Compliance Policy and simultaneously created compliance rules in March 2005. We do not limit our definition of compliance to legal compliance; our definition includes compliance with the social mores from which our laws originate, the mission and business principles of our group, and internal regulations.

#### » Basic Compliance Policy (Summary) «

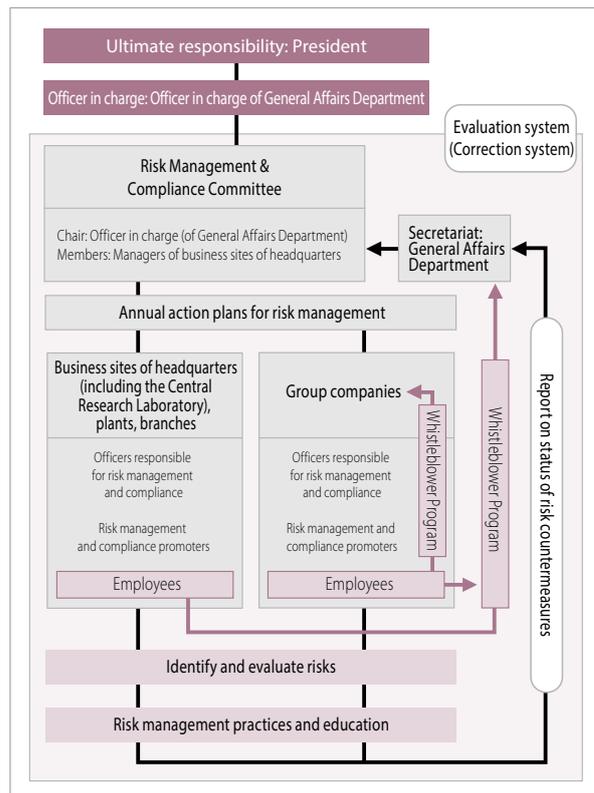
- Compliance with the Mission, Business Principles and social norms
- Maintaining internal systems and rules and ensuring broad-based awareness of them
- Cooperation with all group companies and promotion of educational and educational activities
- Working out appropriate responses and policies for occurrence of problems
- Timely and appropriate disclosure and communication of necessary information
- Compliance with international standards and rules, and respect for local cultures and customs
- Rejection of corrupt and unfair requests from antisocial influences or organizations

### Risk Management and Compliance Promotion System

» GRI 102-30, 31

Our president has ultimate responsibility for risk management and compliance promotion. The officer in charge of both areas (officer in charge of the General Affairs Department) is appointed by the president to preside over and run the Risk Management & Compliance Committee and systematically promote organized activities.

#### Risk Management and Compliance Promotion System



Note: As of April 2019, 104 group companies are managed under the above system.

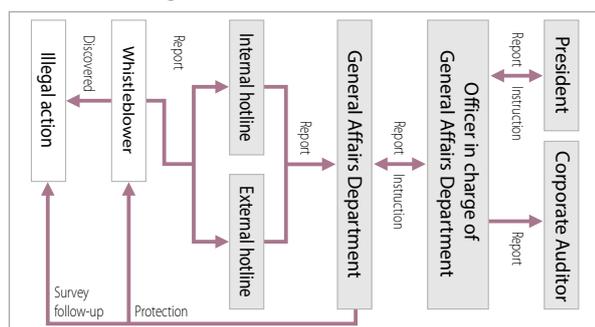
The committee plays a core role in our risk management and compliance promotion for the entire group. It embodies the policy, identifies, evaluates and specifies company-wide risks, implements risk management activities based on PDCA cycles and promotes compliance. Moreover, it studies and proposes the creation and revision of rules for risk management and compliance and provides instructions for advancing the awareness and education of employees. Under the guidance of this committee, each business site and group company has an officer responsible for risk management and compliance, and a risk management and compliance promoter, who carry out specific duties. We held four Risk Management & Compliance Committee meetings in fiscal 2018.

### ➤ Whistleblower Program

We properly handle reports and proposals in accordance with normal company procedures while directly receiving reports without the need for usual company procedures. Whistleblowers have the option of either disclosing their identity, including their name and department, or reporting anonymously to mitigate any potential psychological constraint. We have whistleblower hotlines both internally (at the CSR Group of our General Affairs Department) and externally (at a law firm). Our internal hotline is in a dedicated, locked room only accessible to hotline staff. It is equipped with dedicated phone and fax lines as well as a computer with a dedicated address in order to safeguard the privacy of those submitting reports. Our external hotline is also available to all employees of group companies in an effort to strengthen group governance, improve program effectiveness and reduce the burden on individual companies.

Moreover, we created the Whistleblower Program Regulations so whistleblowers using the program are not subject to unfavorable treatment.

#### Whistleblower Program



In fiscal 2018 we received reports from numerous employees via the hotline. However, only one of the reports was determined to be treated as whistleblowing under the program and handled appropriately in accordance with the regulations.

### Risk Management and Compliance Promotion Activities

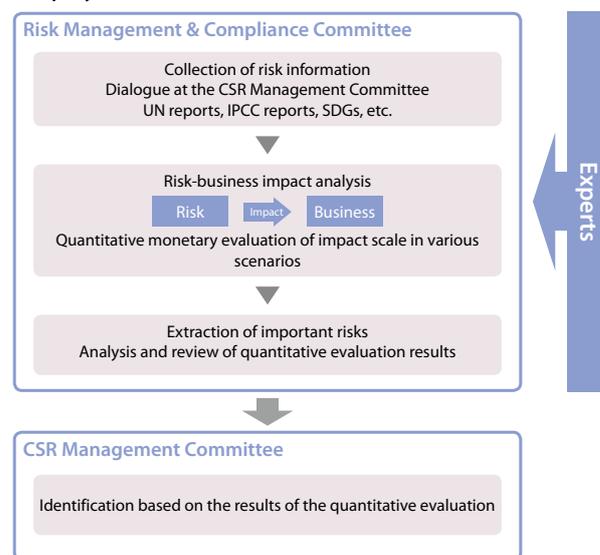
» GRI 102-11, 17, 201-2, 205-2

#### ➤ Collecting, Evaluating and Identifying Company-wide Risks

We collect, evaluate and identify group-wide risks every three years and conduct annual reviews of those risks.

Fiscal 2019 is the third year of the company-wide risk review since the first was conducted in fiscal 2016. The purpose of identifying risks is to identify the impact of anticipated changes in social and environmental conditions over the next ten years in relation to uncertainty of group management and then formulate measures to avoid and reduce that uncertainty. We review risks with reference to the corporate risk management guidance based on ISO 31000, COSO and WBCSD as well as various risk information such as UN reports, IPCC reports and SDGs. We also consult risk management experts.

#### Process of Collecting, Evaluating and Identifying FY2019 Company-wide Risks



## Critical Company-wide Risks Identified in FY2016

External environmental changes	<ul style="list-style-type: none"> <li>• Declining birthrate and aging population</li> <li>• Shrinking domestic market</li> <li>• Economic deterioration</li> <li>• Hosting the Tokyo 2020 Olympic and Paralympic Games</li> <li>• Climate change</li> <li>• Stricter environmental regulations</li> <li>• Changes in the fuel market</li> <li>• Large-scale disasters</li> <li>• Progress of globalization</li> <li>• Intensification of global issues</li> <li>• Terrorism and riots</li> <li>• Intensified competition for developing new materials</li> <li>• Intensified competition with foreign companies</li> <li>• Progress of free trade, including TPP</li> <li>• Technical innovation</li> <li>• Spread of low-carbon concrete in societies</li> <li>• Progress of the network society</li> <li>• Increased cyber security risks</li> <li>• Changes in employment</li> <li>• Rise of inbound businesses</li> </ul>
Internal environmental changes	<ul style="list-style-type: none"> <li>• Deterioration of the financial environment</li> <li>• Aging of plant facilities and resources</li> <li>• Changes in business processes</li> <li>• Spread of cloud-based systems</li> <li>• Progress of telecommuting and flextime system</li> <li>• Changes in organizational culture</li> <li>• Shortage of human resources</li> <li>• Progress of overseas projects</li> </ul>

### ➤ Risk Reduction Countermeasures

Upon reviewing the identified company-wide risks and evaluation results, our Risk Management & Compliance Committee specifies those to be addressed every year, and risk impact reduction measures are implemented through PDCA cycles.

Issues addressed in fiscal 2018 were: (1) Leakage of pollutants and hazardous substances, (2) Enhancement of information security, (3) Product/service accidents, (4) Aging of facilities and equipment, (5) Prevention of traffic accidents, (6) Strengthening of overseas crisis management measures, (7) Enhancement of group corporate governance including risk management and the compliance system, (8) Work-related accidents, and (9) Response to shortage of human resources.

### ➤ Emergency Countermeasure Task Force

When any event such as a disaster, accident or misconduct has occurred, the affected business site informs the general manager of the General Affairs Department. The general manager determines the appropriate countermeasure

from the following options while considering the severity of the event: establish the Emergency Countermeasures Headquarters or delegate site leadership to respond to the event. Action is then taken through the chosen countermeasure.

Although we received 25 reports in fiscal 2018, none required action by the Emergency Countermeasures Headquarters. Emergency reports requiring urgent attention, including proposals for measures to be taken, are deliberated by the CSR Management Committee.

In addition, as preparation for responding to disasters and accidents, we conducted Shake Out drills for earthquakes at all business sites, earthquake response drills for branches and workshops on a business continuity plan for the headquarters in case of an earthquake. Moreover, we trained plant staff and explained to them how to handle complaints if an accident occurs.

### ➤ Risk Management and Compliance Promotion Training

We provide training for managers and promoters for risk management and compliance of the company's business sites and group companies to ensure effective risk management and promotion of compliance.

In November of fiscal 2018 we presented a lecture by a risk management consultant for group company managers based on two themes: "Waste treatment law and disqualification requirements" and "Four management value principles system and compliance practice," with 93 companies participating, and including the lecture entitled "Communication and risk recognition as a compliance promoter" followed by case study discussions for promoters, with 85 companies participating.

### ➤ Compliance Training

To fulfill our mission and uphold our business principles we formulated the Standard of Conduct to guide all officers and employees of Taiheiyo Cement in the performance of their daily duties. These standards consist of 35 items in 6 categories and gather together Taiheiyo Cement's policies, regulations and president messages delivered within and outside the company.

We created and distributed to all our employees, as well as all those of our main group companies, the Standard of Conduct (Casebook), which describes specific examples on how to act in line with the Standard of Conduct.

For all company employees, including those on loan to group companies, we conduct monthly quiz tests as part of

e-learning programs to provide education on the Standard of Conduct (Casebook) and other materials so they learn how to act in certain situations.

In fiscal 2018, 74.3% of subject employees participated in the program.



Standard of Conduct (Casebook)

Please visit our website for more information on the Standard of Conduct (Casebook).

- <https://www.taiheiyo-cement.co.jp/english/>  
 CSR → Corporate Social Responsibility at Taiheiyo Cement → “Corporate Framework for CSR,” “Mission,” “Business Principles” and “Standard of Conduct”

### ➤ Legal Roundtables for Group Companies

Since fiscal 2005 we have been holding roundtable discussions attended by management and legal affairs representatives from our group companies. These provide opportunities to share legal information (including revisions to laws) in order to further our understanding of major laws relating to corporate management and to assist in the creation of our group’s compliance regime.

In fiscal 2018 we discussed the following topics.

#### Group Legal Round Tables (FY2018)

No.	Date	Attendees	Topics
27	July 2018	14 (8 companies)	• Legal issues concerning labor
28	November 2018	88 (89 companies)	• Revision of civil law and its impact on business practices • Practical responses to civil law revisions

## Information Security

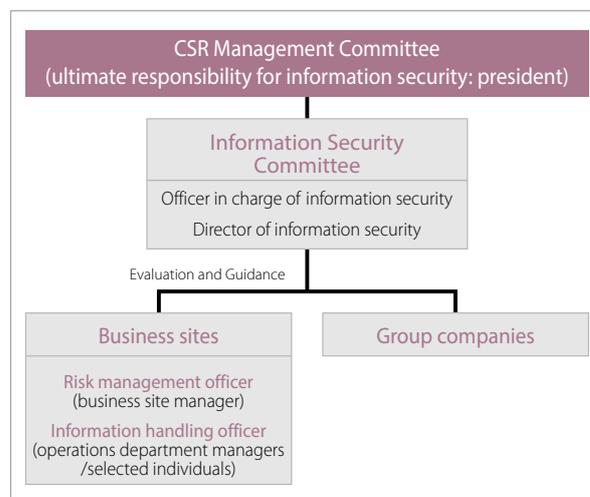
### ➤ Information Security Promotion System

Our Information Security Basic Policy and Information Security Management Regulations are the basic regulations governing our information security management system. We have created an Information Security Management Regime in accordance with these regulations and actively work to maintain information security under this regime.

Our president has ultimate responsibility for information security. Appointed by the president is the information security officer (officer in charge of the

Corporate Planning Department), who presides over and runs the Information Security Committee in order to advance organized and planned information security promotion activities.

### Information Security Structure



Please visit our website for more information on our Information Security Basic Policy.

- <https://www.taiheiyo-cement.co.jp/english/>  
 CSR → Management → Risk Management and Compliance

### ➤ Information Security Promotion Activities

In fiscal 2018 we surveyed the status of information security measures at overseas group companies and also conducted an e-mail drill to respond to targeted attacks, disaster recovery drills, a security level survey of group companies and information security training.

An accident occurred in which a computer of a group company was infected with ransomware, but this was handled appropriately and caused no major damage. We will continue our efforts to improve the security levels of our domestic and overseas group companies.

## Protection and Use of Intellectual Property

### ➤ Intellectual Property Policy

Our fundamental intellectual property policy is to contribute to management through intellectual property activities that support our business, ensuring our competitive advantages by strategically conducting intellectual property activities. Under this policy we are developing our intellectual property activities in collaboration with business and R&D divisions to contribute to increasing corporate value of the Taiheiyo Cement Group.

### ➤ Intellectual Property Management System

The company has established Intellectual Property Rights Handling Rules and an associated management system to guide our intellectual property activities. The Intellectual Property Department assigns staff members to the headquarters mainly to perform planning and administrative tasks, and to the Central Research Laboratory to handle applications for and protect rights and research efforts. In addition, intellectual property promoters are assigned as contact points to the major business divisions and the Central Research Laboratory to actively promote the effective and efficient creation, protection and use of our intellectual property in collaboration with the Intellectual Property Department.

### ➤ Intellectual Property Management System for the Group

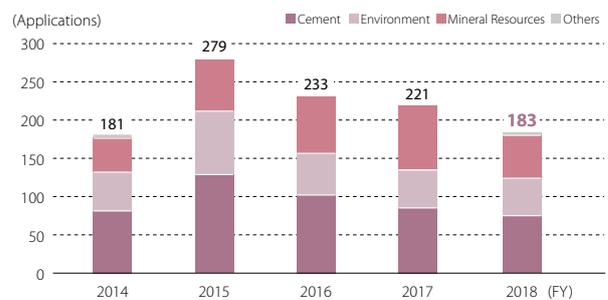
We formulated and began applying the Taiheiyo Cement Group Intellectual Property Management Guidelines, which apply to the entire group, in March 2018 to promote the use of our intellectual property and reduce associated risks. We have established a committee consisting of those in charge of intellectual property at the main group companies in order to promote and vitalize our intellectual property activities corresponding to the scale and industry of each group company, by sharing issues, exchanging information and holding workshops. Our company headquarters was previously used as the venue, but since fiscal 2018 we have created new opportunities to use group companies for that purpose. As a result, the management of each company is now being looked at as additional enhancements are made.

### ➤ Outline of Our Intellectual Property

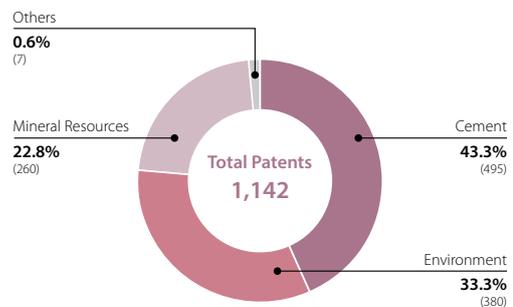
As of the end of fiscal 2018 the company owned 1,142 patents, 18 design rights and 264 trademarks domestically. The cement segment accounts for the largest share of patents owned by the company. However, over the past several years the share of patent applications in the environmental and mineral resources segments has been growing in line with our business and R&D strategies. In order to increase business revenue from patents, we must obtain patents for technologies including peripheral technologies, considering company business conditions. With this understanding, we possess a wide collection of strong, advanced patents from the perspective of retaining influence on competitors in terms of intellectual property.

As a technology-oriented manufacturer, we have recently focused on raising the percentage of inventors among all employees. We believe this would cultivate a mindset of valuing corporate intellectual property and develop the originality and portfolio of each business by protecting effective inventions, leading to the continued strengthening of our competitiveness.

Number of Domestic Patent Applications by Segment (Non-consolidated)



Domestic Patents by Segment (as of the end of FY2018) (Non-consolidated)



### ➤ Licensing Activities

While the company applies for and acquires rights primarily to ensure competitive business advantages, we also proactively license rights that we do not use to other companies. In some cases we are also granted licenses for technologies that are likely to contribute to our business from other enterprises.

### ➤ Risk Management for Intellectual Property

Our acquisition and control of intellectual property is conducted under the Rules for Handling Intellectual Property Rights stated above. This intellectual property right strategy is intended to ensure that implementation corresponds with the reality of our individual businesses.

Intellectual property, including pending patent applications, is handled through a centrally controlled database by the Intellectual Property Department.

We strive to prevent infringements of competitors' patents and strictly manage risks by ascertaining recent developments of issues through the periodic circulation of patent information, a problematic patent watch system and an intellectual property review service with the utmost attention paid to setting our own criteria. Moreover, we are increasing employee awareness when we hold in-house training, intellectual property strategy meetings with various divisions and so forth.

To manage trade secrets and prevent leaks of knowhow and technology, we formulated and enforce Information Security Management Regulations and Document Management Rules that cover the entire group. In addition, we use the guidelines stipulated in the Rules for Handling Intellectual Property Rights to determine whether we will file a patent application for a technology or keep it secret as internal expertise in order to prevent technology leaks.

Group companies have formulated or reinforced various intellectual property rules while completing the execution of agreements with each inventor. Given that we are strategically licensing our core technologies overseas from the perspective of our projected global management stance, we also address the risks of overseas licensing. The legal systems of emerging Asian countries are different from the system in Japan. For example, licensors are responsible for quality/performance assurance in those countries. In addition to internal information dissemination, we are implementing risk management in cooperation with specialized lawyers who are familiar with situations in those countries.

### ➤ Intellectual Property Award Program

We have paid specified compensation to inventors for their patent applications and for registered patents that have significantly contributed to the business profits under our regulations. Furthermore, in fiscal 2018 we started to operate an Intellectual Property Award Program to strengthen employee awareness of intellectual property. Achievements have been recognized through the Excellent Invention Award (1 award), the Largest Number of Patent Applications Award (1 individual and 1 team) and the Intellectual Property Contribution Award (3 awards).

### ➤ Training and Awareness Raising

To raise awareness of intellectual property and increase its potential, the company encourages employees, especially members of the research division and the technology development division, to take the Intellectual Property Management Skills Test, a national licensing examination. We have continued other employee training and awareness-raising efforts such as external workshops held by the Japan Intellectual Property Association and Japan Institute for Promoting Invention and Innovation in addition to in-house training at our headquarters, Central Research Laboratory, branches and plants. In fiscal 2018 we implemented the training programs, described below, with 87 attendees including employees from group companies. We have also partially introduced an e-learning program. Furthermore, through efforts such as information exchange gatherings and study meetings for members in charge of the intellectual property of group companies stated above we strive to protect and fairly use intellectual property across the group while respecting other companies' intellectual property and preventing infringement, from the perspective of intellectual property as a source of profit.



Seminar on intellectual property descriptions

#### Number of Attendees for Intellectual Property Training Sessions Implemented in FY2018

(Unit: person)

Training Content	Taiheiyō Cement Corporation Employees	Group Company Employees	Total
Introduction	28	26	54
Description	11	22	33
Total	39	48	87

## Environmental Management

We have created an Environmental Management Committee which proposes cross-functional environmental strategies and actively works to address environmental issues. Since having unified environmental management systems developed by individual plants and obtaining the ISO 14001 certification for the entire company in April 2009, we have been striving to further improve our environmental management.

### Environmental Management Policy

Our environmental management policy declares an active commitment to environmental issues facing society, including not only preventing pollution but also creating a recycling-based society, mitigating climate change, reducing environmental impacts, protecting water resources and conserving biodiversity as key management challenges. Under this policy we are focusing on improving our environmental performance.

#### » Environmental Management Policy «

In January 2006 we created an Environmental Management Policy, reflecting the fact that we consider an active commitment to the environmental issues facing society to be key management challenges. In addition to initiatives emphasizing these six items in all business operations, we strive to communicate with a wide range of stakeholders, from international society to local communities, and to seek the ideal form for a sustainable cement industry as a member of the WBCSD and GCCA (Global Cement and Concrete Association).

Created in January 2006  
Revised in April 2019

#### 1. Pursuing Environmental Conscious Business

Pursuing zero environmental impacts which are emitting GHG, pollutants, noise and vibration, withdrawing water, degrading forest and others from our business including value chain with promoting introduction of eco-efficient technologies into our business and development of eco-conscious products into market as a member of regional and also global society based on appropriate evaluating our business in environment.

#### 2. Compliance with Environmental Laws and Regulations

As a minimum, we comply with all environmental laws and regulations applicable to our business activities. Furthermore, beyond compliance, we meet environmental commitments undertaken through voluntary agreements.

#### 3. Contributing to a Recycling-based Society

Leveraging the inherent capabilities of the cement industry, we actively recycle industrial and municipal wastes as raw materials and fuels for cement production.

#### 4. Proactively Addressing the Issue of Climate Change

We promote greater energy reduction throughout the whole of our business activities and strive to develop technology to help reduce society's total greenhouse gas emissions.

#### 5. Promoting Global Technology Transfer

Through the worldwide transfer and deployment of our technology, we aid the development of greater energy conservation, environmental preservation and utilization of waste materials.

#### 6. Ecosystem Conservation

We enhance to protect ecosystem, including biodiversity, by providing products and technologies that contribute to harmonious coexistence with ecosystem.

### Company-wide Environmental Management System

In June 1997 Taiheiyo Cement initiated ISO 14001 certification of each of its plants and attained 100% certification by 1999. Recognizing, however, that plant level management systems alone are insufficient to ensure comprehensive environmental protection through environmental management projects, we built a company-wide environmental management system (EMS) and extended it beyond plants to cover our headquarters, branches and Central Research Laboratory. In April 2009 our EMS was ISO 14001 certified by the Japan Testing Center for Construction Materials, an independent third-party testing, standardization and certification authority. In March 2018 the company-wide system was audited for recertification for the third time.

#### » EMS Readiness

Top management (officer in charge of the Production Department) chairs the Environmental Management Committee with ultimate decision-making authority for environmental management. Overseen by the Environmental Management Committee, the relevant headquarters division manages our plants, mines and branches using an "umbrella" system.

#### Company-wide EMS Readiness



#### Taiheiyo Cement Group's Environmental Target WBCSD | GCCA

**CO<sub>2</sub> Emission Reduction Targets**

Cement production-related CO<sub>2</sub> emissions from Taiheiyo Cement and group companies

**Reduce specific net CO<sub>2</sub> emissions per tonne of cementitious product by 10% or more from fiscal 2000 levels by fiscal 2025 (CSR Objectives for 2025).**

---

**Reduction Target for Main Air Pollutants**

Emissions of NO<sub>x</sub>, SO<sub>x</sub> and dust from the main stacks of kilns at the cement production sites of Taiheiyo Cement and group companies

**Limit NO<sub>x</sub>, SO<sub>x</sub> and dust levels per tonne of clinker (g/t-clinker) to the target levels achieved in fiscal 2010**

Each group cement company in Japan and overseas is committed to environmental preservation. Over 90% of the group's total cement output in fiscal 2018 was produced in ISO 14001-certified plants. The facilities that are not ISO-certified operate their own EMS.

### ➤ Internal Environmental Audits

In fiscal 2018 we conducted internal environmental audits at all our sites.

As priority items from this year's audit, confirmation of legal compliance reviews, external communications and corrective actions for unachieved targets were identified as company-wide concerns. The status of a follow-up, including corrective and preventive actions for nonconformity with environmental requirements, and the status of responses to emergencies were identified as items that plants must deal with. Verifying the scope of the internal audit was identified as an item that must be dealt with by branches.

The audit identified 21 findings including 3 for which improvements were requested. Corrective actions have been taken for all 3 findings for which improvements were requested.

### ➤ Environmental Education

During Environment Month each June we deliver a message from the president and provide educational materials on the environment page of our portal site to increase awareness and encourage learning about the environment throughout the group. Each workplace also engages in a number of different activities, such as conducting training sessions related to accident response, viewing environment-related DVDs, holding lectures and taking part in local cleanup activities. In fiscal 2018 more than 350 activities took place, including group companies.



An event to experience eco-planters

## Compliance with Environmental Laws

» GRI 307-1

### ➤ Environmental Accidents

In fiscal 2018 we had no legal or regulatory violations that were subject to fines or penalties or grave accidents that

affected animals or plants. However, we had two accidents (leakages of alkali and cement dust) and took measures to prevent these accidents from recurring.

### ➤ Response to Environmental Accident

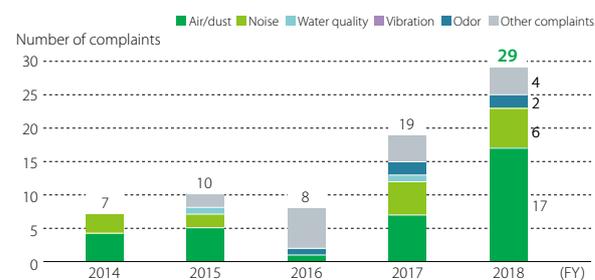
Each plant maintains emergency response plans in preparation for possible environmental accidents. They also conduct training, including fire fighting training in cooperation with local fire departments. Other education includes training on how to reduce environmental impact when an environmental accident occurs and how to report it to a government entity.

### ➤ Environmental Complaints

As the waste and by-products we use become more diverse and increase, the number of environmental issues we need to consider also rises. Therefore, we are ramping up our efforts to reduce environmental impact through activities such as introducing indoor storage and sealed containers for waste and by-products, and improving our flue gas stacks. When we receive an environmental complaint we quickly travel to the site in question, whenever possible, to check the situation, investigate the cause and provide an explanation. When we find that our activities are the cause, we implement improvements.

In fiscal 2018 our cement plants received 91 environmental complaints. We responded to 29 of these, which were associated with our operations. The number of complaints increased from the previous year due to a change in the counting method, which aims to eliminate inconsistent counting among plants.

#### Number of Environmental Complaints Received (Non-consolidated)



## Mitigating Climate Change

Most of the greenhouse gas emissions associated with our business operations are from cement production. To tackle this we have identified CO<sub>2</sub> reduction targets for cement-related CO<sub>2</sub> emissions in our CSR Objectives for 2025 and are working to reduce greenhouse gas emissions particularly by focusing on efforts to reduce emissions at individual cement plants.

» GRI 103-2, 3, 12

### Long-range Initiative to Respond to Climate Change

Since the adoption of the Paris Agreement at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (COP21) in 2015, active discussions have been underway in Japan and other countries toward realizing a carbon-free society.

The Taiheiyo Cement Group has positioned CO<sub>2</sub> emissions reduction as an important growth strategy and has set a target of reducing CO<sub>2</sub> emissions related to cement production as part of its CSR Objectives for 2025, which we formulated in 2015. To accelerate our efforts, we announced that we support the recommendations of the TCFD (see below), and we also formulated a framework for our long-range vision of greenhouse gas emissions reduction.

#### Supporting the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)



In June 2019 we announced that we support the recommendations of the TCFD\*. Following its recommendations, we will evaluate and analyze the business risks and opportunities that climate change poses to our group, reflect them in our business strategies, and disclose information.

\*The Task Force on Climate-related Financial Disclosures (TCFD): Established in 2015 by the Financial Stability Board (FSB) to promote the disclosure of climate-related financial information. In 2017, for the appropriate investment decisions of investors, the TCFD published recommendations to promote disclosure of information on the financial impacts of climate-related risks and opportunities.

#### Formulating a Framework for Our Long-range Vision of Greenhouse Gas Emissions Reduction toward 2050

In July 2019 we formulated a framework for our long-range vision of greenhouse gas emissions reduction with a goal of achieving an 80% reduction by 2050. The framework reflects the long-term objectives of the Plan for Global Warming Countermeasures adopted by the Japanese Cabinet in 2016.

We will explore various measures to realize the vision, many of which require innovative approaches that cannot be achieved simply by extending the currently available technologies or social environments. Also, there are other issues beyond the technical aspects, such as development of codes and standards, social acceptance, and sharing of the

financial burden. While solving these challenges we will continue our efforts to realize the long-range vision, with a view to our future growth as well as major social changes.

#### Framework Formulated for Our Long-range Vision of Greenhouse Gas Emissions Reduction

##### Reduction of CO<sub>2</sub> emissions in cement production

Long-term goal: **80%** reduction by 2050

Outline of technical measures

- Increased use of alternatives to fossil energy;
- Increased use of fossil energy, which generates less CO<sub>2</sub> emissions;
- Development of low-carbon clinkers and cements, including those with higher admixture contents;
- CO<sub>2</sub> capture from exhaust gases and the effective use and storage of the CO<sub>2</sub>.

Advancing the system

Establish a new dedicated organization within the Central Research Laboratory to strengthen research and development of technical measures, including carbon recycling (effective use of CO<sub>2</sub>).

##### Contribution of cement products to avoid CO<sub>2</sub> emissions

Long-term goal: contribute to avoiding emissions equivalent to **20%** of the CO<sub>2</sub> emissions in cement production

Measures to realize our long-term goal

- Formulate the Calculation and Reporting Protocol for Accounting and Reporting of Avoided GHG Emissions through the Value Chain of Cement and Cement-based Products.
- Provide and develop products that contribute to a greater contribution of cement products to avoid CO<sub>2</sub> emissions using the protocol.

## Greenhouse Gas Emissions and Achievements of Our CSR Objectives for 2025

» GRI 102-11, 302-3, 305-1, 2, 4, 5

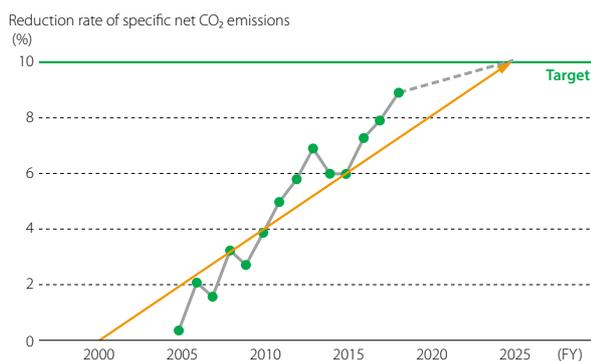
Among the total greenhouse gas emissions generated by our domestic group companies (excluding power generation companies) that are reporting their greenhouse gas emissions by business segment in accordance with the Act on Promotion of Global Warming Countermeasures, about 94% of greenhouse gas emissions were generated from cement production companies in fiscal 2015.\* The amount of greenhouse gas emissions associated with our service stations, headquarters, branches and shipping, as well as electricity purchased by the group, was around 5% in fiscal 2018. Under Scope 3 (value chain) calculations for cement, for which downstream value is not calculated since cement is considered an intermediate product at this stage, the emissions were around 6.0% of Scope 1 and Scope 2 (direct air emissions) in fiscal 2017.

The bulk of greenhouse gas emissions associated with the operations of our group companies is CO<sub>2</sub> from cement production. We are therefore working to reduce emissions from cement production, as indicated in our CSR Objectives for 2025, in order to achieve our long-term quantitative target of reducing specific net CO<sub>2</sub> emissions per tonne of cementitious product by 10% or more from fiscal 2000 levels by fiscal 2025.

Some of our plants are taking part in the target setting-type emissions trading program for Saitama Prefecture and California's cap-and-trade program, striving to achieve the reduction targets. To support voluntary approaches we are also working in line with Keidanren's voluntary action plan and the measures to reduce greenhouse gas emissions established by the WBCSD-CSI and GCCA.

\*Most of our overseas affiliated companies are cement production companies so the total CO<sub>2</sub> emissions from production overall is higher than that of domestic companies alone.

### Progress in Meeting Our CO<sub>2</sub> Reduction Targets in CSR Objectives for 2025



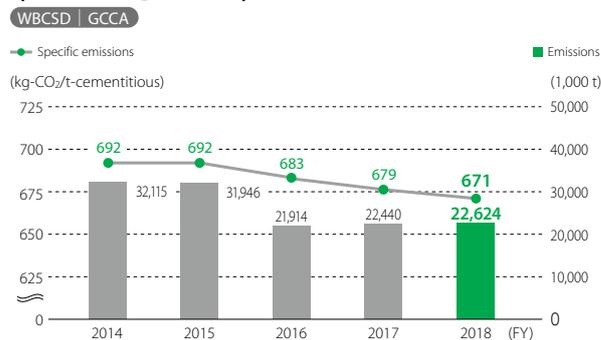
## Efforts Related to the Cement Production Process

» GRI 302-1, 3, 4, 305-4, 5

A large amount of carbon dioxide is produced in the course of cement manufacture. This is because the production process requires a high temperature of 1,450°C and limestone, used as raw material, is decarbonated through a chemical reaction during the calcination process ( $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$ ). About 35% of CO<sub>2</sub> emissions generated during cement production are from the consumption of energy, about 55% are from the calcination of raw materials and about 10% are from electricity use. To reduce CO<sub>2</sub> emissions we have been working to conserve energy by installing energy-efficient equipment and improving the stability and efficiency of our kiln operations. We have also been implementing measures such as using waste- and biomass-derived energy sources to decrease our rate of use of fossil fuels. Moreover, we are moving toward using recycled resources with less carbonate content to bring down CO<sub>2</sub> emissions from the calcination of the limestone used as raw material, and have started using waste heat power generation to tackle CO<sub>2</sub> emissions associated with conventional electricity generation.

Specific heat consumption was reduced in fiscal 2018, delivering a reduction in CO<sub>2</sub> emissions of 8-kg-CO<sub>2</sub>/t-cementitious compared to fiscal 2017, mainly as a result of a decrease in the clinker-to-cement ratio.

### Specific Net CO<sub>2</sub> Emissions per Tonne of Cementitious Product

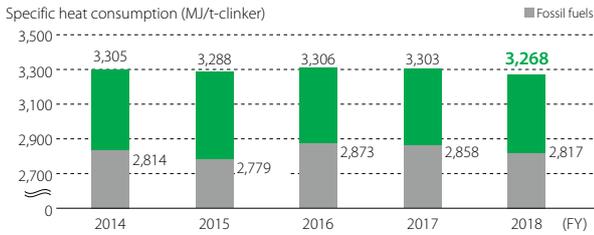


Guidelines: WBCSD-CSI "Cement CO<sub>2</sub> and Energy Protocol Ver. 3" and GCCA "GCCA Sustainability Guidelines for the monitoring and reporting of CO<sub>2</sub> emissions from cement manufacturing Ver. 0"

### » Efforts to Save Energy

Specific heat consumption of clinker production by the group's cement plants in fiscal 2018 decreased by 35 MJ/t-clinker from the previous year's level to 3,268 MJ/t-clinker.

## Specific Heat Consumption of Clinker Production WBCSD | GCCA

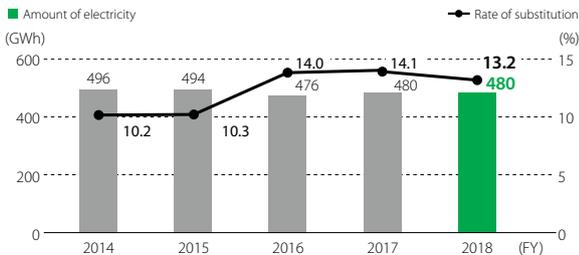


Guidelines: WBCSD-CSI "Cement CO<sub>2</sub> and Energy Protocol Ver. 3" and GCCA "GCCA Sustainability Guidelines for the monitoring and reporting of CO<sub>2</sub> emissions from cement manufacturing Ver. 0"

### ➤ Use of Waste Heat Power Generation Systems

Total electric power generated by waste heat power generation systems at the group's cement production companies in fiscal 2018 increased by 0.1 GWh from fiscal 2017 to 480 GWh. Its ratio to all electricity consumed in the production of cement was 13.2%. We were therefore able to reduce CO<sub>2</sub> emissions by about 331 thousand tonnes in fiscal 2018 compared to purchased power generated from coal-fired power plants (emission factor: 0.69 t-CO<sub>2</sub>/MWh).

## Electricity Generated by Waste Heat WBCSD | GCCA

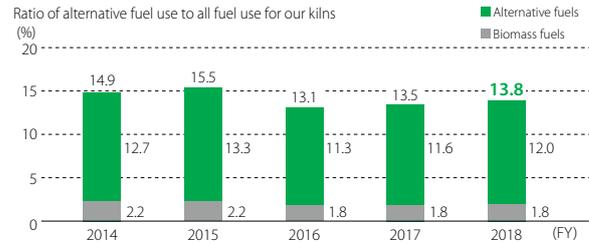


Guidelines: WBCSD-CSI "Cement CO<sub>2</sub> and Energy Protocol Ver. 3" and GCCA "GCCA Sustainability Guidelines for the monitoring and reporting of CO<sub>2</sub> emissions from cement manufacturing Ver. 0"

### ➤ Use of Alternative Energy Resources and Alternative Raw Materials

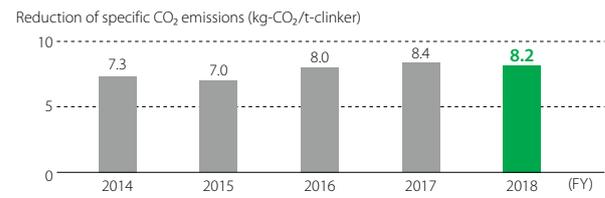
In fiscal 2018 non-fossil energy and biomass energy accounted for about 13.8% of all energy used for group kilns. A decrease of about 8.2 kg-CO<sub>2</sub>/t-clinker was also achieved by using alternative raw materials. As a result of using both alternative energy resources and raw materials, reductions in CO<sub>2</sub> emissions are expected to reach 1.44 million tonnes (emission factor for coal: 0.096 kg-CO<sub>2</sub>/MJ).

## Ratio of Alternative Fuels and Biomass Fuels WBCSD | GCCA



Guidelines: WBCSD-CSI "Cement CO<sub>2</sub> and Energy Protocol Ver. 3" and GCCA "GCCA Sustainability Guidelines for the monitoring and reporting of CO<sub>2</sub> emissions from cement manufacturing Ver. 0"

## Reduction of Specific CO<sub>2</sub> Emissions by Replacing Limestone with Alternative Raw Materials WBCSD | GCCA



Guidelines: WBCSD-CSI "Cement CO<sub>2</sub> and Energy Protocol Ver. 3" and GCCA "GCCA Sustainability Guidelines for the monitoring and reporting of CO<sub>2</sub> emissions from cement manufacturing Ver. 0"

## Reducing CO<sub>2</sub> Emissions during Transportation » GRI 305-3

We contract the delivery of our raw materials and products to transportation companies and are striving to reduce CO<sub>2</sub> emissions as a specified consigner designated under the Japanese Energy Saving Act. Major efforts include implementing a plan to transport goods on return trips, encouraging drivers to eco-drive, and promoting energy efficient devices such as digital tachometers and eco-tires on vehicles. In shipping we continue to pursue energy efficiency technologies and operate new ships that are equipped with many energy-saving features. We are also supporting energy-saving operations for conventionally powered ships.

In fiscal 2018 our CO<sub>2</sub> emissions increased by about 7% compared to fiscal 2017, mainly due to a 5% increase in both the distance and tonnage transported.

## CO<sub>2</sub> Emissions by Mode of Transportation (FY2018) Non-consolidated

Mode of Transportation	Tonnage Transported (1,000 t)	Average Distance Transported (km)	Transported Tonne × Kilometer (1,000 t × km)	CO <sub>2</sub> Emissions (1,000 t)
Ship	19,329	485	9,379,758	122
Truck	15,025	54	806,051	48
Railway	5,411	27	143,805	3
<b>Total</b>	<b>39,765</b>	<b>260</b>	<b>10,329,614</b>	<b>173</b>

# Appropriate Use of Water Resources

We began our analysis of associated risks and an assessment of water consumption by identifying issues that could emerge.

## Water Risk Analysis

» GRI 303-1

According to the results of the water risk analysis conducted using the Water Risk Filter\*, the average score for the total basin risk for all our plants (weighted average taking into account the cementitious production volume) was 2.6 (the maximum score is 5.0, with a higher score indicating a greater risk). The highest total basin risk score was 3.6 and higher than that of the previous year. The volume of cement produced at the plant with the highest score accounted for about 15% of the production volume of all the plants. However, when we analyzed conditions at that plant, no imminent issues were found.

\*This is a water risk mapping tool developed by the World Wide Fund for Nature and used to evaluate impacts on businesses related to water scarcity, flooding, drought, seasonal variation, physical water quality risks, regulatory risks, etc.

## Status of Water Consumption

» GRI 303-1, 2, 3, 4, 306-1

Most of the water used at our cement plants is for cooling production equipment, exhaust gas and in-house power generators. Therefore the water discharged from the plants is mostly cooling water, which is not polluted as defined in the Water Pollution Control Act. Our plants near the ocean use seawater to cool in-house power generation equipment. We circulate and reuse all freshwater at these facilities (except for household wastewater) in order to reduce water withdrawal and prevent pollution by the discharged water.

### Status of Water Consumed (WBCSD | GCCA)

(Unit: 1,000 m<sup>3</sup>)

	FY2014	FY2015	FY2016	FY2017	FY2018
Surface water	15,394	13,717	7,505	8,130	6,521
Ground water	17,358	18,329	16,232	16,370	16,884
Industrial water	2,996	3,037	2,983	3,095	3,251
Other	42	0	0	0	0
Total freshwater withdrawal (l)	35,791	35,083	26,719	27,596	26,656
Total seawater withdrawal	151,535	148,836	146,097	149,056	149,776
Total withdrawal	187,325	183,918	172,816	176,652	176,432
Total freshwater discharge (O)	14,253	13,871	12,964	12,294	12,167
Total seawater discharge	151,535	148,836	146,097	149,056	149,781
Total discharge	165,787	162,707	159,061	161,350	161,948
Total freshwater used (l-O)	21,538	21,212	13,755	15,302	14,489

Guidelines: WBCSD-CS1\* Protocol for Water Reporting Ver. 1.0\* and GCCA \*GCCA Sustainability Guidelines for the monitoring and reporting of water in cement manufacturing Ver. 0\*

The total withdrawal of freshwater for fiscal 2018 was about 26.66 million m<sup>3</sup> and the total seawater withdrawal for the same year was about 150 million m<sup>3</sup>. The seawater was used to cool in-house power generation equipment at our plants near the ocean and then released back into the sea after use. The amount of freshwater discharged was approximately 12.17 million m<sup>3</sup>, meaning that about 14.49 million m<sup>3</sup> of freshwater was used. However, almost all of the water was for the cooling of equipment and consequently released into the atmosphere through evaporation rather than as a raw material for products.

In fiscal 2018 we withdrew 0.806 m<sup>3</sup> of freshwater (withdrawal per unit of production) to produce 1 tonne of cement. Moreover, there was little change in our water consumption efficiency.

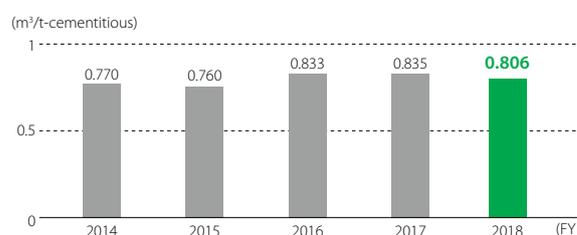
## Appropriate Use of Water Resources

» GRI 203-1, 303-1, 2, 3, 4, 5, 306-1, 413-1

At present there are no foreseeable specific concerns regarding water resources that may be raised by local communities. We therefore remain focused on reducing the amount of water withdrawal from the perspective of improving production efficiency. Also, we will continue to contribute to promoting the appropriate use of water resources for local communities by maintaining close communication with them.

As for Taiheiyō Cement Philippines, it supplies clean water to local communities in the Philippines from a well drilled by the company.

### Fresh Water Withdrawal per Unit of Production (WBCSD | GCCA)



## Recycling Waste and Other Materials

We safely treat large volumes of waste and by-products produced by many industries, as well as household waste, using our cement manufacturing facilities to recycle them into cement. We strive through our recycled-waste-to-cement system to create and expand a recycling-based society in partnership with a wide range of industries and communities

» GRI 103-2, 3, 203-1, 413-1

### Resource Recycling with Industries

#### ➤ Electric Power Utilities

We accept large volumes of coal ash produced at coal-fired power plants and use it as a substitute for clay as a raw material in cement. In addition, we operate ash centers\* to use more ash. We also supply the power plants with limestone powder which is used as a flue-gas desulfurization material to scrub the harmful sulfur oxide from the exhaust produced by the burning of coal. The reaction of the flue-gas desulfurization material with sulfur oxide forms gypsum which we use effectively as a raw material for cement.

\*Ash centers are distribution sites with collection/transportation (transshipment and storage) and intermediate-processing (powder mixing) functions. They receive coal ash from coal-fired power plants and ensure a stable supply to our cement plants, while enabling effective utilization of coal ash and supplying diverse products that meet user needs.

#### ➤ Steelmakers

In the steelmaking process impurities are removed from iron ore to make iron. We supply the limestone powder and quicklime used as purifying materials in the refining process. We also use by-products such as blast furnace slag and steel slag that remain after the refining process as raw materials for cement and mineral components.

#### ➤ Construction Soil

Conventionally this soil had been dumped into landfills. By making effective use of it as an alternative raw material for cement we contribute to the material recycling of construction soil as well as to the extension of the lifetime of landfills. We are certified as a designated survey agency by the Ministry of the Environment and offer one-stop services from surveying, construction and distribution, to treatment at our plants. We have also set up intermediary facilities that organically link sites where construction soil is produced to our nationwide plants.

### Resource Recycling with Communities

Although most municipal waste is incinerated and the ash is buried in landfills, finding new landfill sites has become very difficult. Waste treatment has particularly become a source of concern for Japan's major city governments and the situation is expected to get worse. We have three systems for recycling municipal waste and strive to make effective use of such resources and resolve environmental issues.

#### ▶ Ecocement System

Ecocement is a new type of cement made primarily from the incineration ash from municipal waste. More than 500 kg of municipal waste incineration ash and other waste materials are used per tonne of Ecocement.

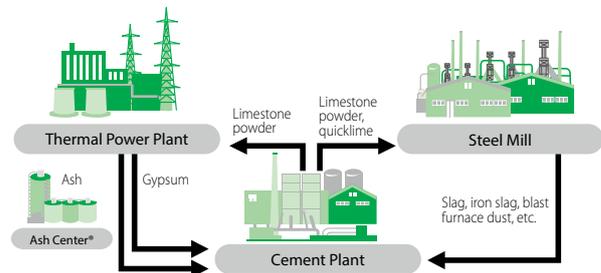
#### ▶ Incineration Residues Recycling System

A system for recycling incineration residues (incineration ash and dust) which are generated when municipal waste is incinerated at incineration plants as a raw material for ordinary Portland cement.

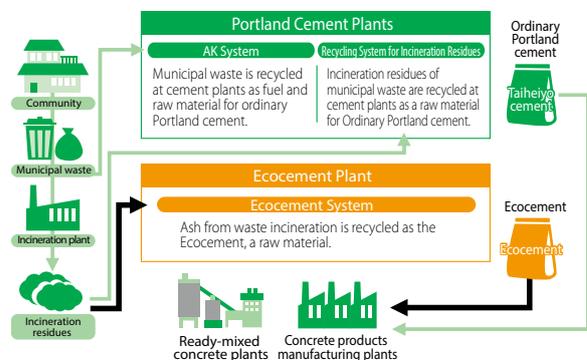
#### ▶ AK System

A system for recycling household waste and general business waste as alternative raw materials and fuels for cement manufacture. The waste is pre-processed through biological breakdown (fermentation) using a waste recycling kiln.

#### Mineral Resource Cycle with Electric Power Utilities and Steelmakers



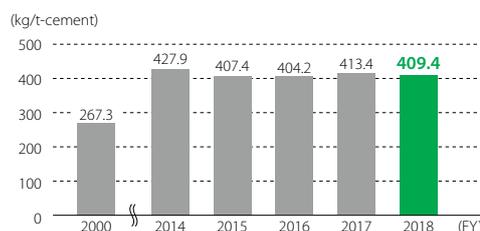
#### Municipal Waste Recycling Systems for Cement Production



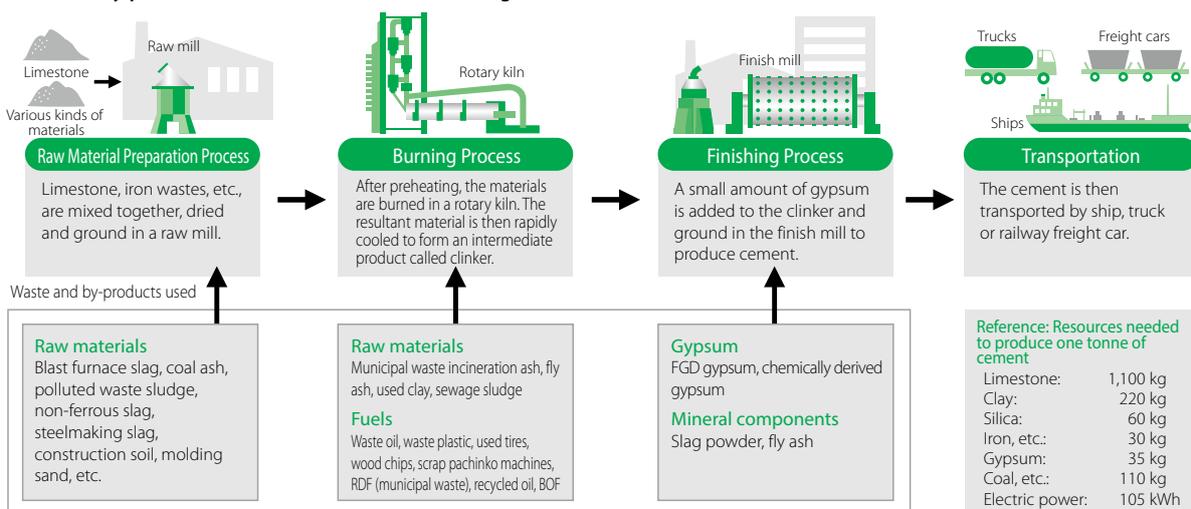
## Performance of Recycled-Waste-to-Cement System » GRI 301-1, 2

We recycle waste and by-products into alternative raw materials and fuels for cement. This helps to extend the lifetime of landfills, prevent the depletion of natural mineral resources, limit greenhouse gas emissions and reduce air pollution. In fiscal 2018 we recycled 6.565 million tonnes of waste and by-products. This was a decrease of 60,000 tonnes compared to fiscal 2017, due to a decrease of coal ash offsetting the increases of the blast furnace slag, burned ash, dust emissions, and dust we accepted. This means we recycled 409.4 kg of waste and by-products per tonne of cement produced.

**Trends in Use of Waste and By-products per Unit Production** (Non-consolidated)



### Waste and By-products Used in the Cement Manufacturing Process



### Waste and By-products Used in Cement Plants (FY2018) (Non-consolidated)

Waste and By-products		Total Amount (t)	Rate (kg/t-cement)
Industrial	Coal ash (including JIS fly ash)	1,932,572	120.5
	Blast furnace slag	1,224,004	76.3
	By-product gypsum	548,657	34.2
	Unburned ash, dust emissions, dust	504,705	31.5
	Dirt and sludge	429,377	26.8
	Construction soil	314,837	19.6
	Waste plastic	174,935	10.9
	Waste oil	140,172	8.7
	Wood chips	85,545	5.3
	Other	678,765	42.3
<b>Subtotal</b>	<b>6,033,568</b>	<b>376.3</b>	
Household	Water treatment plant sewage sludge and ash	374,154	23.3
	Municipal incinerator ash	135,850	8.5
	Municipal waste, etc.	21,539	1.3
<b>Subtotal</b>	<b>531,543</b>	<b>33.1</b>	
Total	<b>Raw material-related</b>	<b>6,565,111</b>	<b>409.4</b>
	<b>Fuel-related</b>	<b>571,587</b>	<b>35.6</b>

## Conserving Biodiversity

The business division most concerned with biodiversity in the group's business activities is that operating the quarries. Collaboration with communities is essential to the development and operations of quarries and also the use of old ones. We work to reduce our net environmental impact to zero through the conservation of ecosystem and water resources as well as other initiatives.

» GRI 103-2, 3

### Environmental Impact of Our Operations

» GRI 304-1, 2, MM1, MM2

#### ➤ Environmental Impact of Our Operations

Cement production starts with quarrying limestone, the primary raw material for cement. Most natural resources are also quarried, including aggregates and chemical raw materials.

Since quarrying requires the removal of topsoil, quarry development has a certain impact on the biodiversity of the development area. However, the limestones, rocks, soil, and sands we quarry do not require any refining process but instead are processed into products by crushing them and adjusting their granularity. Our operations are therefore unlikely to cause chemical contamination in surrounding areas. In addition, we strive to minimize the amount of waste stones generated during our limestone quarrying by using them as construction material.

#### ➤ Limestone Quarries of the Group

The group operates 19 major limestone quarries around the world, most of which are near our integrated cement plants. The total site area\* of the quarries is 4,327 ha (Japan: 2,409 ha; U.S.A: 1,281 ha; other regions: 637 ha).

\*The area where we conduct quarrying operations, which is measured by our standard.

#### Limestone Quarries of the Group

Region	Number of sites	Site area (ha)	Require consideration* (number of quarries)
Japan	11	2,409	1
U.S.A	3	1,281	0
Other regions	5	637	0

\*Require consideration refers to quarries that fall under category IV or higher in terms of the IUCN's Protected Area.

Using the Integrated Biodiversity Assessment Tool (IBAT), we checked whether any of our limestone quarries are in any of the protected areas defined by the International Union for Conservation of Nature (IUCN). We found that none of our quarries are within or adjacent to Protected Area Category IV or higher categories. However, In Japan, one quarry is within a Category IV area and two are adjacent to Category IV areas.

All these quarries have obtained the necessary licenses from business authorities and conduct environmentally friendly quarrying operations. They have no pending litigations concerning biodiversity or other environmental issues.

### Outline of Protected Area Categories of the IUCN

IUCN Categories	Outline
Ia: Strict Nature Reserve	Areas that have outstanding or representative ecosystems or have geographical or physiological features or species.
Ib: Wilderness Area	Large unmodified or slightly modified areas.
II: National Park	Areas set aside to protect the environmental integrity of the ecosystem.
III: Natural Monument or Feature	Areas that have outstanding features of nature or cultural values.
IV: Habitat/Species Management Area	Areas that require active interventions to maintain habitats or address the requirements of particular species.

### Activities to Reduce Environmental Impact

» GRI 103-2, 3, 304-1, 2, 3, 4, MM1

Throughout the group we believe that balancing the conservation of ecosystems in communities and development of the communities themselves is important in quarry operations. With this belief, we hold discussions with local governments, communities, and academics while operating quarries. This helps to ensure we not only prevent pollution but also conserve biodiversity and water resources while minimizing our environmental impact.

#### ➤ Environmental Impact Assessment

In developing quarries, we conduct ex-ante assessments of environmental impact of the development of quarries based on environmental research of the development area such as on biodiversity and water resources. We then discuss the results of the research with local governments, communities, academics, and other stakeholders toward finalizing a development plan. Moreover, we regularly monitor the surrounding environment during the development and operations of quarries and report to our stakeholders on the environmental impact that the quarries have in these areas.

For instance, in developing a new quarry in the Ofunato Quarry in Iwate Prefecture, we conducted environmental assessment for over ten years. We focused on preserving rare wildlife in cooperation with external experts and local residents. Furthermore, we minimized noise and vibration during the development work and also limited the traffic hours for trucks used in construction work.



Raptors survey

### ➤ Biodiversity Protection

We protect rare species through the installation of protective facility, planting, and restriction of development work when it is determined their protection is required through an environmental impact assessment.

Since 1972 we have been protecting and nurturing rare species of native plants on Mt. Buko, which is between Chichibu City and Yokoze Town in Saitama Prefecture and the location of the Minowa Quarry of Chichibu Taiheiyo Cement Corporation. We created a botanical garden at the quarry and, together with local experts and other people, we preserve 68 native plant species there while increasing the plant population. Additionally, our Central Research Laboratory has continued to research and develop ways to preserve and grow endangered plants and to verify genetic diversity of native plant species using biotechnology.

Since 2016, in the course of developing the new quarry at the Ofunato Quarry, we have been working with experts to preserve and cultivate various rare plant species in their native biospheres by creating a botanical garden on the side of the office of Ryushin Mining Co., Ltd.



Rare plant  
(*Lithospermum erythrorhizon*)



Botanical garden

### ➤ Greening Quarries

In quarrying areas, rocks and soil are exposed and there is no flora. We are continuing our efforts to restore greenery to the quarry slopes on terraces formed during the quarrying process. These efforts are undertaken immediately after the slopes are made if no quarrying work is expected for some time. We also plant vegetation in stockyards for excavated topsoil where no construction work is expected. At some quarries, at the request of the community, we restore greenery if operations have been suspended for several months.

We use as many types of native species as we can in the locations where we plant, which are usually mountainous. Group greening of quarries in Japan in fiscal 2018 involved a 36,414 m<sup>2</sup> area where seeds were sprayed and also 1,400 tree seedlings planted.

We make efforts such as conducting an annual tree planting campaign with contractors and local residents to improve awareness of quarry development and the importance of greening.



Greening quarry slopes

### ➤ Water Resource Conservation

In quarrying we also pay close attention to protecting not only terrestrial plants but also water resources such as spring water in an effort to protect biodiversity. From the perspective of conserving water resources, spring water discharged from quarrying and rainwater is directed into our retention basin to minimize impact outside of the quarrying area. In some quarries we drill wells for domestic water and supply this water to local communities for everyday use.

### ➤ Use of Old Quarry Sites

We reuse old quarry sites where operations have completely ended, after consulting on their use with the surrounding community. When greening a site we strive to restore it as close as possible to the original natural environment.

## Reducing Environmental Impact

We continue to protect the environment and reduce our impact on it by preventing pollution, making effective use of resources, reducing waste, appropriately managing chemicals, and other means.

» GRI 103-2, 3

### Preventing Environmental Pollution

» GRI 305-7

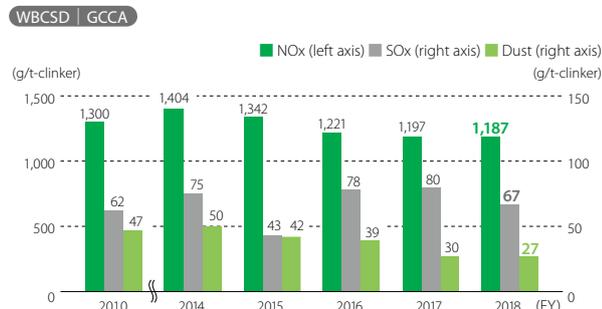
#### » Air Pollution

Air pollutants generated from cement production are primarily NOx, SOx and dust in combustion gases emitted from cement kilns. To ensure the proper management of these substances we remain committed to reducing air pollutant emissions through measures such as continuously monitoring emission levels, improving NOx reduction systems and installing bag filter equipment to process gas emissions. With such measures we focus on controlling the emission of air pollutants with the goal of maintaining fiscal 2010 emission levels.

Emissions of NOx and dust in fiscal 2018 were lower than in fiscal 2010, whereas emissions of SOx were higher because we accepted waste with high sulfur content.

Nonetheless, the level of SOx emissions was very low compared to the limit set under the Air Pollution Control Act.

#### Specific Emissions per Tonne of Clinker for Selected Pollutants



#### Monitoring Rate

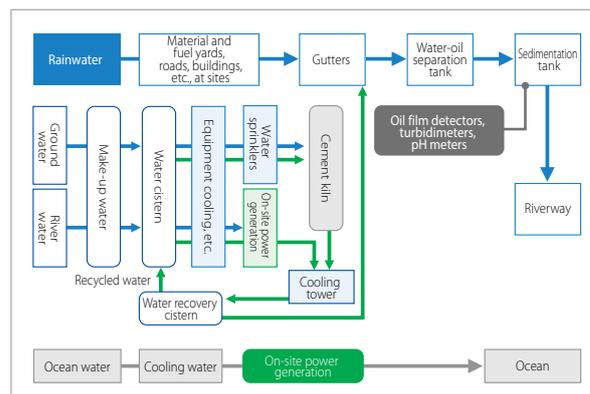


Guidelines: WBCSD-CS "Emissions material monitoring Ver. 2.0" and GCCA "GCCA Sustainability Guidelines for the monitoring and reporting of emissions from cement manufacturing Ver. 0"

#### » Water Contamination

Most of the water discharged from our plants to public waterways is cooling water and not polluted as defined in the Water Pollution Control Act. At our cement plants all water resources are reused as circulation water to minimize the impact of water discharge into public waterways. Also, we are working to prevent the leakage of potential pollutants by installing bunds around our oil tanks and acid/alkali tanks. Moreover, we are installing sedimentation tanks, water-oil separation tanks, oil film detectors, pH meters and suspended solid sensors on water discharge routes that connect to public waterways.

#### Example of Water Circulation Flow at a Cement Plant



#### » Soil Contamination

In fiscal 2000 Taiheiyo Cement evaluated the risks associated with cement plants that may be sited on contaminated ground by consigning an expert consultant to undertake a soil history survey. We are continuing to conduct drilling and other studies, starting with the higher-risk locations, to verify whether or not the soil is contaminated. Actions will be taken as necessary based on the findings.

We are also working to eliminate the possibility of soil contamination by preventing the leakage of wastewater from scrapyards and fluid from oil tanks, acid/alkali tanks, pipes and so forth.

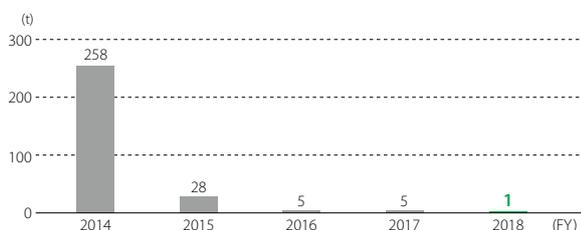
## Reducing Waste

» GRI 306-2

### » Initiatives at Plants and Quarries

Our cement plants and quarries reduce the amount of waste handled by disposal contractors by reusing waste from operations as material for cement production. We also endeavor to reduce the volume of waste to landfill through recycling made possible using chromium-free kiln bricks.

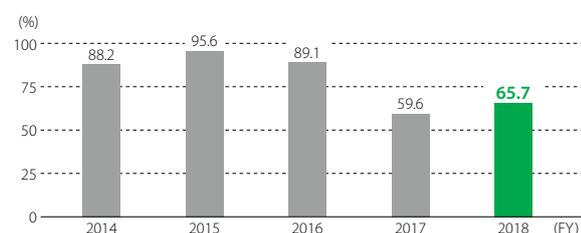
#### Volume of Waste to Landfill



### » Initiatives at Service Stations

Service stations reduce the waste handled by waste disposal contractors by returning any residual cement that remains in silos after switching the cement products. Returned cement is recycled and used as raw material. In fiscal 2018, as was the case in fiscal 2017, the recycling rate remained low as a considerable amount of residual cement had to be returned to the plants by trucks, thereby generating a significant environmental impact at some service stations.

#### Recycling Rate of Residual Cement (Non-consolidated)



### » Initiatives at Offices

Our special purpose subsidiary, Taiheiyo Service Corporation, installed a paper recycling machine to recycle the company's used copy paper, and in fiscal 2018 we recycled approximately 530,000 sheets of A4 size paper.

## Appropriate Management of Chemical Substances

» GRI 306-2

### » Pollutant Release and Transfer Register (PRTR)

The PRTR Law requires that we report on equipment installed at our Kumagaya plant for the washing of municipal waste incineration ash. This washing process uses water, and our total discharge of dioxins and ferric chloride into public waterways are as follows.

#### Reported Levels of Dioxins and Ferric Chloride Emissions

(Non-consolidated)

Emissions	Reported Levels		
	FY2016	FY2017	FY2018
Dioxins (mg-TEQ)	0.0	0.0	0.0
Ferric chloride (kg)	140	170	170

### » Management of PCB Waste

The Act Concerning Special measures against PCB Waste was enacted in June 2001. Under this law we ensure that PCB waste at all 43 of our facilities nationwide is properly stored and processed, and we annually report an inventory. We signed a processing contract with the Japan Environmental Safety Corporation (JESCO) in 2006 and are processing the PCB waste that we have stored in line with our plan.

In fiscal 2018, 121 capacitors and electrical ballasts stored at the Kamiiso plant and Tokyo and Chubu-Hokuriku Branches were processed as planned.

Capacitors stored in the Saitama Plant and electrical ballasts stored in the Oita, Fujiwara, Kumagaya and former Chichibu plants are scheduled for processing in fiscal 2019.

#### Status of PCB Waste Disposal (Non-consolidated) (Unit: number of machines)

Waste	Stored in FY2017 (as of March 31, 2018)	New Target for FY2018	Processed in FY2018	Stored in FY2018 (as of March 31, 2019)	Planned Processing for FY2019
Capacitors	6	6	11	1	1
Transformers	0	0	0	0	0
Electrical ballasts	370	2,447	110	2,707	2,435
<b>Total</b>	<b>376</b>	<b>2,453</b>	<b>121</b>	<b>2,708</b>	<b>2,436</b>

## Environmentally Sound Products and Services

In response to public concern about environmental protection we offer eco-products and services that capitalize on the cement and related technologies we have developed, and contribute to conserving resources and reducing CO<sub>2</sub> emissions.

» GRI 103-2, 3

### » Taiheiyō SUPER MIX and Taiheiyō ULTRA SUPER MIX, Admixtures for High-strength Concrete (Taiheiyō Materials Corporation)

Taiheiyō SUPER MIX and Taiheiyō ULTRA SUPER MIX are high-strength mineral admixtures that densify the pore structure of concrete. While heat curing is a common method for producing high-strength concrete products, Taiheiyō SUPER MIX achieves the same function without applying autoclave curing. As a result, the product reduces the consumption of fossil fuels, equipment costs and CO<sub>2</sub> emissions. Its high strength also supports final products with smaller cross-sectional areas, thereby consuming far fewer raw materials and less fuel with significantly lower environmental impact. With strong market demand for higher strength concrete, high-strength admixtures are expected to serve as an environmentally sound option.



A fine and stable hydration product able to achieve high strength quickly



Application for high-strength concrete piles

### » WHJ® Method, a Ground Improvement Method for Reducing Environmental Impact in River Areas (Onoda Chemico Co., Ltd.)

The WHJ (Waterfront Hybrid Jet) method was developed for ground improvement work on seacoasts adjacent to rivers and the mouths of rivers. It significantly reduces the area of ground affected by the work compared to other methods by combining mechanical agitation with a high-pressure jet. It also enables low displacement work when applied with our proprietary soil excavation technology. Because the soil stabilizer barely mixes into the excavated soil, the water is not polluted. In addition, excavated soil is not scattered into the water since no air is used during improvement work, and so ground improvement work is completed with low environmental impact.



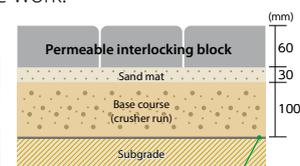
WHJ method

### » ILB Easy Geo-Filter®, a Filter Layer that Protects the Subgrade from Rainwater in Permeable Pavement (Taiheiyō Precast Concrete Industry Co., Ltd.)

Permeable pavement typically requires a sand filter layer that is 50 mm to 100 mm thick on the subgrade to protect the subgrade from being softened by the infiltration of rainwater penetrating the base course from the road surface. The ILB Easy Geo-Filter is a nonwoven fabric sheet with a thickness of 0.4 mm that functions as a sand filter layer when installed on the subgrade. As a thin sheet, it is an environmentally sound product that contributes to lower CO<sub>2</sub> emissions by reducing the volume of excavation work and excavated soil. In addition, the use of the filter layer instead of sand brings down both construction costs and time required to complete the work.



Installing the ILB Easy Geo-Filter



Replacing a conventional sand filter layer with the Easy Geo-Filter (50 mm–100 mm)  
Typical structure of permeable interlocking block pavement

### » Reco-Keep LW, an Anti-washout Underwater High Water/Binder Ratio Type Filler (Chichibu Concrete Industry Co., Ltd.)

A recent rise in the number of accidents involving the destruction and collapse of street surfaces caused by underground voids has drawn increased attention and demand for rapid restoration work requiring filling or other methods. While cement-based materials have typically been used as filler, many related cases have involved residual water in the underground voids. This has led to additional problems such as the outflow of dissolved cement components that impede the effectiveness of filling work as well as dissolved cement components impacting the neighboring environment. Reco-Keep LW is an environmentally sound pre-mixed filler with sufficient fluidity and hardening properties for filling underground voids, and its anti-washout underwater property also suppresses the dissolution of cement components into water. Mobile equipment for supplying materials is available for large-scale restoration work.



Filling work



Vehicle-mounted filler production equipment

# Environmental Accounting

We calculate the costs and benefits of environmental conservation to accurately assess the cost effectiveness of our business activities and capital investment by ascertaining our environmental impact and comprehensively identifying the costs of environmental conservation.

» GRI 103-2, 3

## Environmental Conservation Costs (Non-consolidated)

» GRI 201-2

(Unit: million yen)

Category	Main Activities	Investment			Cost		
		FY2016	FY2017	FY2018	FY2019	FY2017	FY2018
Business area costs		3,254	1,490	2,161	13,729	15,783	10,632
Details	Pollution prevention	1,209	673	1,537	7,782	7,932	3,996
	Global environmental conservation	1,972	779	381	5,371	7,314	6,197
	Resource recycling	73	38	243	576	537	439
Upstream and downstream costs	Recycling waste and by-products as alternative raw materials and fuels for cement	655	1,313	3,933	4,633	4,933	4,955
Administrative costs	Implementation of the environmental management system	34	31	65	317	173	141
R&D costs	Innovations to the cement production process	346	256	556	739	774	812
Social activity costs	Factory tours	1	0	2	24	19	28
Environmental remediation costs	Emission levies	66	169	0	79	53	87
<b>Total</b>		<b>4,356</b>	<b>3,259</b>	<b>6,717</b>	<b>19,521</b>	<b>21,735</b>	<b>16,655</b>

(Unit: million yen)

	FY2016	FY2017	FY2018
Total investment	22,507	14,526	20,020
Total R&D expenditure	1,216	1,192	1,195

## » External Economic Benefits Derived from the Recycled-Waste-to-Cement System

Taiheiyo Cement uses the external economic benefit (EEB) evaluation method to express, in monetary terms, its evaluation of socioeconomic benefits from environmental impact reduction due to the increase in recycling of wastes

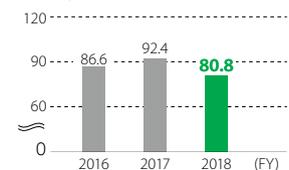
accepted from outside the company. As a type of deemed benefit, an EEB of 80.8 billion yen was identified for fiscal 2018, representing a 13% decrease on the previous year as a result of a decrease in the total amount of waste and by-products used.

## External Economic Benefits (FY2018) (Non-consolidated)

» GRI 201-1

Impact	Inventory	Reduction (t)	Inventory Market Price (Yen/t)	Economic Benefit (Billions of Yen)
Climate change mitigation	CO <sub>2</sub>	1,976,702	818	1.6
Depletion of energy resources	Crude oil	130,027	18,400	2.4
Depletion of mining resources	Natural resources	4,872,909	1,000	4.9
Shortage of landfills	Waste	4,792,692	15,000	71.9
<b>Total</b>				<b>80.8</b>

(Billions of yen)



## About Taiheiyo Cement's External Economic Benefit Evaluation

- Taiheiyo has developed a unique evaluation method to estimate the contribution to overall environmental benefit to society by utilizing waste materials from other industries.
- We use information, including data collected for the WBCSD-CSJ and GCCA Cement CO<sub>2</sub> Protocol, to calculate the reduction in consumption of fossil energy and natural resources associated with the use of waste and by-products.
- EEBs are calculated by multiplying the reduced volumes of CO<sub>2</sub>, crude oil, natural resources and waste (resulting from the utilization of waste and by-products in the cement production process compared to cement production without using waste and by-products) by market prices for each of the four items. The prices, assumed to be kept constant at year 2000 levels, are estimated as follows: CO<sub>2</sub>: 3,000 yen/t (a hypothetical CO<sub>2</sub> emission tax rate); crude oil: import price; natural resources: estimated price; waste: controlled landfill cost in the Tokyo area.
- A portion of the EEB, such as the waste treatment fee, is accounted for in Taiheiyo's profit and loss statement.

### Environmental Accounting for One of Our Projects

## Introduction of Furnace-front Waste Plastic Injection Equipment for the No. 3 Kiln at the Oita Plant

» GRI 201-2

Japan has recently come up against the serious challenge of surplus waste plastic following stricter restrictions by China and Southeast Asia on the import of waste plastic. We are aggressively pursuing the recycling of waste plastic as an alternative fuel.

As part of this effort we installed a crusher for waste plastic and furnace-front waste plastic injection equipment for the No. 3 Kiln of the Oita plant at the end of fiscal 2018. This new facility will treat a larger volume of waste plastic as alternative fuel towards further reducing CO<sub>2</sub> emissions and environmental impact.

**Investment:**  
Approximately 0.36 billion yen

**Reduction in CO<sub>2</sub> emissions:**  
11,238 tonnes/year

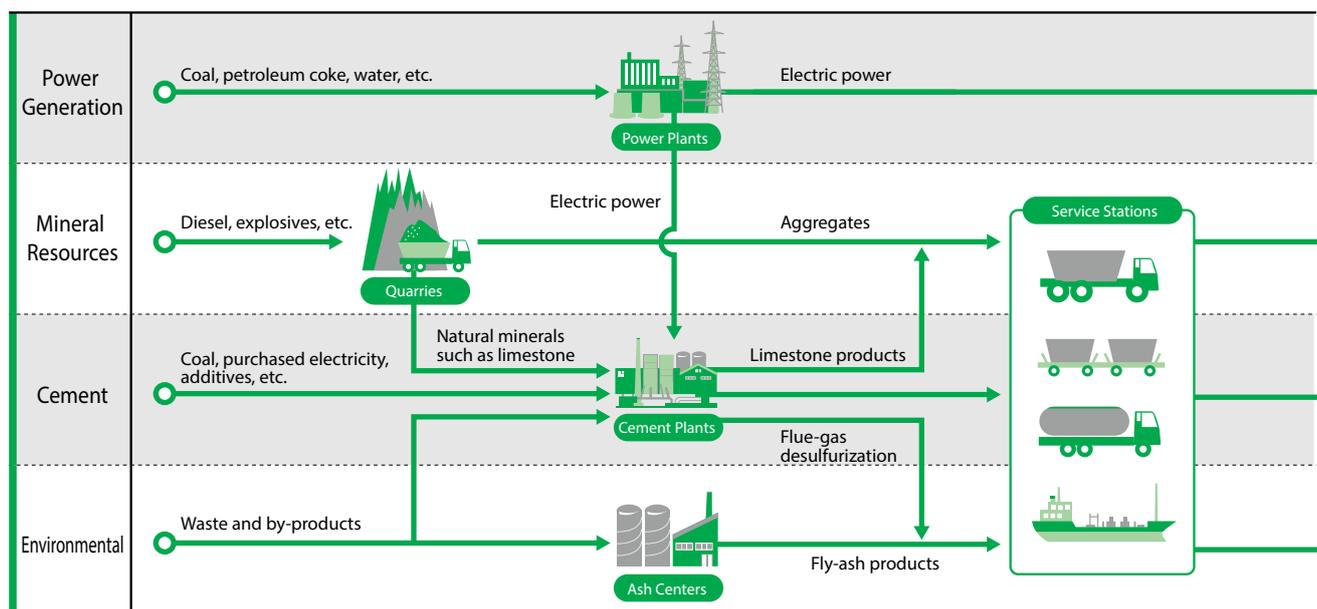
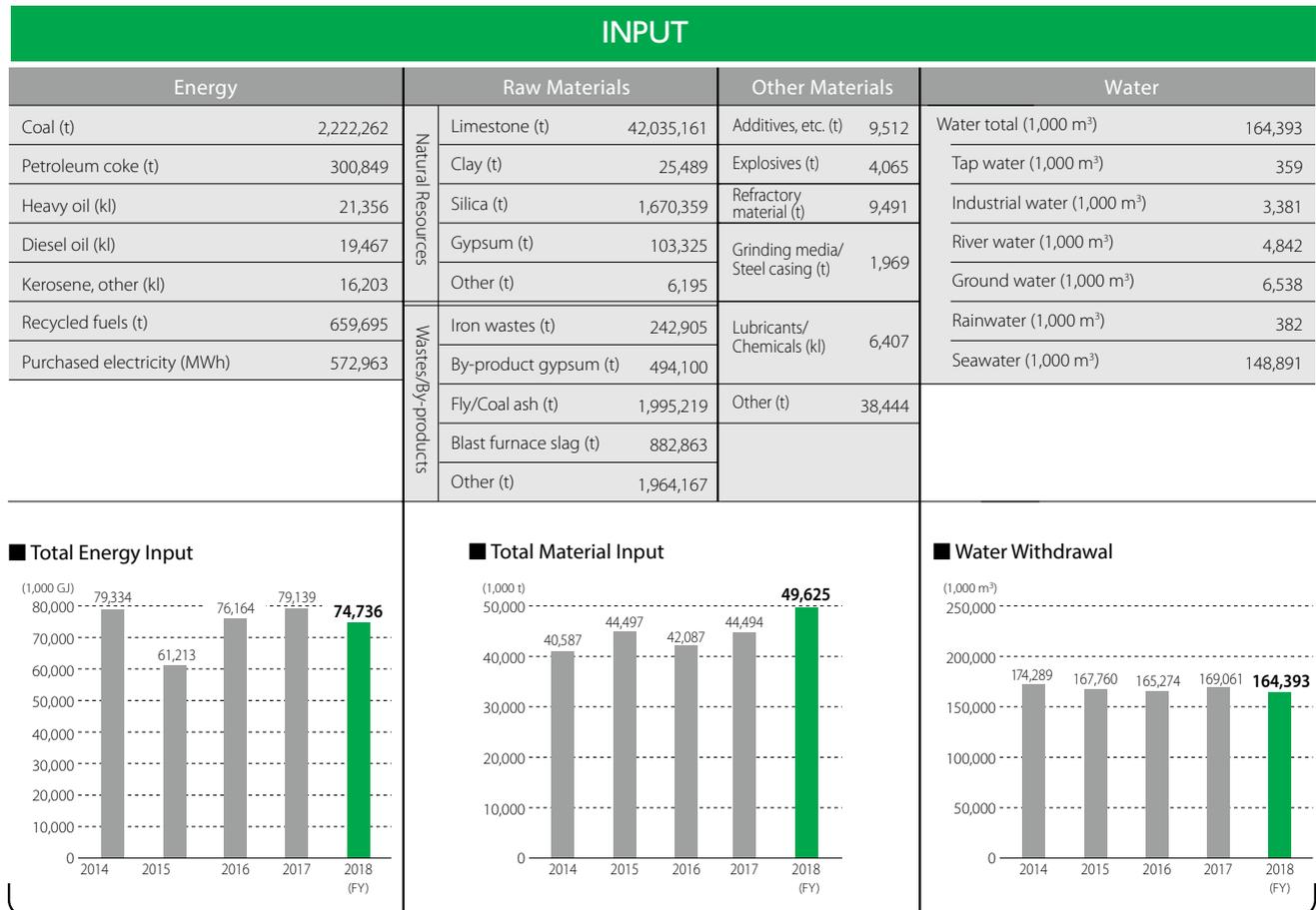


Crusher for waste plastic at the Oita plant

## Material Balance of Business Activities

In order to help create a low-carbon, recycling-oriented society we track and manage the various ways that our business activities impact the environment and remain committed to initiatives such as recovering waste heat from our manufacturing processes to generate electricity (cogeneration) and using waste and by-products as raw materials and fuel.

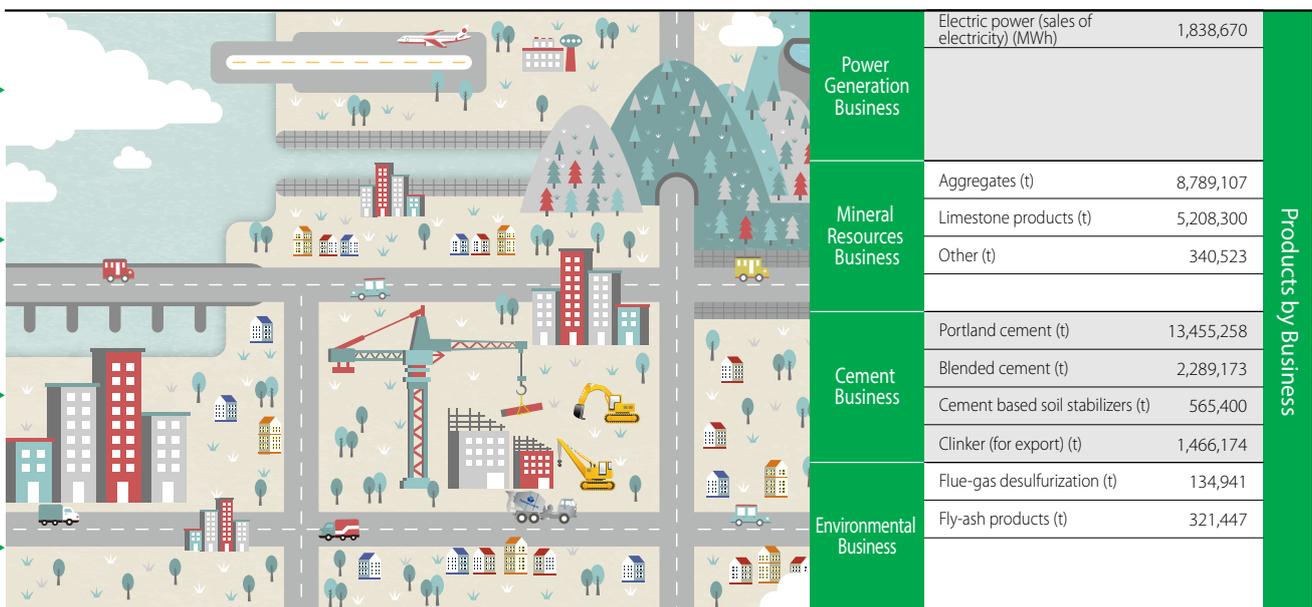
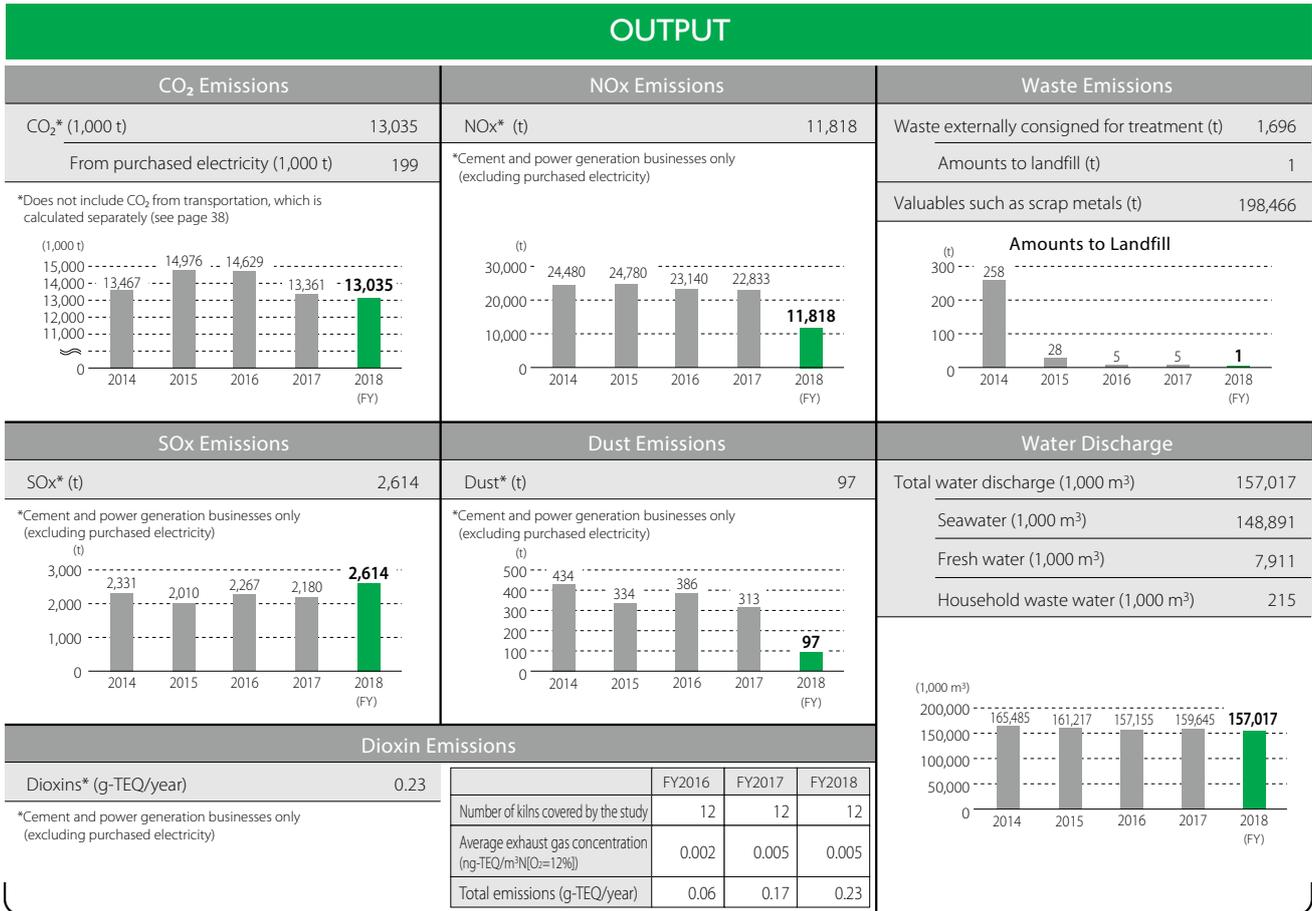
» GRI 102-6, 7, 45, 301-1, 2, 302-1, 305-1, 2, 7, 306-1, 2



● Scope of reporting organizations

The scope of reporting organizations includes our four business segments (cement, mineral resources, environment and power generation) at our (non-consolidated) quarries and plants and the following quarries of our subsidiaries that supply material to us (9 quarries of 8 companies) and power plants of our affiliated companies (2 plants).

Ofunato Quarry (Iwate Prefecture)	Ryushin Mining Co., Ltd.	Miwa Quarry (Saitama Prefecture)	Chichibu Taiheiyo Cement Corporation
Buko Quarry (Saitama Prefecture)	Buko Mining Co., Ltd.	Kanouyama Quarry (Gunma Prefecture)	Chichibu Taiheiyo Cement Corporation
Mido Quarry (Saitama Prefecture)	Chichibu Mining Co., Ltd.	Tosayama Quarry (Kochi Prefecture)	Tosayama Taiheiyo Mining Corporation
Fujiwara Quarry (Mie Prefecture)	Ishizaki Co., Ltd.	Tosa Power Plant (Kochi Prefecture)	Tosa Power Inc.
Shin-Tsukumi Quarry (Oita Prefecture)	Oita Taiheiyo Mining Corporation	Itoigawa Power Plant (Niigata Prefecture)	Itoigawa Power Inc.
Toumi Quarry (Niigata Prefecture)	Myojo Cement Co., Ltd.		



## Partnership with Customers

# Quality, Technologies and R&D

We have been developing production and quality control technologies for the manufacture of cement for more than 100 years. Using these technologies we have advanced our initiatives to guarantee the safety and security of our products. We maintain the highest product quality in the industry and continually improve product quality and systems to earn customer trust in our brand in both domestic and overseas markets.

» GRI 103-2, 3

### Quality Policy

In 1998, the year of Taiheiyo Cement's inception, we established a quality policy based on our management policy. In fiscal 2018 we revised the policy by incorporating a visual description of the code of conduct. Through those efforts we have been continually raising awareness of the quality policy across the organization and continue to make every effort to be a company that customers trust and rely on. The actions of employees in accordance with the policy and the implementation of our technological capability and quality assurance system generates a sense of achievement, while at the same time providing high-quality products and services.

**Quality Policy**

Improve customer satisfaction by ensuring each employee is pursuing quality that meets the needs of users in the Pacific Rim from a global perspective and providing quality assurance.

### Quality Assurance Initiatives and Quality Management System (QMS)

» GRI 416-1

We focus on stabilizing and improving product quality while capitalizing on the production and quality control technologies we have developed over the years. Recently, we have enhanced product quality control by capitalizing on advanced technologies to ensure improved stability such as an online analysis system for raw materials, clinker and cement, and the measurement of clinker minerals by X-ray diffraction.

As one of our quality assurance initiatives we obtained ISO 9001 certification, the international standard for quality management systems, from the Japan Testing Center for Construction Materials. The scope of our certification encompasses the development, design and production of a range of cement, cement clinker and cement-based soil stabilizer products.

Moreover, 90% of our cement plants in and outside Japan, including group companies, have obtained ISO 9001 certification.

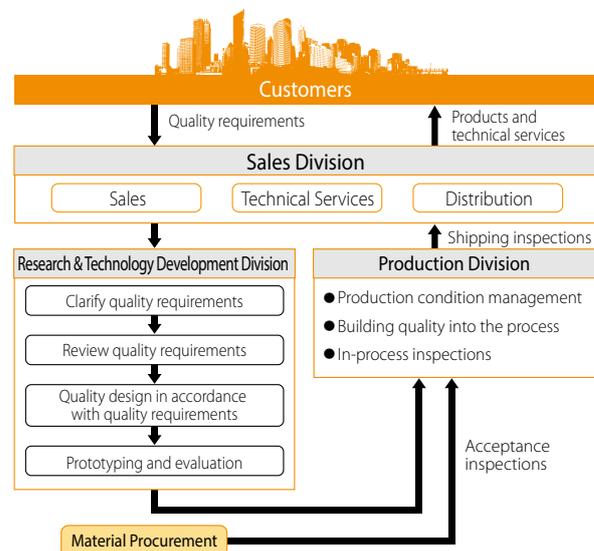
We will continue to fully apply the ISO 9001 approach in addition to our own quality management system to more deeply integrate our quality management system and business processes in an effort to strengthen our ability to continually provide ISO 9001-compliant products and deliver greater customer satisfaction.

### Strengthening Our Relationship with Customers

We place the highest priority on achieving greater customer satisfaction. We periodically exchange information among business units to strengthen production focused on quality that meets customer expectations. From our sales and technical staff at the branches and sales offices, we collect information on customer requirements for product quality and services, including delivery, and analyze the information toward identifying possible improvements. To encourage overseas customers to adopt our high-quality products we have started to incorporate local needs into product quality, just as we do for domestic customers, and we are fine-tuning our products to meet the requirements of each overseas market. We respond to each quality issue raised by customers and strive to improve product quality and customer satisfaction. Also, we actively identify potential quality risks, investigate their causes and implement extensive countermeasures while enhancing cross-divisional coordination toward establishing a more secure and safer quality assurance system.

In addition, we have been expanding our quality assurance system to include the products of our group companies beyond Taiheiyo Cement products. We strive to identify and address material issues in a well-organized manner through cross-divisional activities toward strengthening the reliability of the Taiheiyo brand as well as customer satisfaction.

#### QMS Management System



## Safety for Cement and Cement Products

» GRI 416-1

Today every product is expected to be safe and cement, as a construction material that is indispensable for developing social infrastructure, is no exception. The cement industry has long made use of industrial waste and by-products such as blast furnace slag, coal ash and by-product gypsum as substitutes for natural mineral resources. Furthermore, using technologies we developed to recycle household waste such as the AK system to recycle municipal waste and the incineration residue recycling system, we also recycle construction-related soil and waste materials into raw material and fuel for cement production. When our cement plants accept waste we prevent its dispersal and minimize the release of odor by transporting the waste in a tightly sealed panel truck and storing it in a fully enclosed facility to protect the environment of the surrounding area as well as inside the plants.

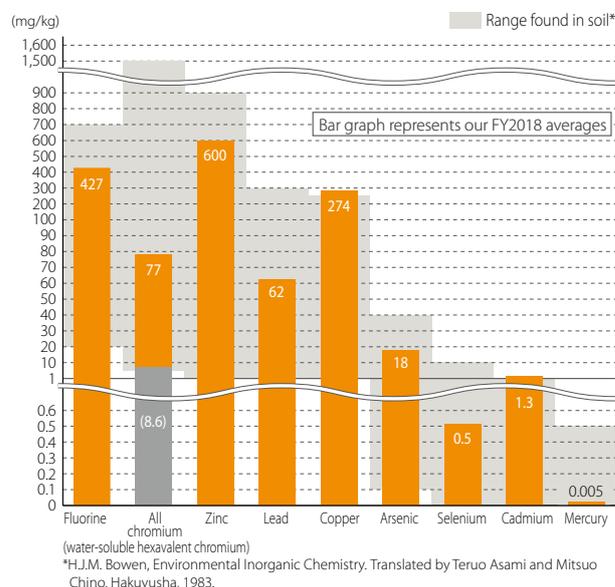
Wastes, as well as natural raw materials, contain minute quantities of heavy metals such as chromium and lead. We continually reinforce the control of minor components as the volume of waste we receive at our cement plants increases. When we receive new types of waste or waste from new sources we strictly apply the rules under which we conduct three kinds of inspection related to the source of the waste, its chemical composition and the results of trial use to identify any potentially negative impact on product quality or the surrounding environment. We will then make a final determination on whether to receive the waste.

## Transition of Minor Components of Ordinary Portland Cement

(Unit: mg/kg)

		FY1987	FY2014	FY2015	FY2016	FY2017	FY2018
Fluorine	Average	—	377	421	382	448	427
	Maximum	—	418	522	485	543	504
	Minimum	—	321	376	313	339	355
All chromium	Average	—	75	74	81	79	77
	Maximum	—	86	81	91	88	95
	Minimum	—	65	61	74	69	64
Water-soluble hexavalent	Average	17.4	7.4	7.4	8.3	7.4	8.6
	Maximum	32.3	8.6	10.6	9.8	9.3	11.4
	Minimum	5.3	6.1	5.7	7.1	6.0	5.4
Zinc	Average	556	540	529	627	530	600
	Maximum	1,059	711	659	741	659	772
	Minimum	137	412	436	496	390	449
Lead	Average	221	61	62	65	57	62
	Maximum	668	85	80	89	84	84
	Minimum	18	42	45	53	41	38
Copper	Average	122	183	216	259	223	274
	Maximum	233	281	355	355	319	415
	Minimum	17	131	133	154	162	163
Arsenic	Average	17	12	10	14	12	18
	Maximum	39	30	17	39	43	47
	Minimum	2	5	4	4	2	6
Selenium	Average	—	0.7	0.6	0.5>	0.7	0.5>
	Maximum	—	0.8	0.7	0.5>	1.2	0.5>
	Minimum	—	0.5>	0.5>	0.5>	0.5>	0.5>
Fluorine Cadmium	Average	1.5	1.8	1.8	1.5	1.3	1.3
	Maximum	2.6	3.0	3.0	2.0	2.0	2.0
	Minimum	0.6	1.0>	1.0>	1.0>	1.0>	1.0>
Mercury	Average	—	0.006	0.005>	0.005>	0.008	0.005>
	Maximum	—	0.008	0.005>	0.005>	0.015	0.005>
	Minimum	—	0.005>	0.005>	0.005>	0.005>	0.005>

## Minor Components of Ordinary Portland Cement



## Ensuring Product Safety Following a Nuclear Accident

» GRI 416-1, 417-1

As a consequence of the nuclear accident at the Fukushima Daiichi Nuclear Power Station of Tokyo Electric Power Company in 2011, we discovered that some industrial waste used for making cement contained radioactive material. We have established a system to ensure that the radioactive concentration in cement shipped from our plants is below the safety limit\* set by the Japanese government by strictly controlling the radioactive concentrations in raw materials and fuels for cement. In the interest of full disclosure we post measurements of radioactive concentrations in our products on our website every month.

\*The Japanese government set the limit of 100 Bq/kg, effective May 2011, as the safety standard for radioactive concentrations in cement.

For more information about radioactive concentrations in our products, please visit:

- <https://www.taiheiyo-cement.co.jp/news/sokutei.html> (Japanese only)

## Information Provision Using SDSs and Labeling

» GRI 417-1

To ensure the safety of cement users, we make Safety Data Sheets, which contain hazard identification details, and make these sheets available on our website, and we use labels with the information for bags and flexible containers.

## User Societies and Industry Associations

» GRI 417-1

We founded and manage a variety of societies for cement users and industry associations to support them in strengthening their businesses and developing technological competitiveness. The National Taiheiyo Cement Ready-mixed Concrete Society, the largest of these organizations, has established 10 regional Taiheiyo Cement Ready-mixed Concrete Societies from Hokkaido to Kyushu. For technical support we hold technical sessions and presentations while conducting activities under a specific theme that meets regional user requirements. We also support users in obtaining qualifications such as Authorized Concrete Engineer, Authorized Chief Concrete Engineer, and Authorized Concrete Diagnosis and Maintenance Engineer.

In addition to the Ready-mixed Concrete Society, we established other associations such as the Taiheiyo Cement Association for Paving Block Industry and SPLITTON Association Japan to proactively deliver technical support

for the mutual development of concrete companies. We will continue to support activities that benefit cement users.

### Representative Activities of the Ready-mixed Concrete Society (under Specific Themes)

Region	Description
Hokkaido	Survey of a risk assessment related to safety
Tohoku	Case study of annual policy and quality policy at ready-mixed concrete plants
Tokyo	Health and safety activity competition and workshop for young and middle-class engineers to develop a booklet on representative cases at ready-mixed concrete plants
Kanto	Concrete forum (Gunma Prefecture)
Hokuriku	Experiencing the mixing of J ring flow
Chubu	Workshop on disaster prevention: Improving awareness of disaster prevention at workplaces
Kansai	Evaluation of passability of concrete under excitation, using a box-type container
Shikoku	On-site learning about the regular inspection of testing devices to improve testing staff skills
Chugoku	Concrete Compressive Strength Competition
Kyushu	Developing a booklet on representative cases of originality and ingenuity to improve daily duties at ready-mixed concrete plants

### » Initiatives through the Taiheiyo Cement Association for the Paving Block Industry

Association members participated in an international convention held in Seoul, South Korea in October 2018, and studied the state of global R&D activities in the industry as part of their efforts to promote concrete paving blocks.

The association held an overseas study tour and workshop in April 2019. The tour's main event was a visit to one of the world's largest trade shows for construction machinery, Bauma2019, held in Munich, Germany. During the tour, we gathered the latest information on advanced robotic technologies to save labor at production sites, a major challenge in Japan, and on sophisticated machinery for concrete work. We will cooperate with member companies to provide feedback on the findings of this study for future technological development in Japan.



International convention (South Korea)



Studying advanced machinery for concrete work (Germany)

## Promotion of R&D Activities

Benefiting from the cooperation between the Central Research Laboratory and each business division, the scope of our R&D encompasses the fields of international mineral resources, the environment, building materials, architecture and civil engineering, with a focus on cement and concrete.

### ➤ Demonstration of CO<sub>2</sub> Separation and Capture from Cement Kiln Exhaust Gas

We started a demonstration test using a small-scale test plant to develop technology for CO<sub>2</sub> separation and capture from cement kiln exhaust gas in the Fujiwara plant in January 2019. The test supports developing technology that will significantly reduce CO<sub>2</sub> emissions and global environmental impact, and adopts the chemical absorption method which leverages the properties of amine based absorbents to absorb and release CO<sub>2</sub>. We verified that high-purity CO<sub>2</sub> with 99% concentration is captured from actual kiln exhaust gas.

We have participated in an environmentally friendly CCS verification project of the Ministry of Environment since fiscal 2018. The initiative will focus on R&D activities to reduce further CO<sub>2</sub> emissions while also planning a larger-scale test and exploring the development of technology for using captured CO<sub>2</sub>.



Test plant for CO<sub>2</sub> separation and capture

### ➤ Life Extension of Road Bridges by Applying Latex Modified Concrete Pavement

Over the next ten years the service life for about half of the 700,000 road bridges in Japan will exceed 50 years. Maintaining the safety of these deteriorated structures has therefore become a key social concern. We are offering technology to extend the life of these bridges by applying concrete pavement to repair deteriorating or damaged areas of the deck, the plate-shape component of the bridge on which vehicles operate. We use LMFC<sup>®</sup>, which Taiheiyo Materials Corporation developed as a material for concrete pavement. LMFC<sup>®</sup> prevents de-icing agents such as chloride

from penetration into and degrading the deck while also reinforcing weakened deck. The material is already being used in regions subject to severe weather or environmental conditions. We will focus on further disseminating this technology, thereby contributing to the construction of safe and secure social infrastructure.



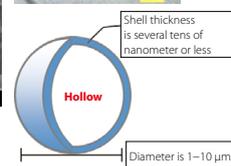
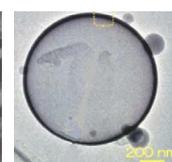
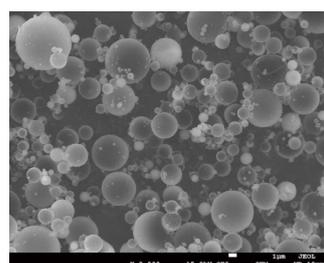
Road bridge reinforced with concrete pavement using LMFC<sup>®</sup> (Hokuto City, Hokkaido)



Production system for LMFC<sup>®</sup>

### ➤ Development of Functional Hollow Particles

Functional hollow particles are hollow microsphere made of alumino-silicate and have very small diameters, ranging from 1 μm to 10 μm. With their shell thickness of 0.1 μm or less, they have a high hollowness of at least 70%, compared to 60% for traditional products. These characteristics provide superior heat insulation and lightweight performance, so that they are used as energy-saving materials. Additionally, their electrical characteristics are focused on as well, so that the development of application as raw material of electrical circuit board is going on. Thus, they are expected as a functional material which can expand new businesses in both mineral resources and environmental fields. At the end of fiscal 2018, we have installed a large-scale production facility with an annual commercial production capacity of at least 7 tonnes, and performance testing is promoted to launch its commercial production.



## Partnership with Suppliers

# Supply Chain Management

Our continued growth depends on building relationships of trust and collaboration with business partners and governmental bodies, paying due consideration to their efforts for continued growth and preventing complicity with any actions that may be improper.

### Our Business Partners

» GRI 102-9

We produce and use cement and concrete in our major business activities. Much of its main raw ingredient, limestone, is mined and supplied by our group companies, which also manage the mines. Coal, our principal fuel source, is supplied by companies outside the group. To recycle wastes and by-products from our cement production process, we rely on many types of industries in various places.

A significant part of our production process is automated. The construction work for the maintenance and management of our production facilities is outsourced to contractors when needed.

Our cement products are primarily supplied to building materials companies. Raw materials and products are transported by both group and non-group companies (for more on their activities, see Pages 8 and 9).

Our group operates cement production sites in Japan, the U.S., China, Vietnam, the Philippines and Papua New Guinea.

By closely communicating with the governments in the regions and countries where we operate we ensure that we observe their laws and strive to meet their needs and requests.

### Fundamental Policy

» GRI 102-16

Our growth depends on the growth of our business partners. To build relationships of trust and work in concert with our business partners, we are sincere and fair in our dealing with them and fulfill our agreements. Under the section entitled "Dealing outside the company in good faith" in our Standards of Conduct, we declare a number of commitments to ensure that "We will act in an ethical manner and abide by the laws and regulations of those countries in which we operate", a statement in our Business Principles. We manage our supply chain in compliance with these commitments:

1. We will conduct fair marketing and bidding, free from unfair practices such as collusion and cartels.
2. We will maintain decent and transparent relationships with our contractors.
3. We will select business partners in a fair and equitable manner.
4. We will not offer entertainment or gifts to customers that go beyond what is legally and socially acceptable.
5. We will produce honest, sincere and faithful advertisements, displays and presentations.

6. We will respond sincerely to customer feedback.
7. We will maintain transparent relationships with governments.
8. We will respect the cultures and customs of the places in which we operate.

We also established the Basic Policy Concerning Procurement in October 2017 to ensure commitments 2 and 3 and ask our contractors to share them.

Please visit our website for more information on the Basic Policy Concerning Procurement.

- <https://www.taiheiyo-cement.co.jp/english/>  
CSR → Collaborating with Society → Supply Chain Management

To respond to internationally reinforced controls over acts of bribery and strengthen our prevention initiatives against corruption (commitments 4 and 7), we established the Anti-Bribery Policy in January 2017, concurrent with the release of a statement by our president declaring our group's stance against bribery.

Please visit our website for more information on our Anti-Bribery Basic Principle (Policy).

- <https://www.taiheiyo-cement.co.jp/english/>  
CSR → Management → Risk Management and Compliance → Compliance Guidelines

### Supply Chain Due Diligence

» GRI 308-2, 414-2

In fiscal 2018 we conducted a questionnaire in accordance with "Taiheiyo Cement Purchasing Basic Principle", using the CSR/Sustainable Procurement Self-assessment Questionnaire, published by Global Compact Network Japan. The questionnaire covers the following issues: I. Corporate governance related to CSR, II. Human rights, III. Labor, IV. Environment, V. Fair business practices, VI. Quality and safety, VII. Information security, VIII. Supply chain, and IX. Local communities.

The questionnaire was sent to our first-tier suppliers, excluding subsidiaries, whose sales to us account for 90 percent of our total purchases in cash terms. We received responses from approximately 80 percent, representing about 70 percent of our total purchases in cash terms.

The questionnaire results found no suppliers who required particular instructions. We are going to expand the scope of our self-assessment and go beyond a questionnaire to assert ourselves more directly and deeply into the due diligence of our business partners.

## Safety of Our Business Partners at Production Sites

» GRI 403-1, 3

Many of our operations at cement production and mining sites are mechanized. However, some operations require manual work at some height or under high temperatures, and ensuring safety for workers at our production sites is a prerequisite to our stable business performance. In an effort to prevent employees of contractors working at those sites from becoming involved in any accidents, we request that they go through safety training and submit a safety plan and reflect our instructive feedback in advance.

## Trade Compliance Training

» GRI 102-16, 205-2

Relationships of trust with business partners and governments depend on the conduct of each employee, so we encourage our employees to advance fair trade through a variety of means.

### » Distributing the Standard of Conduct Casebook

Our Standard of Conduct Casebook, designed to provide exemplary models of conduct for employees, includes a section about what constitutes fair trade. It is distributed to all employees of our major group companies.

### » Distributing the Antimonopoly Law Compliance Manual

Our Antimonopoly Law Compliance Manual is distributed to all employees toward ensuring compliance.

The manual first presents an outline of the Antimonopoly Law focusing on private monopoly, unfair restraint of competition (cartels) and unfair business practices, the three pillars of this law. It further offers examples of illegal conduct in the form of “Don’t” statements to help employees more thoroughly understand the law. The manual is revised when laws and regulations are amended.



Antimonopoly Law Compliance Manual

### » E-Learning Programs

To ensure that all employees understand compliance across our supply chain and act in full compliance, we conduct monthly tests as part of e-learning programs to provide education on the Standard of Conduct Casebook and the Antimonopoly Law Compliance Manual for all company employees, including those on loan to group companies or others. The monthly tests that began in fiscal 2018 always contain one question concerning anti-bribery.

## Partnership with Society and Employees

# Respecting Human Rights and Diversity and Creating an Energetic Workplace

We believe that respecting human rights and diversity is a fundamental principle for a sustainable society. Applying this, we have been introducing measures concerning the development of human resources, empowerment of women, workforce diversity, improvement of the work-life balance and adoption of KENKOUKEIEI\* consideration into corporate and personnel management. We are dedicated to creating employee-friendly workplaces where each employee can develop to their full potential.

» GRI 103-2, 3

\*KENKOUKEIEI (Management of Health on Company and Employee) is a trademark held by the Workshop for the Management of Health on Company and Employee.

### Basic Policy Concerning Human Rights and Labor Practices

» GRI 102-16

We formulated our Basic Policy Concerning Human Rights and Labor Practices in April 2015 with the acknowledgement that respecting human rights and diversity is a fundamental principle for a sustainable society and taking into consideration the Universal Declaration of Human Rights and the labor standards of the International Labor Organization.

#### » Basic Policy Concerning Human Rights and Labor Practices «

1. Recognizing that respecting human rights is a foundational management concern, we will strive to address human rights issues.
2. We will respect diversity and will not tolerate discrimination or harassment in any form.
3. Applying accepted international principles and laws and labor practices in each country, we will respect the rights of all our workers, treat them to employment free of discrimination and strive to ensure equal employment opportunities.
4. We will strive for better working conditions and a workplace environment that ensures the health and safety of our employees.
5. We will not tolerate child labor or forced labor under any circumstances.

### Respect for Human Rights

» GRI 102-17, 412-2

Under the Basic Policy Concerning Human Rights and Labor Practices we are committed to respecting the human rights of our employees and all those involved in our business activities. These strong commitments are reflected in our Standard of Conduct (see pages 30 to 31), which governs the actions of each employee and is clearly expressed in statements such as "We will respect human rights and will not discriminate on the basis of national origin, gender or other factors" and "We will maintain a harassment-free workplace."

#### » Educational Activities on Human Rights

We have been conducting a variety of educational activities with the belief that education is the foundation for human rights.

Our human rights seminars in fiscal 2018, including those by position and training for the top management of our affiliates, focused on preventing harassment. The following actions also occurred during the fiscal year:

- (1) A message from top executives calling on employees to eliminate harassment in the workplace;
- (2) The distribution of a booklet against harassment to all employees;
- (3) The inclusion of rules governing harassment in the Employment Regulations;
- (4) The conduct of a questionnaire on employee harassment with the results posted on the company intranet; and
- (5) The gathering of human rights slogans from employees and their families, including partner companies, during Human Rights Week.

We also assisted group companies in conducting training courses and distributed a booklet to raise awareness of human rights.

#### Summary of the Questionnaire Findings

- About 20 percent of our employees have suffered from harassment.
- Power harassment is the most frequently reported form of harassment.
- Few victimized employees have used the Harassment Hotline, indicating that it is inaccessible.

#### In-house Training Related to Human Rights Issues and Call for Slogans (FY2018) (Non-consolidated)

In-house Training and Call for Slogans	Results
Human rights seminar for the top management of our affiliates	125 participants
Human rights seminar for employees by position at the HQ (including 114 from our affiliates)	420 participants
Human rights training at plants and branches	662 participants
Human Rights Week slogans collected (from employees and their families)	1,613 slogans

#### » Operating the Human Rights Hotline

Members of the Harassment Counseling Committee and Human Rights Committee assigned at all business sites conduct activities to raise awareness of human rights to prevent harassment, and handle any related complaints to create a positive workplace environment.

In fiscal 2018 we received 22 reports via the hotline, reviewed the details of each report based on requests from the complainants, and responded fairly.

#### Harassment Hotline

Internal	The Human Rights Committee and harassment counselors have been allocated at all our business sites (56 in total).
External	Telephone and website consultations have been contracted to the Japan Institute of Workers' Evolution Harassment Hotline.

#### Number of Reports to the Harassment Hotline (FY2018)

(Unit: report)

	Sexual harassment	Power harassment	Other	Total
Internal	5	6	1	12
External	0	6	4	10

## Human Resource Development and Evaluation

» GRI 404-2, 3

We see our employees as the most important management resources for achieving the sustainable growth of our group. We maintain a long-term human resource development system in accordance with our Basic Human Resources Development Policy and a fair evaluation system to support the performance of all our human resources. These systems reflect diverse individual characteristics and values, regardless of nationality or gender.

### » Basic Policy Concerning the Development of Human Resources «

Our aim is to develop human resources that are highly regarded both inside and outside the company.

1. In principle, human resources will be developed through on-the-job training supplemented by off-the-job training.
2. Human resources will be developed to succeed the roles of their superiors, playing central roles in the future in each area and at each level.
3. Human resources will be developed to take action in constant consideration of group management.
4. Human resources will be developed to be competent by global standards.
5. Human resources will be developed to protect the environment and to serve society by assuming active roles in CSR initiatives.
6. Human resources will be encouraged and assisted to develop their motivation and to adopt broader perspectives through self-development.

### » Human Resource Development

We implement company-wide measures including group training by position and the development of global human resources. We also introduce measures aimed at developing the individual potential of each employee as a basis for energizing the organization. These efforts provide our employees with opportunities for personalized learning experiences that foster autonomy and independence, and ultimately raise their motivation to the next level. We actively encourage and create environments in which employees can freely make decisions about their careers during their work and training.

In addition, we ask all employees to submit personal reports once a year, including future career development aspirations, worksite preferences and family considerations, to help us improve the work environment so they can fully demonstrate their abilities and to ensure stable employment.

### Characteristics of Ideal Employees

From the standpoint of human resource development we have identified the following desirable characteristics and traits for revolutionizing the company and creating a dynamic Taiheiyo Cement.

**Self-confident individuals who are able to contribute to the sustainable growth of the group with a firm commitment to achieving the group mission:**

1. Individuals with innovative ideas, strong leadership and the ability to take bold actions
2. Individuals who can be competent by global standards
3. Individuals who can contribute to group management

### Education/Training-Related Expenses per Employee (Non-consolidated)

(Unit: 1,000 yen)

FY2016	FY2017	FY2018
74	71	74

Please visit our website for more information on our training system.

- [https://www.taiheiyo-cement.co.jp/english/](https://www.taiheiyo-cement.co.jp/english/CSR)  
CSR → CSR Report → Data (Japanese only)

### » Human Resource Evaluation System

We have adopted a human resource evaluation system that prioritizes development over compensation. The system assists employees in deepening their understanding of their evaluation results through feedback. It also strongly emphasizes the exchange of opinions between evaluators and employees, who share their thoughts on issues such as identifying areas for future development. We have been implementing a management (HR evaluation) training program since fiscal 2007 to enhance the evaluation, development and management of skills of evaluators. As of the end of fiscal 2018, 733 people had participated in training under these programs.

## Respecting Diversity

» GRI 404-2, 405-1

### » Promoting Diversity and the Empowerment of Women

Acknowledging that promoting diversity and empowering women is the biggest and most immediate challenge for creating an innovative labor force, we have engaged in a wide range of efforts.

In July 2015 we established the Diversity Promotion Office to review various measures and strengthen our awareness-raising efforts. In addition to reviewing company systems and establishing new ones, the office operates the Kirakira Palette portal site, which provides employees with

information on company programs and available fringe benefits, basic knowledge on childcare and family care, and related services provided by local communities.

Also, we worked on raising awareness by conducting training for all managers on promoting women's active participation and advancement in the workplace and playing a DVD of a message from top management related to the promotion of diversity for all employees.

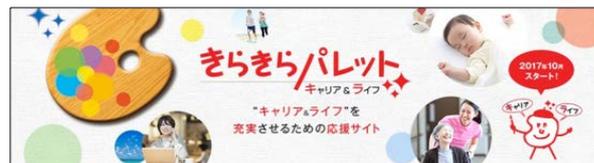
We have been participating since fiscal 2017 in the Science, Technology, Engineering and Mathematics Challenge (Riko-challe) program led by the Gender Equality Bureau of the Cabinet Office, to empower women in the workplace. In August 2018 we organized a plant tour for experiencing work and interacting with our female engineers at the Central Research Laboratory.

In November we held a forum on diversity entitled "Career Development for Working Women" as a means for supporting career development and retention. The speakers, who were women in management positions at other companies, spoke about how they had built up their careers. A video of the forum was distributed to all offices.

We also launched an employee work group to consider the telework practices we should introduce. The group, the second of its kind, suggested several telework arrangements to the company.

We are steadily working on the general business owner action plans pursuant to the Act of Promotion of Women's Participation and Advancement in the Workplace. In addition, we have been participating in Keidanren's Action Plan on Women's Active Participation in the Workforce and announced our voluntary action plans.

We will continue our sincere efforts to increase job opportunities for women and create an environment that fosters more female managers. We have been actively recruiting female employees to increase the ratio of female employees to over 10% by 2020. As a result of holding a career seminar for female students the ratio of women who are "G Course" employees accounted for approximately 20% of the new employees joining the company in April 2019. We also hired one female foreign national and will continue to hire outstanding employees with a focus on individual capabilities, regardless of nationality.



Kirakira Palette for supporting employees to continue working while caring for family members



Career seminar for female students

Please visit our website for more information on the general business owner action plans pursuant to the Act of Promotion of Women's Participation and Advancement in the Workplace.

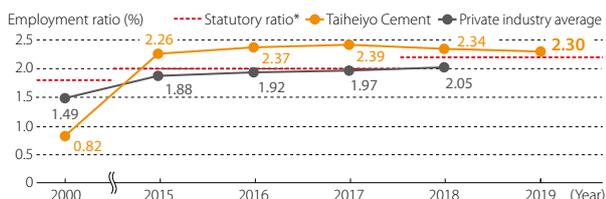
■ <https://www.taiheiyo-cement.co.jp/english/>  
 CSR → Collaborating with Society →  
 Human Resources

## ➤ Promoting Employment Opportunities for Persons with Disabilities

We have been making improvements to the work environment, including the establishment of three special purpose subsidiaries. Our employment ratio of persons with disabilities has improved, standing at 2.34% as of June 2018 with an annual average employment ratio of 2.39% for fiscal 2018, exceeding the statutory ratio (which was raised in April 2018 from 2.00% to 2.20%) for 12 consecutive years. Our employment ratio of June 2019 was 2.30%, which also exceeded the statutory ratio.

We intend to continue doing all we can to increase the number of employees with disabilities, including visiting schools, inviting school staff to our workplaces, collaborating with support organizations for persons with disabilities and participating in recruitment events or seminars for persons with disabilities.

### Trends in the Employment Ratio for Persons with Disabilities (as of June 1 of Each Year) (Non-consolidated)



\*Statutory employment rates were 1.8% until March 31, 2013, 2.0% until March 31, 2018, and 2.2% since April 1, 2018.

### ➤ System to Rehire Employees Who Have Reached Retirement Age

We rehire employees who want to continue working after they have reached the traditional retirement age of 60 until they are eligible for their pension. After they start receiving a pension we rehire them in accordance with specific rehiring standards under a labor-management agreement until they reach 65. We will continue to make sure there is a workplace for individuals who seek re-employment by expanding opportunities in group companies.

#### Number of Employees Rehired after Reaching Retirement Age

(Unit: person)	
	2018
Rehired by the company	11
Rehired by other companies (including those that are not group companies)	25

### Employee-Friendly Workplaces

» GRI 401-3, 403-6

#### ➤ Flexible Work Arrangements

We are working to provide flexible work arrangements by adopting various employment systems that will enable our employees to enhance work-life balance.

#### ▶ Support for Childcare and Caregivers

We established a long-term leave system in 2017 for employees who are given no choice but to give up their careers due to unavoidable circumstances such as relocating for their spouse's job and childcare. We also operate a reemployment system for employees who leave their jobs due to child or family care. In addition to our childcare/family-care leave, we have instituted measures that support employees who do not want to take leave, such as a flextime system, shortened work hours and starting work early or finishing late.

#### ▶ Responding to the Act for Measures to Support the Development of the Next Generation

Since fiscal 2005 we have been formulating general business owner action plans based on the Act for Measures to Support the Development of the Next Generation. During the plan's fourth term, April 2015 to March 2017, we achieved the objectives set in the general business owner action plan. In recognition of our efforts we obtained "Kurumin" certification in accordance with the new certification criteria that applies starting in April 2017. In fiscal 2019 we have started implementing various efforts in accordance with our sixth-term general business owner action plan.



#### General Business Owner Action Plans

Duration of plan: April 1, 2019 to March 31, 2021 (2 years)

##### Objective 1 Disseminate information about the systems for balancing work and family based on the Act on Childcare Leave, Caregiver Leave and Other Measures for the Welfare of Workers Caring for Children and Other Family Members

Measures Run a portal site in support of the continuation of employment which introduces internal systems systematically

##### Objective 2 Implement an initiative to realize flexible work arrangements

Measures Implement trial telework arrangements

##### Objective 3 Implement measures to promote the use of annual paid leave

Measures Improve the rate of annual paid leave taken by setting up days when employees are encouraged to take annual paid leave, systematically providing annual paid leave, etc.

##### Objective 4 Implement a social contribution program concerning the development of the next generation

Measures Conduct internships, etc., that provide young people with opportunities to gain workplace experience

#### Major Work Systems that Allow Flexible Work Arrangements

- Flextime system
- Discretionary labor system
- Half-day paid vacation
- "Special Reserved" leave (use of accumulated paid leave that has expired)
- Refresh System
- Human resource management system per course (region-limited employment) and others

#### Status of Leaves Taken and Work Hours (Non-consolidated)

Items	2016	2017	2018
Number of employees who took childcare leave (male employees in parentheses)	14 (5)	21 (10)	22 (8)
Childcare leave rate for female employees	100%	100%	100%
Rate of annual paid leave taken	69.8%	66.0%	67.6%
Overtime work (monthly average)	16.1 hours	16.4 hours	16.7 hours

Note: The data is collected retroactively from the past fiscal years to ensure uniformity across all fiscal years.

## Support for Volunteer Activities

In June 2012 we formulated a volunteer activity leave scheme and have been supporting volunteer activities undertaken by employees. A total of 43 employees have taken this leave up to fiscal 2018.

## Efforts to Promote Employees Health

In March 2018 the company formulated the "Taiheiyo Cement Group Commitment to the Health" as its policy for employee health. Under the commitment we have undertaken initiatives based on the "KENKOUKEIEI" concept to maintain and improve the mental and physical health of every employee since fiscal 2018.

### Taiheiyo Cement Group Commitment to Health

The Taiheiyo Cement Group regards its employees as key management resources ("human assets") and intends to be a corporate group in which every employee can enthusiastically work while maintaining their mental and physical health.

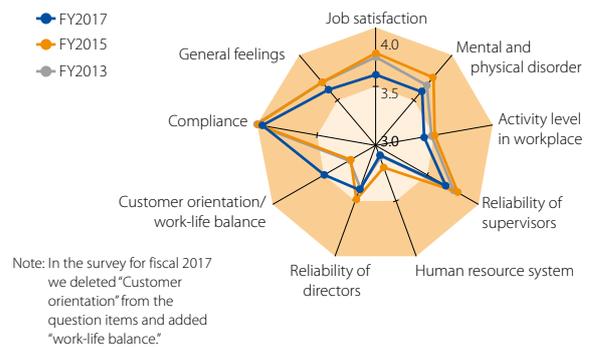
## Mental Healthcare

We provide mental health checkups for all our employees (consultation rate: 93.7% in fiscal 2018). We also conduct workshops focused on preventing mental health problems. In addition, we offer free counseling services on mental health to employees and their families under a contract with the company's healthcare trust for this purpose.

## Employee Awareness Survey

To increase employee job satisfaction we have conducted an employee survey every two years since fiscal 2013. The questionnaire used for the survey includes a comment section so employees can anonymously share any information on activities that may violate human rights and compliance requirements. In fiscal 2018 we implemented measures to overcome problems detected in the fiscal 2017 survey.

## Results of the Employee Awareness Survey



## Employee Status

» GRI 102-7, 8

### Employee Status (as of the End of FY2018)

(Unit: person)

		FY2018		
		Male	Female	Total
Non-consolidated	Permanent employees	1,580	180	1,760
	Temporary employees	55	7	62
Consolidated	Permanent employees	11,461	1,622	13,083
	Temporary employees	739	259	998

Note: The number of temporary employees refers to the annual average number of temporary employees.

### Average Length of Employment for Employees (Years) (Non-consolidated)

(Unit: year)

	FY2016	FY2017	FY2018
Male	20.6	20.5	20.4
Female	15.2	14.5	13.1

Note: A declining trend in the average years of employment is primarily due to an increase in the number of new graduate employees rather than an increase in turnover rate.

### Number of Employees in Management Positions (Non-consolidated)

(Unit: person)

	FY2016	FY2017	FY2018
Male	764	767	767
Female	2	2	3

### Number of New Graduate Employees (Non-consolidated)

(Unit: person)

	FY2017	FY2018
Male	70	68
Female	24	24

### Number of Newly Hired Mid-Career Employees (Non-consolidated)

(Unit: person)

	FY2017	FY2018
Male	1	6
Female	0	7

## Sound Labor-Management Relations

» GRI 102-41, 403-4

All employees who have entered into a labor agreement with the company are members of a union. We occasionally hold labor-management consultation and briefing sessions that provide opportunities for labor and management to exchange opinions and negotiate issues on the basis of mutual trust and understanding. In fiscal 2018, 35 of these sessions were held encompassing labor contract negotiations as well as explanations of corporate performance, revisions to wages and bonuses and amended systems and rules. Through the sessions we intend to improve communication between labor and management. In addition, four specialized committees set up as advisory bodies for labor-management consultation provide opportunities for active negotiation and exchanging views between labor and management.

### Activities of Specialized Committees

Committee	Activities
Committee on personnel and treatment of employees	Review the entire personnel system and the treatment of employees
Committee on employment and employment formats	Examine the operation of personnel/labor management systems against the background of diversifying employment and employment status
Committee on work hours	Examine problems concerning work hours and work hour management, and the response to laws related to work hours
Committee on the promotion of diversity	Examine the measures necessary to promote diversity in the workplace

### » Direct Communication between Executive Officers and Employees

As part of our efforts to enhance communication across the company we have been holding talk sessions with the executive officers, providing both executive officers and employees with a valuable opportunity to interact directly. In fiscal 2018 these sessions were held at all our 18 business sites and attended by 1,228 people.



## Partnership with Employees

# Creating a Healthy and Safe Workplace

We understand that the health and safety of our employees is part of the foundation of our company and continuously advance organized programs for health, safety and security to eliminate work-related accidents and create comfortable working environments, including in our supply chain.

» GRI 103-2, 3

## Taiheiyō Cement Health & Safety Policy

Our Occupational Health & Safety Policy is shown below. Under the policy our headquarters and business sites create and implement yearly management policies on health and safety.

### » Taiheiyō Cement Health & Safety Policy «

We are aware that the health and safety of our employees is part of the foundation of our company, and we effectively implement the following policy by devoting sufficient management resources to prevent work-related accidents and diseases in accordance with the Industrial Safety and Health Act and the Mine Safety Act.

#### Basic Policy

1. Promote health and safety activities through cooperation between management and labor, with the aim of eliminating work-related accidents.
2. Ensure the health and safety of our employees and those of our affiliates by complying with health and safety-related laws and regulations, and in accordance with health and safety management regulations created by us, and health and safety regulations created by our business sites.
3. Strive to improve the level of safety and health by actively promoting the implementation and operation of an Occupational Safety and Health Management System, and by continually ensuring the true safety of our equipment, providing education and training, and raising awareness.
4. Continually improve the working environment and work methods through the company-wide and business site Health & Safety Committees, by applying technological progress and utilizing new knowledge and information about health and safety.
5. Ensure health and safety throughout the Taiheiyō Cement Group by advancing programs to eliminate work-related accidents under the leadership of the company-wide, business site, group company and affiliate Health & Safety Committees.

## Occupational Health & Safety System

» GRI 403-1, 2, 3

Under the Taiheiyō Cement Health & Safety Policy and health and safety management regulations, we provide for the basic aspects of the group's health and safety management and promote health and safety activities. This is to create comfortable working environments while also ensuring the health and safety of our employees and those

of our contractors at the group's business sites and other locations.

We organize a Health & Safety Committee consisting of the representative from both management and labor at each business site, including plants, quarries and branches, and promote health and safety activities by business sites.

The Companywide Occupational Health & Safety Committee at our headquarters (chaired by the officer in charge of safety) oversees promotion activities at all business sites. The committee also collects safety related data from our group companies as well as the company itself and provides guidance.

We manage health and safety at all cement plants and quarries, using the OSHMS\*.

\*Occupational Safety and Health Management System: A framework that allows organizations to reduce potential dangers at workplaces and promote comfortable worksites by voluntarily practicing continuous, uninterrupted health and safety management as prescribed in the guidelines of the Ministry of Health, Labor and Welfare in 1999.

### Occupational Health & Safety System



### » Safety Operation Officer Certification System

Since fiscal 2007 we have been using the Safety Operation Officer System, which emphasizes the importance of improving leadership capability and therefore only certifies those who complete qualification seminars held at plants as leaders (safety operation officers) of working groups. To further improve the capability of these leaders we imposed a stricter requirement for the qualification seminars starting in fiscal 2015, restricting participants to those who have completed the foreman training course stipulated in the Industrial Safety and Health Act.

### » Health and Safety Training Program

To ensure employee safety at work we conduct health and safety training in accordance with the related implementation procedures. Training courses focus on newly hired employees, including those with professional experience, specialized courses, newly appointed managers, strengthening capabilities and new partner companies.

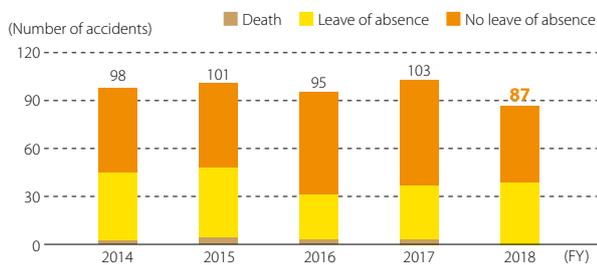
## ➤ Report and Database of Work-related Accidents

Regardless of its relative severity, any work-related accident is reported to the Companywide Occupational Health & Safety Committee immediately after it occurs.

We promptly post the details of any accident on the group bulletin board in an effort toward avoiding recurrence.

We have maintained a work-related accident database since fiscal 2008 to help avoid the recurrence of accidents. It contains information about accidents involving employees of the company and group companies as well as all employees of partner companies including temporary workers. It is also used to store information on identified accident causes and response reports, including measures taken in response to unsafe actions and equipment with respect to the “4 Ms” (men, machines, methods and management).

### Number of Accidents Registered in the Work-related Accident Database



## Status of Our Health and Safety Promotion Activities

» GRI 403-2, 3, 4, 5, 6, 7, 10

The Companywide Occupational Health & Safety Committee set the objectives for fiscal 2018, aiming to achieve zero fatalities, limit lost-time injuries to 30 or less and work-related accidents to 80 or less, while also maintaining the absence rate at between 0.30% and 0.39%. Accordingly, we conducted health and safety promotion activities with a focus on: (1) basic safety activities for attaining the CSR Objectives for 2025 by (a) establishing the safety culture of the Taiheiyo Cement Group and (b) promoting ongoing safety activities at cement plants and by the industry; (2) concrete activities for reducing accidents; (3) the speedy dissemination of information following an accident; (4) the horizontal roll-out of countermeasures taken by the accident site; (5) prevention of occurrence or recurrence of serious work-related accidents at specific business sites and affiliates;

and (6) checks on countermeasures taken in response to an accident.

As a result we attained our objective of zero fatalities but fell short of meeting the other objectives, with 35 lost-time injuries, 87 work-related accidents, and an absence ratio of 0.647%. While we have been seeking to prevent serious accidents as a key activity, there was a serious accident in fiscal 2018 involving a worker falling.

### Absence Rate (Non-consolidated)

(Unit: %)

	FY2014	FY2015	FY2016	FY2017	FY2018
Absence Rate	0.547	0.439	0.448	0.458	0.647

## ➤ Hands-on Safety Training

### ► Initiatives in Japan

To enhance each employee's sense of safety we have promoted hands-on safety training in which employees experience simulated dangers that could happen in daily operations. We decided in fiscal 2011 to provide on-site, hands-on safety training by instructors from outside the company at our plants on a rotating basis. Many of the employees working in the same plant participate together in the training so that they develop the same level of safety awareness. Training in fiscal 2018 was conducted at the Kamiiso plant on September 4 and 5 with 151 employees from the plant and partner companies, who enthusiastically participated in and experienced simulated dangers related to heights, rotating equipment, electricity and objects hanging from a crane. In fiscal 2018 we installed a safety experience facility at each plant and established a system for providing speedy training for inexperienced workers including younger employees.

We also installed virtual reality equipment at the Saitama plant to provide simulated experiences of dangers and have workers go through actions leading up to an accident.



VR equipment at the Saitama plant

### ► Opening of an Experience-based Safety Training Center in China

On September 10, 2018, Qinhuangdao Asano Cement Co. Ltd. opened the Experience-based Safety Training Center.

Currently, 15 sets of sensory equipment and VR-based simulators are permanently installed at the facility. Training is focused on developing the ability to detect dangers and

is provided to all employees and partner companies.

This type of facility is still rare in China and so it was covered extensively by the local media, including television (broadcast twice by Qinhuangdao TV), web-based news services (Xinhua News Agency, Guangming Daily, and People's Daily) and a newspaper (*Hebei Daily*).

The facility is being introduced to construction companies and Japanese companies in Qinhuangdao City, and every day the center aims to spread safety awareness in the region.



In-house training at the Experience-based Safety Training Center

### ➤ Workshop for KYT Section Leaders

We held workshops for KYT (risk prediction training) in October at the headquarters to improve safety skills. Safety managers from China, the Philippines, Vietnam and Papua New Guinea participated in the workshops to deepen their understanding of risk prediction through seminars and drills.



Workshop for KYT section leaders (headquarters)

### ➤ Special Seminar on the Use of Full-body Harnesses when Working at Heights

Following regulatory revisions, since February 1, 2019 workers required to use full-body safety harnesses must attend special seminars. The seminars are held at each plant and business site, and we seek to ensure safe operations by having workers practice what they have learned.



Special seminar on using full-body harnesses while working at heights at the Ofunato plant

### ➤ Equipment Improvements

Following a fatal accident in fiscal 2014 involving a worker falling from a bulk cement truck we made a thorough effort to clearly mark safe working perimeters for heavy machinery and improve facilities by setting up no-entry areas at our cement plants. However, a similar accident resulting in a fatality occurred at a group company in fiscal 2017, prompting us to conduct



Construction work for determining safety perimeters for heavy machinery at the Fujiwara plant

a survey on the status of preventing heavy machinery accidents at all 280 sites, including group companies, and we have made improvements as needed.

### ➤ Support for the Safety Activities of Group Companies

The Companywide Occupational Health & Safety Committee supports safety activities at group companies. In fiscal 2018 we conducted a safety survey covering the group's ten business sites in Japan and three overseas sites. We seek to raise safety standards by visiting the sites in order to conduct hearings on safety activities, facility inspections and direct information sharing.



Facility inspection of a group company

### ➤ Health Management, Maintenance and Improvement

We conduct annual health examinations for all employees in accordance with the Industrial Safety and Health Act. As in previous years the attendance rate in fiscal 2018 was 100%. In the event that any doubt is raised over a diagnosis, we help the employee to undergo an extensive examination and provide lifestyle improvement training.

Moreover, we began pursuing health management from fiscal 2018 and as part of the initiative we hold workshops for mental health and nutrition seminars at each business site, provide information through an in-house newsletter and distribute a pamphlet for raising health awareness.

### ➤ Health Issues Caused by Asbestos

The status of health issues related to asbestos at Taiheiyo Cement is that of the former employees with certified work-related injuries/illnesses, 50 have died or are currently undergoing treatment (as of May 31, 2019).

Please visit our website for more information.

- <http://www.taiheiyo-cement.co.jp/english/>  
CSR → CSR Report → Data (Japanese only)

# Information Disclosure

We exert our strongest efforts to offer information through various media to promote understanding of our activities while incorporating feedback and other information we receive into our daily IR activities and management.

## Information Disclosure Policy

We disclose corporate information fairly, accurately and at the appropriate time in accordance with the Information Disclosure Policy we created in May 2007. In fiscal 2018 we published 26 press releases. These and previous press releases are available on our website.

Please visit our website for more information on our Information Disclosure Policy.

- <https://www.taiheiyo-cement.co.jp/english/>  
CSR → Collaborating with Society → Information Disclosure

## IR Activities

We are committed to disclosing information about our group in an appropriate and timely manner to our shareholders and investors. We hold results briefings with institutional investors twice each year to enable the president to communicate our management policies directly. In fiscal 2018 we again held individual meetings and participated in IR conferences organized by a securities company. We also provide tours of our production sites.

### IR Activities (FY2018) (Non-consolidated)

Activities	Events	Attendees
Results briefings	2	152
Individual meetings	174	249
Tours of our facilities	3	10
IR conferences organized by securities companies	2	9



Tours of our facilities for analysts

## Information Disclosure Tools

### ➤ Website

We post press releases as well as information on our products and services, recruitment and R&D division on our website.

### ➤ Annual Reports

This IR tool, published annually for Japanese and international investors, publicly states our financial standing along with special topics for the year.

### ➤ Technical Journal "CEM'S"

We publish "CEM'S" (a technical journal for users of our products) quarterly. The journal provides commentaries on technological trends in the field of cement and concrete, construction materials and the environment. It also introduces timely R&D activities, the latest construction examples and other information.

### ➤ R&D Report

We publish a summary of our R&D outcomes twice each year. Extracts from back issues are also available on our website.

### ➤ In-house Newsletter "Taiheiyo"

We publish six issues of our newsletter each year to communicate our management policy, group events, employee comments and other information. For the September 2015 issue, we introduced the section "SHINE UP Communication" to present our initiatives as well as cases for creating workplaces where each employee can work more comfortably.

The newsletter is distributed to our local communities and the mass media as well as in-house.

## Partnership with Society

# Communication with Communities

With the goal of achieving sustainable growth in harmony with communities, all of our business sites in Japan and overseas participate in various activities that address local needs while applying the characteristic strengths of the Taiheiyō Cement Group.

» GRI 103-2, 3, 203-1, 413-1

### Major Activities (FY2018)

Theme	Activity	Sessions (rounds)	Attendees (persons)	Examples
Protection of the local environment	Community briefing	188	973	• Briefing on waste treatment • Briefing on quarry development work
	Community briefing on environmental issues	62	151	• Briefing to members of a neighboring community on environmental issues
	Environmental monitoring system	96	82	• Meetings, briefings and social gatherings of environmental monitors
	Community cleanup activities	400	3,298	• Cleaning of roads and rivers surrounding business sites • Participating in a community cleanup activity
	Community forest conservation and nature protection activities	115	330	• Participation in forest conservation activities such as planting seedlings and thinning • Support for preserving local communities' farmlands • Concluding a partnership agreement with the forest union • Protecting rare regional plants and animals
Promotion of local culture and communication	Plant and quarry tours	368	6,686	• Plant and quarry tours for children, students, residents and government entities in a community
	Opening facilities to the public	1,070	10,393	• Providing schools and local organizations with access to our grounds, gymnasiums and meeting rooms
	Sponsoring, participating in and cooperating in local events	288	42,708	• Sponsorship of a boys baseball tournament • Participating and cooperating in a sports tournament, community festivals and events
Regional development	Provision of materials and rental of heavy machinery	19	570	• Providing and lending materials and heavy machinery to improve public spaces as-well as roads and waterways in local communities
	Support for community medical services	18	607	• Provision of free medical checkups and medication • Agreement on use of the company's premises as a medical heliport
	Support for the development of local industries	33	130	• Participation and cooperation in activities to support the development of local industries • Providing industrial water for agricultural use
	Disaster prevention activities	28	220	• Conclusion of a regional disaster assistance agreement • Regional joint disaster prevention drills, regional fire-fighting activities
	Others	20	502	• Support for economically distressed areas • Developing community leaders
Education and development of human resources	Scholarships	5	517	• Scholarships for students who need financial assistance living near our business sites
	Developing engineers	28	1,631	• Opening free concrete technology schools to train concrete engineers • Implementation of technical guidance programs
	Internships and career experience opportunities	40	10,373	• Acceptance of domestic and foreign interns • Technical guidance for university students • Career experience, on-site training at quarries
	Others	13	1,105	• Provision of materials for building schools in local communities • Donations of funds to a municipal library
Support for areas affected by disaster	Disaster area support	3	—	• Participation in support groups • Provision of company-managed housing and a gymnasium as an evacuation center (agreement with local authorities) • Provision of a tentative storage yard for disaster waste

Management

The Environment

## Protection of the Local Environment

### » Communication on the Environment

We consider improving transparency through timely information disclosure and communication as one of our key responsibilities to local communities. We hold briefings for members of these communities when we start new business operations or relocate a quarry zone. We ask members of the local communities who reside near our plants to act as environmental monitors to report information about the environment. This enables us to quickly ascertain and act on information about the environment near our plants. Moreover, we offer tours of our business sites, centered on our plants.

### » Participating in the Coastline Cleanup Event (Kamiiso Plant)

Hokuto City, where the Kamiiso plant is located, faces the Tsugaru Strait. The coastline is about 20 kilometers long. The twice-yearly Coastline Cleanup Event is organized by the city government and is marking its 39th anniversary

this year. Local residents engage in cleanup activities in 17 districts, which includes collecting floating debris. Many plant employees and their families get involved to clean up the beach in front of the district where the plant is located to help protect the community's environment.



Participating in a beach clean-up in front of the plant

### » Cooperation in the Farmland Conservation Activities (Fujiwara Plant)

The Fujiwara plant is in a mountainous agricultural area where the steep ridges between the fields make it difficult for farmers to cut grass and weeds. Since fiscal 2011 it has provided communities with *Lippia canescens* seedlings, which are planted on the ridges as part of a farmland conservation initiative. In fiscal 2018 it provided 20 of



Providing *Lippia canescens* seedlings

Collaborating with Society

the city's districts with seedlings. Planting *Lippia canescens* reduces weed growth, which not only eliminates some need for weeding but also helps to make the scenery more attractive.

➤ **Conservation of Rare Plant Species (Chichibu Taiheiyo Cement Corporation)**

Native plants that only grow in soil containing limestone are found on Mt. Buko in Saitama Prefecture. Since 1972 the Miwa Quarry has engaged in conservation activities for rare plants that might be affected by quarry operations. In addition to the company's conservation efforts the Central Research Laboratory works to protect and grow endangered plants such as *Chichibu primula tosaensis*, purple gromwell, and *Miyama liliun maculatum*, leveraging biotechnology and other methods. In addition, a joint industry/academic study was conducted on *Chichibu primula tosaensis*. Those three plants are exhibited at the Mt. Bukoh Museum in the community every year during their flowering period.



Helping to protect and cultivate rare plants

➤ **Greening Quarries (Jiangnan-Onoda Cement Co., Ltd., China)**

The company quarry is improving the environment so that it can acquire the Green Quarry (environmentally friendly quarry) Certification. After quarry operations are completed the slopes are restored to their original condition and greened. The company has also paved most of the mountain roads and is working to improve the environment of the entire quarry through initiatives such as tree planting by volunteer employees on holidays. Visitors have praised those efforts, expressing surprise that the quarry has become as beautiful as a park.



Greening activity in China

**Promotion of Local Culture and Communication**

➤ **Hosting Plant Tour Day (Kumagaya Plant)**

Every year the Kumagaya plant hosts Plant Tour Day which offers residents of three neighboring districts hands-on experiences to deepen their understanding of cement

plants, with 200 participating every year. The plant gives tours as well, during which participants can enjoy a panoramic view of the grounds and neighborhood from an 80-meter-high suspension preheater and ride a bulk truck, so they become more familiar with the facilities. The plant will continue hosting tours as key opportunities for strengthening its relationship with the local community.



Interacting with local residents

➤ **Opening Sports Facilities for Community Use (Oita Plant)**

The Oita plant opens its sport facilities for use by local residents. The recently renovated tennis court is popular for its convenience, with the number of users increasing 30%. The adjacent gateball court has also been upgraded for the enjoyment of local gateball teams and other residents twice a week. Additionally the plant makes available its gymnasium, baseball diamond and employee amenity hall for free. Approximately 9,000 residents take advantage of the sports facilities every year.



Renovated tennis court

➤ **Participating in the Tsukumi Yamazakura Festival Ekiden, a Road Relay (Oita Taiheiyo Mining Corporation)**

Employees at Oita Taiheiyo Mining Corporation participate in the Tsukumi Yamazakura Festival Ekiden, a Road Relay held every March. Participants across a range of generations, from elementary school children to adults in their sixties, run a 2.2-kilometer course around the Aoe Dam, famous for its cherry blossoms. Residents cheer every runner who enthusiastically races under falling cherry petals, creating a sense of unity. This year the company had three teams participate, more than any other organization, which deepened the sense of fellowship with local residents.



Employees in an ekiden

## ➤ Sponsoring the September 11 Memorial Project (CalPortland Company, U.S.)

A memorial dedicated to the heroes that saved lives at the World Trade Center Plaza on September 11 was created by Eagle Scout in front of the Fire Authority headquarters in Arroyo Grande, California.

CalPortland donated ready mixed concrete for the distinctive pentagonal monument set into the hillside. Its 412 tiles represent the number of firefighters, police and EMT personnel who lost their lives and two porcelain rectangles in the middle of the pentagon symbolize the Twin Towers.



Concrete donated for the monument

## Regional Development

### ➤ Providing Crushed Stone to Inabe City Plum Tree Park (Fujiwara Plant)

Inabe City, home to the Fujiwara plant, has sponsored the Tour of Japan, a major international cycling race, every year since 2015. The plant co-sponsors the event as one way to contribute to local communities. In 2018 the plant not only participated in volunteer traffic control but also provided crushed stone for expansion of the parking lot of Inabe City Plum Tree Park, a venue for the Tour of Japan Inabe Stage, to improve access.



Expanded parking lot

### ➤ Participating in the National Traffic Safety Campaign (Buko Mining Co., Ltd.)

Buko Mining Co., Ltd. established a joint committee of four companies including Taiheiyo Cement, all of which develop the Buko Quarry, and has actively participated in local traffic safety activities. The company helps to ensure traffic safety through regular traffic patrols of the neighboring area and by encouraging safe driving of large quarry-related vehicles. Moreover, it strives to raise awareness of traffic safety among local residents through a street campaign organized by the town hall during the National Traffic Safety Campaign.



Contributing to traffic safety in the community

### ➤ Donating Money to Medical Support Sponsored by the Qinhuandao City Federation of Labor Unions (Qinhuandao Asano Cement Co., Ltd., China)

Since 2014 Qinhuandao Asano Cement has donated funds to a medical support scheme operated by the Qinhuandao City Federation of Labor Unions. Under the scheme employees of participating companies receive partial compensation when their medical expenses exceed 2,000 yuan. In fiscal 2018 the company donated 20,250 yuan, which is at a rate of 50 yuan per employee.

### ➤ Offering Free Medical Checkups (Taiheiyo Cement Philippines, Inc., Philippines)

The company provides a free medical checkup program for local residents in 13 districts around the plant and quarry. In fiscal 2018 the company performed medical checkups in 5 districts, while doctors and nurses offered consultations to 2,900 residents. Furthermore, the company distributed medication and reading glasses and also covered dental treatment. Since the launch of the program in 2006, a total of 25,000 residents have undergone checkups. Given the high number of people who cannot afford medical care in the Philippines, local residents greatly appreciate the program as does the government.



Medical checkup for a local resident

## Education and Development of Human Resources

### ➤ Providing Technical Guidance on Ready-mixed Concrete to University Students (Tohoku Branch, Tohoku Taiheiyo Namakon Co., Ltd., Kokusai Kigyo Co., Ltd.)

Every May we provide technical guidance on ready-mixed concrete to sophomore students of the Department of Architecture at the request of Nihon University, College of Engineering in Koriyama City, Fukushima Prefecture. In 2018 a total of 210 students took part in the two-day program. Through the course students learn how ready-mixed concrete is used at actual worksites and gain practical experience of testing fresh concrete, such as the slump test, air-entrainment test and chloride content testing, and the preparation of test specimens. This is



Employees providing technical guidance

the only opportunity they have to directly observe and work with ready-mixed concrete produced at the plant during their four-year degree program.

➤ **Holding an On-site Class at a High School (Ofunato Plant)**

Plant employees participated as lecturers in an on-site class to help local young people find jobs in the community. The Association of Employment Development was commissioned by the Iwate prefectural government to provide information on local industries and companies in partnership with schools. Given the anticipated labor shortage, the project, which started in fiscal 2018, targets senior high school students and supports the recruitment efforts of local companies. An operations department manager and a young second-year employee gave a lecture on management philosophy, details of the work, organizational structure, working environment, and sense of fulfillment to 120 enthusiastic students.



On-site class for local high school students

➤ **Hosting the Career Experience Project (Saitama Plant)**

The Saitama plant has endorsed a career experience project for first-year students at local junior high schools. Launched 20 years ago, it is intended to help students develop professional aspirations and positive work attitudes by experiencing familiar jobs, and the plant has participated in the project since its inception. In fiscal 2018 the plant welcomed five students from two schools to get a feel for all its departments including production, quality control, machinery, electricity, accounting and general affairs. In fiscal 2019 some students who had participated in the project six years previously became an employee of the company.



Hosting a career experience project for over 20 years

➤ **Developing Concrete Engineers (Nghì Son Cement Corporation, Vietnam)**

In Vietnam the need for more competent engineers has become an urgent public concern in the wake of rapid economic growth. Nghì Son Cement has opened a free concrete technology school to train Vietnamese concrete engineers, with 84 new graduates in fiscal 2018 and 1,463

altogether as of March 2019. Through this initiative the company is significantly contributing to advancing concrete technology in the country.



Students at the graduation ceremony

Supporting Areas Affected by Disaster

➤ **Free Storage Yard for Disaster Waste from West Japan Flood (Chugoku Branch)**

Heavy rain fell on western Japan in July 2018, causing major damage across a large region. More than 2,500 houses were affected by flooding from rivers in Mihara City, Hiroshima Prefecture, where Sanyo White Cement Co., Ltd. was based. The Chugoku Branch supported the Mihara City government in recovery efforts by providing its former premises as a temporary storage yard for disaster waste over two months at no charge. Three days after the support was offered we began accepting waste equivalent to the cargo of 50 light trucks. The branch's cooperation with the community in treating disaster waste marked the first step in the recovery operations.



Collected disaster waste

➤ **Supporting an Area Stricken by an Earthquake (PNG Taiheiyō Cement Ltd., Papua New Guinea)**

A large magnitude-7.5 earthquake struck the Highlands Region of Papua New Guinea in February 2018, affecting 544,000 people in 5 provinces, with 270,000 requiring life-saving support. Fourteen percent of the total population was forced to evacuate because their homes had collapsed. Just a half-day drive from Lae City, where the company is located, the affected area is a key region for cement sales. In the hope of facilitating a rapid recovery we donated cement throughout the Catholic Parish of Mendi City.



Donating cement in the hope of a rapid recovery

In accordance with the CSI Charter and GCCA Sustainability Charter, member companies of CSI and GCCA pledge to publicly disclose their performance on the priority issues facing the cement industry using the key performance indicators (KPIs) developed by the CSI. They also pledge to set and make efforts to achieve reduction targets for CO<sub>2</sub> emissions and major

air pollutants. We set group targets using the KPIs and our progress toward achieving these targets are shown in the following chart. In addition, group performance for CO<sub>2</sub> and climate protection, emissions monitoring and reporting, health and safety, and water, has been subjected to an independent limited assurance review by KPMG AZSA Sustainability Co., Ltd.

**CO<sub>2</sub> Emission Reduction Targets**  
Cement production-related CO<sub>2</sub> emissions from Taiheiyō Cement and group companies

**Reduce specific net CO<sub>2</sub> emissions per tonne of cementitious product by 10% or more from fiscal 2000 levels by fiscal 2025. (CSR Objectives for 2025)**

**Reduction Target for Main Air Pollutants**  
Emissions of NO<sub>x</sub>, SO<sub>x</sub> and dust from the main stacks of kilns at the cement production sites of Taiheiyō Cement and group companies

**Limit NO<sub>x</sub>, SO<sub>x</sub> and dust levels per tonne of clinker (g/t-clinker) to the target levels achieved in fiscal 2010**

■ Key Performance Indicators of the CSI and GCCA for Fiscal 2018\*1

CO <sub>2</sub> and Climate Protection (CO <sub>2</sub> emissions, energy consumption)		FY2016	FY2017	FY2018
Number of facilities using CSI and GCCA "The Cement CO <sub>2</sub> and Energy Protocol" guidelines for emissions inventory		18	18	18
Percentage of facilities using CSI and GCCA "The Cement CO <sub>2</sub> and Energy Protocol" guidelines for emissions inventory (%)		100	100	100
Total CO <sub>2</sub> emissions (million tonnes/year)	Gross	22.7	23.3	23.5
	Net*2	21.9	22.4	22.6
CO <sub>2</sub> emissions per tonne of cementitious product*3 (kg-CO <sub>2</sub> /t-cementitious)	Specific gross CO <sub>2</sub> emissions	708	703	696
	Specific net CO <sub>2</sub> emissions	683	679	671
Emissions from electricity purchased (million tonnes/year)		0.886	0.985	0.963
Specific heat consumption of clinker production (MJ/t-clinker)		3,306	3,303	3,268
Alternative fuel rate (% of thermal energy consumption) of kiln		11.3	11.6	12.0
Biomass fuel rate (% of thermal energy consumption) of kiln		1.8	1.8	1.8
Clinker/cement ratio (%)		83.1	82.9	82.8

Alternative Raw Materials Use	FY2016	FY2017	FY2018
Alternative raw materials rate: consumption of alternative raw materials, as a percentage of total raw materials for cement and clinker production (% , calculated on a dry basis)	15.5	15.5	16.0

Health and Safety	FY2016	FY2017	FY2018
<b>Fatalities</b>			
Number of fatalities for directly employed	0	1	0
Fatality rate per 10,000 for directly employed	0	2.63	0
Number of fatalities for indirectly employed (contractors and subcontractors)	0	0	1
Number of fatalities involving third parties (not employed)	0	0	0
<b>Lost-time injuries</b>			
Number of lost-time injuries for directly employed	8	7	8
Injury frequency rate of directly employed employees (per 1,000,000 working hours)	0.97	0.87	1.01
Number of lost time injuries for indirectly employed (contractors and subcontractors)	10	6	8

Emission Monitoring and Reporting	FY2016	FY2017	FY2018
Percentage of clinker produced by kilns covered by a monitoring system, either continuous or discontinuous for main and other pollutants	100	100	100
Percentage of clinker produced by kilns which have installed continuous measurements for the main pollutants	NO <sub>x</sub>	100	100
	SO <sub>x</sub>	81.6	84.7
	Dust	100	100
Total emissions (tonnes/year)	NO <sub>x</sub>	32,897	33,048
	SO <sub>x</sub>	2,108	2,214
	Dust	1,057	841
Specific emissions (g/t-clinker)	NO <sub>x</sub>	1,221	1,197
	SO <sub>x</sub>	78	80
	Dust	39	30

Local Impacts	FY2016	FY2017	FY2018
Percentage of sites with community engagement plans in place	100	100	100
Percentage of active sites with quarry rehabilitation plans in place	100	100	100
Number of active sites where biodiversity issues are addressed	3	3	3

Water	FY2016	FY2017	FY2018
Amount of withdrawal (1,000 m <sup>3</sup> )	Fresh water	26,719	27,596
	Seawater	146,097	149,056
Amount of discharge (1,000 m <sup>3</sup> )	Fresh water	12,964	12,294
	Seawater	146,097	149,056

\*1 Accounting and reporting of KPIs for fiscal 2018 is in accordance with the WBCSD-CSI's guidelines in "CO<sub>2</sub> and Energy Accounting and Reporting Standard for the Cement Industry" Version 3.1, "Guidelines for the Selection and Use of Fuels and Raw Materials in the Cement Manufacturing Process" Ver. 2.0, "Safety in the Cement Industry: Guidelines for measuring and Reporting" Version 4.0, "Guidelines for Emissions Monitoring and Reporting in the Cement Industry" Version 2.0, "Guidelines on Quarry Rehabilitation," "Protocol for Water Reporting" Version 1.0, and "GCCA Sustainability Guidelines for the monitoring and reporting of CO<sub>2</sub> emissions from cement manufacturing Ver. 0," "GCCA Sustainability Guidelines for the monitoring and reporting of safety in cement manufacturing Ver. 0," "GCCA Sustainability Guidelines for the monitoring and reporting of emissions from cement manufacturing Ver. 0" and "GCCA Sustainability Guidelines for the monitoring and reporting of water in cement manufacturing Ver. 0." 100% of data for subsidiaries and partner companies (regardless of percentage of ownership) subject to aggregation is counted.

\*2 Net CO<sub>2</sub> emissions: gross CO<sub>2</sub> emissions minus the CO<sub>2</sub> emissions from alternative-derived fuels.  
\*3 Cementitious product: total clinker produced plus mineral components processed at the plants.



## Independent Assurance Report

To the President and Representative Director of Taiheiyo Cement Corporation

We were engaged by Taiheiyo Cement Corporation (the “Company”) to undertake a limited assurance engagement of the Key Performance Indicators (the “KPIs”) of the World Business Council for Sustainable Development’s Cement Sustainability Initiative (the “CSI”) and the Global Cement and Concrete Association (the “GCCA”) under the following areas included in its CSR Report 2019 (English version) (the “Report”) for the fiscal year ended March 31, 2019.

- CO<sub>2</sub> and climate protection <sup>1</sup>
- Health and safety <sup>2</sup>
- Emission (NO<sub>x</sub>, SO<sub>x</sub> and dust from kilns) monitoring and reporting <sup>1</sup>
- Water <sup>1</sup>

<sup>1</sup> Periodic accounting is based on the fiscal year 2018 for domestic plants and the calendar year 2018 for overseas plants.

<sup>2</sup> Periodic accounting is based on the calendar year 2018 for domestic and overseas plants.

### The Company’s Responsibility

The Company is responsible for the preparation of the KPIs in accordance with the following standards (the “Criteria”) issued by the GCCA and the CSI:

- GCCA Sustainability Guidelines for the monitoring and reporting of CO<sub>2</sub> emissions from cement manufacturing Ver. 0
- CO<sub>2</sub> and Energy Accounting and Reporting Standard for the Cement Industry Version 3.1
- GCCA Sustainability Guidelines for the monitoring and reporting of safety in cement manufacturing Ver. 0
- Safety in the Cement Industry: Guidelines for measuring and reporting Version 4.0
- GCCA Sustainability Guidelines for the monitoring and reporting of emissions from cement manufacturing Ver. 0
- Guidelines for Emissions Monitoring and Reporting in the Cement Industry Version 2.0
- GCCA Sustainability Guidelines for the monitoring and reporting of water in cement manufacturing Ver. 0
- Protocol for Water Reporting Version 1.0

### Our Responsibility

Our responsibility is to express a limited assurance conclusion on the KPIs based on the procedures we have performed. We conducted our engagement in accordance with the ‘International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information’ and the ‘ISAE 3410, Assurance Engagements on Greenhouse Gas Statements’, issued by the International Auditing and Assurance Standards Board. The limited assurance engagement consisted of making inquiries, primarily of persons responsible for the preparation of information presented in the Report, and applying analytical and other procedures, and the procedures performed vary in nature from, and are less in extent than for, a reasonable assurance engagement. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviewing the Company’s responsible personnel to obtain an understanding of its policy for preparing the Report.
- Inquiring about the design of the systems and methods used to collect and process the KPIs.
- Performing analytical procedures on the KPIs.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the KPIs in conformity with the Criteria, and recalculating the KPIs.
- Visiting the following five out of a total of 18 plants of the Taiheiyo Cement Group, selected on the basis of a risk analysis. (CO<sub>2</sub> emissions covered by the plants visited correspond to 31% <sup>3</sup> of the combined total of the Group’s CO<sub>2</sub> emissions.)

<sup>3</sup> Based on the amount of absolute gross CO<sub>2</sub> for the fiscal year 2018 for domestic plants and the calendar year 2018 for overseas plants.

#### Overseas plants

- Jiangnan Onoda Cement Co., Ltd.
- Dalian Onoda Cement Co., Ltd.
- Qinhuangdao Asano Cement Co., Ltd.

#### Domestic plants

- Taiheiyo Cement Corporation: Kamiiso Plant and Ofunato Plant

- Evaluating the overall presentation of the KPIs.

### Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the KPIs in the Report are not prepared, in all material respects, in accordance with the Criteria.

### Our Independence and Quality Control

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Control 1, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

*KPMG AZSA Sustainability Co., Ltd.*

KPMG AZSA Sustainability Co., Ltd.  
Tokyo, Japan  
October 17, 2019

## Editorial Policy

Through this report we intend to convey how we conduct our CSR activities to our stakeholders. The report also serves as a communication tool, and we hope to receive a wide range of comments from readers toward enhancing our activities and level of disclosure. CSR Report 2019 reflects the following efforts.

- The first half of the report (pages 2 to 19) serves as a summary of our CSR activities. In the latter half (pages 20 to 71) we report details of these various activities.
- At the beginning of the report we present the big picture of the group by sharing our vision for its future based on the targets on pages 4 and 5, and its present status on pages 6 and 7, which also present a "CSR dashboard" page where readers are provided with an outline of business operations as well as an integrated summary of past and current trends in financial and non-financial performance and the group's long-term objectives. It is also meant to serve as a "dashboard" that indicates the state of the group.
- The 2019 report includes the following new content.
  - Mitigating Climate Change: Our support for the recommendations of the TCFD and a framework for our long-range vision of greenhouse gas emissions reduction (page 36)
  - Conserving Biodiversity: Impact of our operations on biodiversity (pages 42 and 43)
  - Supply Chain: Supply chain due diligence enhanced by implementing questionnaires (pages 54 and 55)

### Guidelines Used for Reference

GRI Sustainability Reporting Standards (GRI Standards) 2016/2018  
 Guidance for Integrated Corporate Disclosure and Company-Investor Dialogues for Collaborative Value Creation (Ministry of Economy, Trade and Industry)  
 Environmental Reporting Guidelines 2018 Edition (Ministry of the Environment)  
 Environmental Accounting Guidelines 2005 Edition (Ministry of the Environment) ISO 30414

### Publication Dates

October 2019 (previous report: October 2018, next report: October 2020)

### Clarifying Efforts to Achieve SDGs

We analyzed our business risks and opportunities, clarified their relevance to the Sustainable Development Goals (SDGs) and displayed icons representing the relevant SDG goal on each page of our activities. We will seek to contribute to achieving the SDGs through the group's business activities.



## Reporting in Accordance with the GRI Standards

This report is prepared in accordance with the Core option of the Sustainability Reporting Standard. Numbers for the GRI Disclosure items are indicated in the relevant reports, and the GRI Content index is available on our website.

The following information is available on our website.

<https://www.taiheiyo-cement.co.jp/english/>

CSR

→

CSR Report

→

Data

- Waste and by-product processing in cement plants
- Status of health issues associated with asbestos
- Company-wide training system (Japanese only)
- GRI Content Index

### Contact Information

**TAIHEIYO CEMENT CORPORATION**  
 Corporate Social Responsibility Group, General Affairs Department

Phone: +81-3-5531-7335 Fax: +81-3-5531-7552  
 E-mail: webmaster@taiheiyo-cement.co.jp

## Scope and Boundaries of this Report

### Reporting Period

April 1, 2018 to March 31, 2019  
 Some information about events occurred outside this period are also included in this report, which is clearly stated.

### Boundary of Reporting Organizations

The report covers Taiheiyo Cement Corporation (non-consolidated) and includes our group companies. "The company" refers to Taiheiyo Cement Corporation (non-consolidated); when information pertains to one of our group companies, the group company's name is explicitly stated.

#### • Boundary of Reporting Organizations by Quantitative Data

Quantitative data are aggregated on a consolidated basis and under the following three categories. An icon representing the relevant aggregation scope is associated with data for categories 1 and 2.

#### Category 1 Non-consolidated

Taiheiyo Cement Corporation (non-consolidated)

#### Category 2 WBCSD | GCCA

Scope of data collected for KPIs of WBCSD\*1-CIS\*2 and GCCA\*3 reporting. Organizations covered are listed on page 7.

#### Category 3 (others)

- Material Balance of Business Activities (pages 48 and 49) and Volume of Waste to Landfill (page 45): Organizations covered are listed on page 49.
- Number of fatalities (page 6) and the number of accidents registered in the Work-related Accident Database (page 63): employees of the company, group companies (including overseas) and our contractors.

\*1 WBCSD (World Business Council for Sustainable Development): An international, CEO-led association of about 200 member companies toward sustainable business development and the creation of sustainable societies.

\*2 CIS: Cement Sustainability Initiative

\*3 GCCA: Global Cement and Concrete Association

Sustainability Accounting Co., Ltd. (Chiyoda-ku, Tokyo) also conducted a third-party audit to ensure all information stated in this report, excluding quantitative data, is consistent with the relevant company information.

**Independent Assurance Statement**

August 23, 2019

Mr. Masafumi Fushihara  
 President and Representative Director  
 TAIHEIYO CEMENT CORPORATION

**1. Purpose**  
 We, Sustainability Accounting Co., Ltd., have been engaged by TAIHEIYO CEMENT CORPORATION ("the Company") to carry out a specific assurance engagement, based on the agreement with the Company, of the "CSR REPORT 2019" prepared by the Company. The purpose of this process is to express our conclusion of independent limited assurance on whether the descriptive information (excluding quantitative information) in the "CSR REPORT 2019" has been prepared in line with the Company's relevant information.

**2. Procedures Performed**  
 We conducted our assurance engagement in accordance with International Standard on Assurance Engagement 3000 (ISAE 3000) and we carried out the following assurance procedures:

- Interviewing the Company's personnel who was responsible for drafting the "CSR REPORT 2019".
- Visiting to one of the Company's sites.
- Performing cross-checks with internal and external documents.

**3. Conclusion**  
 Based on the procedures performed, nothing has come to our attention that causes us to believe that the descriptive information in the "CSR REPORT 2019" has not been prepared in line with the Company's relevant information.

We have no conflict of interest relationships with the Company.

Takashi Fukushima  
 Representative Director  
 Sustainability Accounting Co., Ltd.

**• Disclaimer Regarding Forward-looking Statements**

Plans and prospects included in this report are predictions based on information available at the time of publication and are subject to unpredictable risks and uncertainties. Consequently, there are no explicit or implied guarantees as to actual results, which may materially vary from the projected figures or measures cited in this report.

**Takeshi Mizuguchi**

Professor, Faculty of Economics,  
Takasaki City University of Economics



Since the October 2018 publication of the “1.5°C Special Report” on Global Warming by the Intergovernmental Panel on Climate Change, the world has sought to undertake the difficult task of limiting the global temperature rise to 1.5°C, requiring the net-zeroing of anthropogenic CO<sub>2</sub> emissions by 2050.

Immediately after its publication, you announced your long-term vision for 2050. This was indeed timely, and I must say that the target, an 80% reduction of CO<sub>2</sub> emissions from cement production, is extremely ambitious.

I suspect that merely streamlining operations through the best use of currently available technology would not enable you to reduce CO<sub>2</sub> emissions by as much as 80%. You will need to develop a new cement material that generates significantly less CO<sub>2</sub> during production and practically apply additional CCUS (carbon capture, utilization and storage) approaches, to name a few. Since breakthroughs will not suddenly appear in 2050, I hope you will map out a path toward your goal and steadily achieve progress until reaching the targeted reduction by that year.

I also strongly affirm your declaration of support for the recommendations by the Task Force on Climate-related Financial Disclosures (TCFD). Since the TCFD represents investor concern over climate risks, your public recognition of those risks and commitment to managing the issue are significant. Please do your best to disclose information in alignment with the TCFD.

Let me also express my admiration for your active memberships in the Cement Sustainability Initiative of the WBSCD and the Global Cement and Concrete Association (GCCA). The 2050 vision and declaration of support for the TCFD recommendations must be strongly related to your first-hand participation in global initiatives led by those organizations. I encourage you to maintain your active participation in these efforts.

Resource recycling and biodiversity are just as important to the cement industry as climate change. Your recycled-waste-to-cement system for reusing various types of waste and byproducts as raw materials for cement, as well as your EcoCement system, are noteworthy. Your commitment to the creation of a genuine recycling-based society, however, may ultimately require maximizing the ratio of recycled materials and putting off the development of quarries for as long as possible.

It is great that no fatal accidents occurred in fiscal 2018, though there was an accident involving a worker falling. I see that you are diligently striving to secure worker safety. You have also worked hard on promoting diversity, including the empowerment of women in the workplace. I encourage you to continue your efforts and as quickly as possible attain the target ratios of new female recruits, female employees and new female managers.

The revised Immigration Law of Japan, which came into force in 2019, may help raise the number of foreign nationals at your production sites. A lack of Japanese language skills and also cultural differences could lead to miscommunication and unexpected challenges. A large corporate group like yours, comprised of nearly 300 subsidiaries and affiliates, is inherently prone to such risk. I expect you to fully prepare yourselves to prevent unexpected human rights issues.

**Response to Third-Party Opinion**

**Hideaki Asakura** Director, Managing Executive Officer, CSR



I am greatly encouraged this year again by Mr. Mizuguchi’s deep understanding of our efforts against climate change, taking into account the related challenges facing the cement industry. Last year you pointed out we should lead the cement industry in providing solutions for climate change mitigation toward 2050. This year we set the reduction of CO<sub>2</sub> emissions from cement production as a key component of our growth strategies and have worked toward attaining this goal. Your favorable acknowledgement of these efforts is very encouraging. As you noted, since more foreign nationals will be working in Japan, we should indeed prepare ourselves to prevent any human rights violations associated with miscommunication and other problems and ensure we are able to report specifically on the matter.

We will continue to deepen our dialogue with stakeholders in order to better respond to their expectations, and we look forward to receiving frank opinions on this report from readers.



**We commissioned the Itabashi Welfare Factory to print Japanese questionnaires and insert them into the report.**

The Tokyo-based Itabashi Welfare Factory is helping persons with disabilities work and live independently in society. It is certified under ISO 9001 and the Information Security Management System.



Printed on paper made with wood from forest thinning. "Morino Chonai-Kai" (Forest Neighborhood Association)—Supporting sound forest management.

