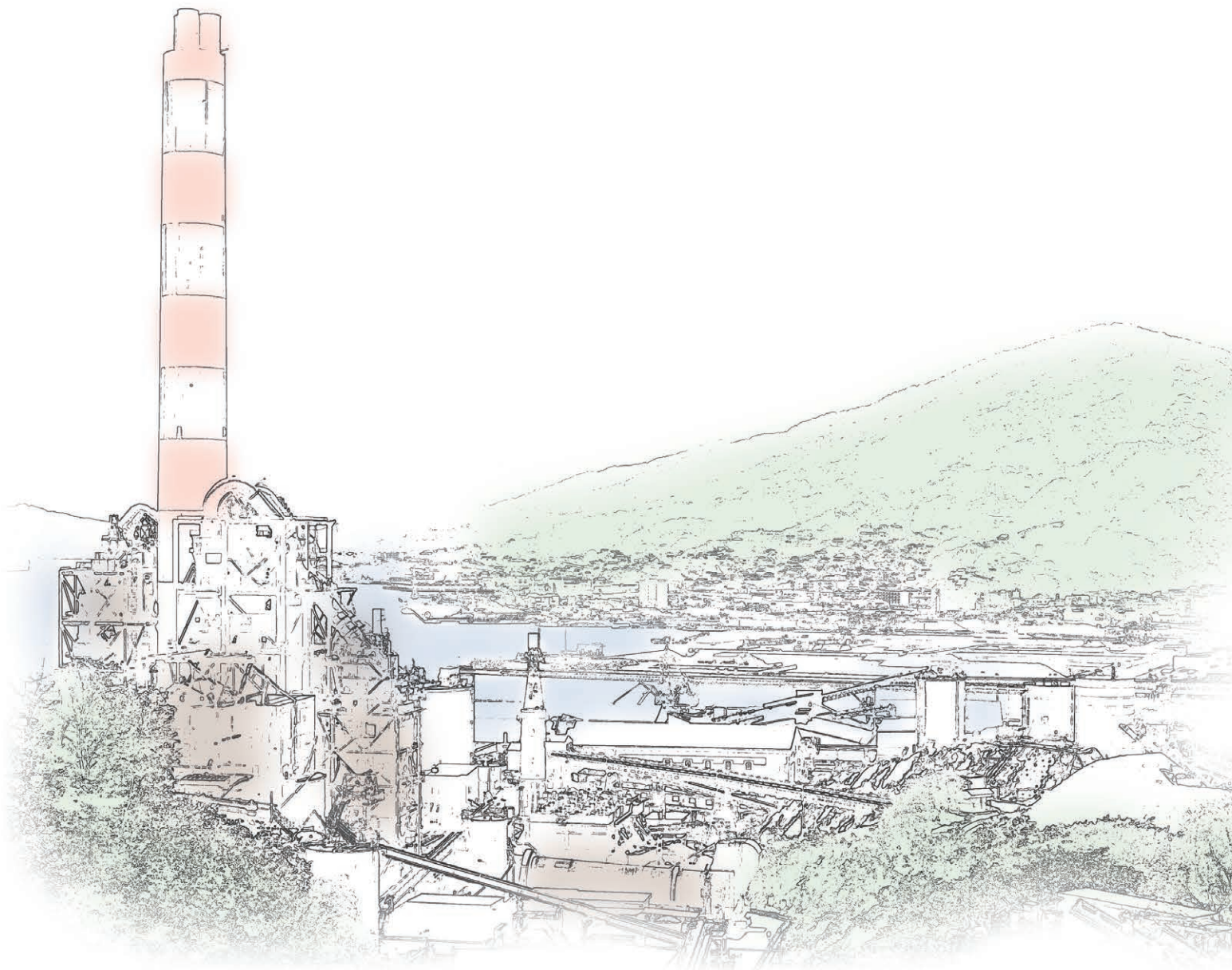


CSR REPORT 2017

TAIHEIYO CEMENT CORPORATION
Corporate Social Responsibility Report 2017



TAIHEIYO CEMENT CORPORATION

Commitment of Top Management

Utilizing All of Our Resources to Continuously
Provide Value Unique to the Group



Shuji Fukuda

Shuji Fukuda

President and Representative Director
Taiheiyo Cement Corporation

Utilizing the Resources Unique to the Cement Industry

The business activities of the Taiheiyo Cement Group are capital-intensive requiring tangible assets such as large-scale manufacturing facilities and various resources available from both within and outside of Japan. For example, in the upstream segment of the value chain these resources include the quarries we own in Japan and overseas which produce significant amounts of high-quality limestone. At the same time there are intangible resources we possess such as the right to have a great volume of electricity to run our large-scale plant facilities and the right to use harbors, allowing us to maintain international logistics networks for cement carriers. Furthermore, the advanced technologies and human resources we have cultivated over many years are the driving forces behind our resources.

One of our key management challenges is maximizing the use of the combination of resources unique to our group, as a cement company that creates new social value. With this in mind, we will continue to contribute to the UN Sustainable Development Goals (SDGs) throughout our value chain.

Investing in Growth Areas toward Achieving Our Vision and Direction Targeting the Mid-2020s

We are now in the final year of the 17 Medium-Term Management Plan for the three-year period from fiscal 2015 to fiscal 2017, the first step toward achieving our vision and direction targeting the mid-2020s. Generating and improving our earnings capacity is one guideline we have set for achieving our management targets, and toward this we intend to invest 100 billion yen in growth areas over three years. One investment plan is to expand our overseas businesses focused on the U.S. where we see potential growth, as well as in emerging countries. In Japan we started a new biomass power generation business utilizing one of our facilities. Steadily investing in response to long-term domestic and overseas market trends and social needs, such as diversified energy sources, will play a key role in the achievement of our vision and direction targeting the mid-2020s.

Our Commitment to Society

The CSR Objectives for 2025 represent one initiative toward the group's ultimate goal of becoming a pioneer in the creation of a sustainable future for the earth, as expressed in the Taiheiyo Cement Group mission statement. The quantitative targets outlined in the objectives embody our long-term goals and are also positioned as strategic targets for strengthening our management foundation under the 17 Medium-Term Management Plan. The three objectives identified under the CSR Objectives for 2015 are prerequisites for our long-term success.

The first objective, "prevention of accidents," is a safety declaration issued in fiscal 2016 in an emergency response to a serious accident that occurred in fiscal 2015. The accident

was unprecedented and I remain deeply concerned by it. Any compromise in safety jeopardizes the reputation of our operations and the company as a whole. We have established a safety control department that oversees and ensures the effectiveness of our safety management system across the group, and we have been committing our utmost effort to ensure that safety is our top priority.

Regarding the second objective, "reduction of greenhouse gas emissions," the Paris Agreement and increasingly stringent measures related to global warming require that every industry, including the cement sector, reduces CO₂ emissions, regardless of the limitations based on the nature of the business. Under this objective we have set a long-term quantitative target to reduce the specific net CO₂ emissions per tonne of cementitious product by 10% or more from fiscal 2000 levels by fiscal 2025, and we have been making every effort to achieve the target.

The third objective, "diversity," relates to our belief that the foundation for future growth lies in promoting the recruitment of diverse human resources, regardless of gender and nationality, guiding and training our employees to maximize their abilities, and providing workplaces in which our employees can work enthusiastically. Promoting the success of women is a particular challenge unique to this industry, and again our group is no exception. We have been working to tackle this issue through specific goals and, in fiscal 2017, started assigning female workers to factory sites. In addition, about 30% of all group employees work at overseas sites. Looking ahead, we will focus on developing human resources capable of leading the expansion of our overseas businesses.

All of these long-term goals require time and effort. Publicly announcing our commitment to long-term quantitative targets and reporting on our progress serve as an engine for driving our initiatives forward.

Public Expectations for the Contributions and Responsibilities of the Taiheiyo Cement Group

The cement business cannot be easily relocated as it produces cement for generations in areas where the mines are sited. We cannot acquire the necessary resources without developing and coexisting with the communities around our sites. This is our business model and it will never change as long as the cement business remains the core of our group. We proudly acknowledge that the reason we have been able to continue our businesses over the past 135 years has been our contributions to the sustainable growth of local communities and society as a whole.

The Taiheiyo Cement Group will continue to fully utilize its resources centered on the cement business and create value unique to the group in fulfilling its public responsibilities.

Mission of the Taiheiyo Cement Group ▶ GRI102-16*

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 ▶ GRI102-16

- 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.

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*Relevant indicators of the GRI Standards are shown next to titles in the report.

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%**



II. Reduction of Greenhouse Gas Emissions

Reduce by at least: **10%**

*Specific net CO₂ emissions per tonne in comparison to fiscal 2000 levels

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

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

Scope of Implementation

- I Employees of the Taiheiyo Cement Group including overseas business sites and partner companies
- II Cement production sites of Taiheiyo Cement and group companies, including overseas sites
- III Non-consolidated

Ofunato plant

CSR Objectives for 2025

Area	Target (by FY2025)	Policy for Achieving the Target	Scope of Implementation
I Prevention of Accidents	Zero fatalities	(1) Promote safety activities that ensure all employees of the group, affiliated companies and partner companies 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 partner companies
II Reduction of Greenhouse Gas Emissions	Reduce the specific net CO ₂ 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 Workplace Diversity	<ul style="list-style-type: none"> • Increase the ratio of female to male employees under "G Course" 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

Review of Operations at the Taiheiyo Cement Group

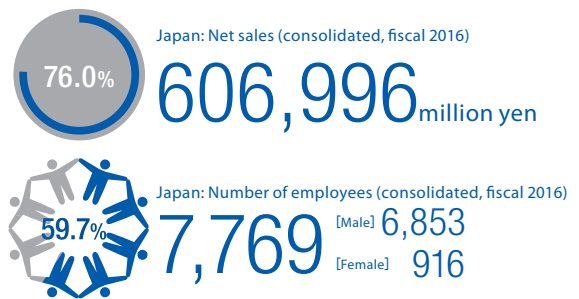
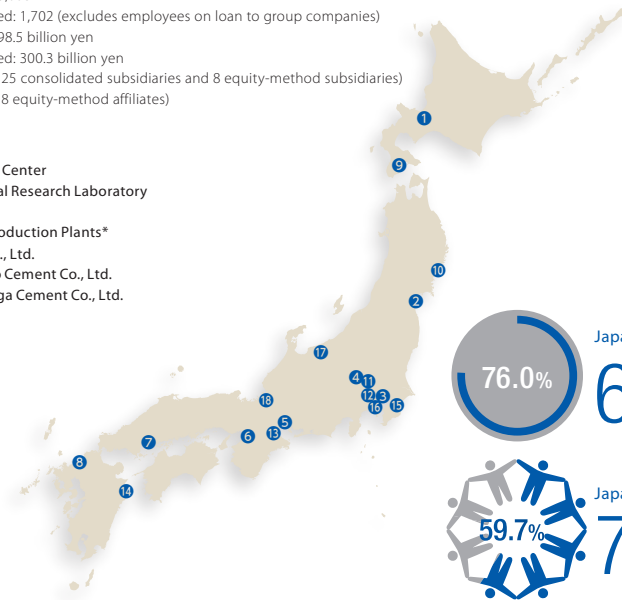
► GRI102-1, 3, 4, 5, 6, 7, 8, 10, 45, 103-2, 3, 201-1, 401-1, 405-1

Taiheiyo Cement Profile (as of March 31, 2017)

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: 13,008
Net sales	Non-consolidated: 1,702 (excludes employees on loan to group companies)
	Consolidated: 798.5 billion yen
	Non-consolidated: 300.3 billion yen
Subsidiaries	211 (including 125 consolidated subsidiaries and 8 equity-method subsidiaries)
Affiliates	104 (including 38 equity-method affiliates)

- | | |
|------------------------------|---------------------------------|
| Headquarters/Branches | Research Center |
| ① Hokkaido Branch | ⑮ Central Research Laboratory |
| ② Tohoku Branch | |
| ③ Headquarters/Tokyo Branch | Group Production Plants* |
| ④ Kanto Branch | ⑯ DC Co., Ltd. |
| ⑤ Chubu Hokuriku Branch | ⑰ Myojo Cement Co., Ltd. |
| ⑥ Kansai Shikoku Branch | ⑱ Tsuruga Cement Co., Ltd. |
| ⑦ Chugoku Branch | |
| ⑧ Kyushu Branch | |

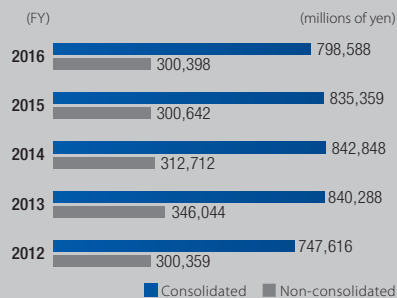
- Cement Plants***
- ⑨ Kamiiso Plant
 - ⑩ Ofunato Plant
 - ⑪ Kumagaya Plant
 - ⑫ Saitama Plant
 - ⑬ Fujiwara Plant
 - ⑭ Oita Plant



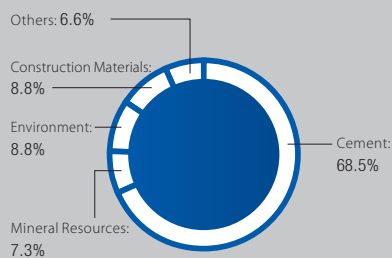
Financial Data

Economy

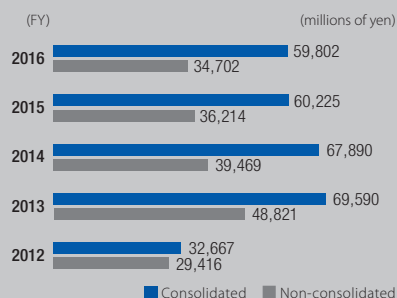
Net Sales



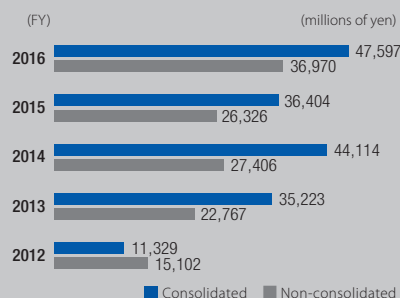
Net Sales by Segment (Consolidated, Fiscal 2016)



Ordinary Income



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



Non-financial Data

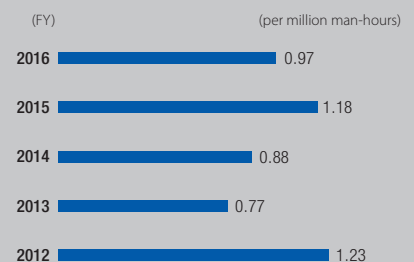
(Detailed data of reporting organization are provided on page 66.)

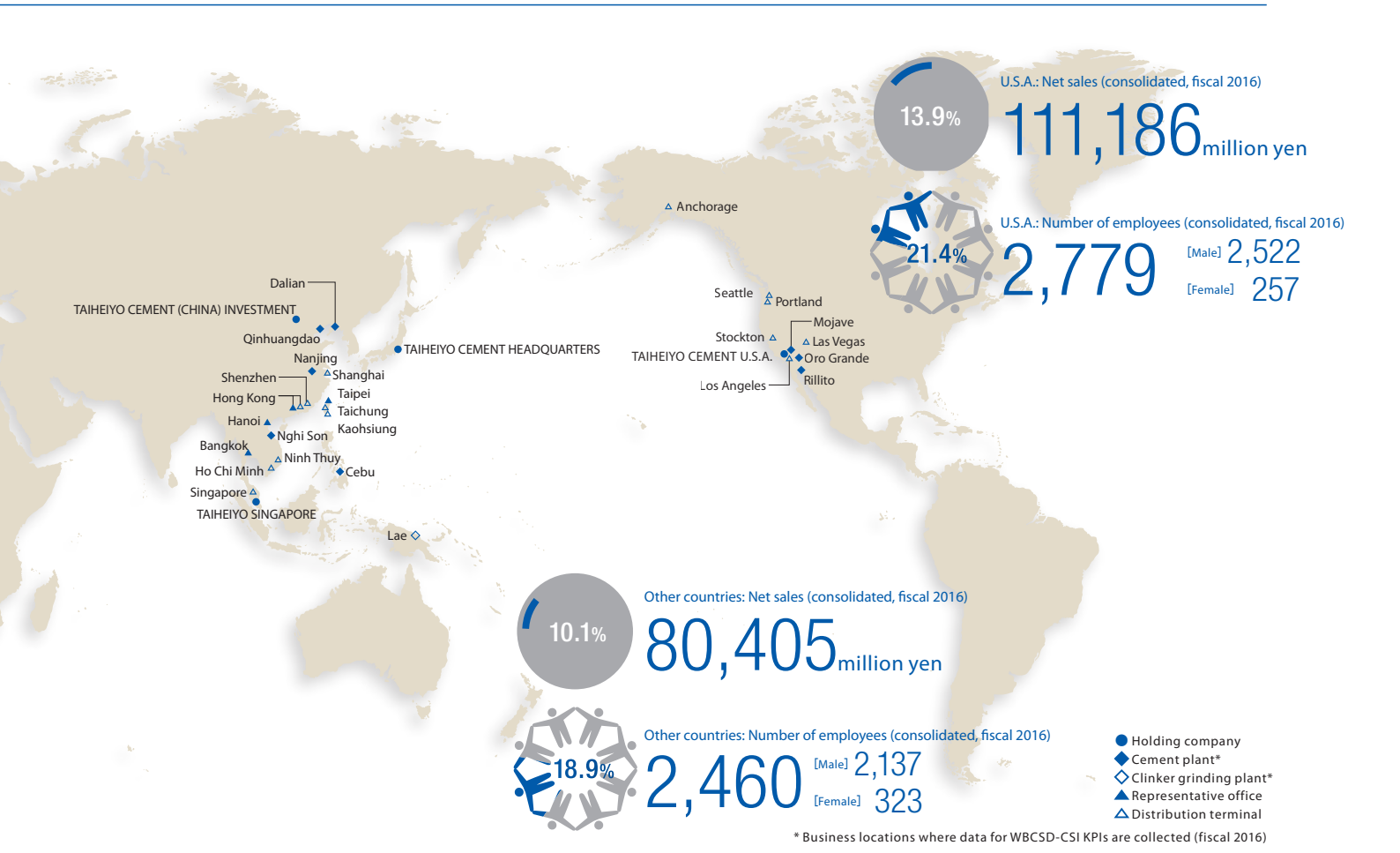
Safety

Number of Fatalities



Lost Time Injury Frequency Rate **WBCSD**





Environment

Reduction Rate of Specific Net CO₂ Emissions per Tonne of Cementitious Product (Compared with Fiscal 2000) **WBCSD**

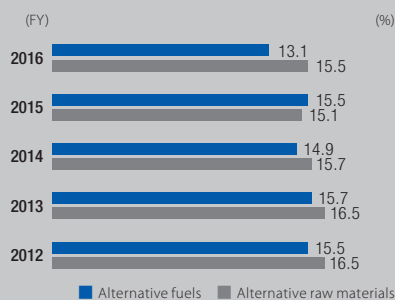


Diversity

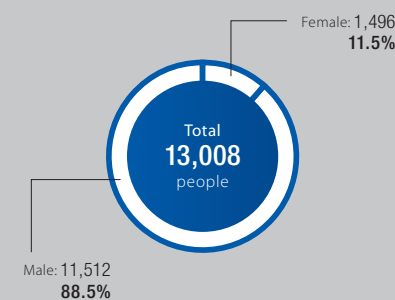
Ratio of Female to Male Employees **Non-consolidated**



Ratio of Alternative Raw Materials and Fuels **WBCSD**



Number of Employees by Gender (Consolidated)



Management Plan 17 Medium-Term Management Plan

(Fiscal 2015 to Fiscal 2017)

Basic Policy

Become an enterprise group that achieves progressive growth through constant innovation and the introduction of new technologies and solutions that can adequately respond to future changes in the business environment.

Contribute to the establishment of a safe and secure society through the provision of materials and technological developments, and furthering national resilience as a member of the social infrastructure industry.

Vigorously push ahead with the further strengthening of our revenue base and financial structure by strengthening businesses through exhaustive cost-cutting.

Business Strategies

Enhance existing businesses and formulate/implement growth strategies	Support national projects
Strengthen management foundations: Enhance management effectiveness	Enhance research and development

CSR Objectives 2025

Prevention of accidents, reduction of greenhouse gas emissions, workplace diversity

Business Objectives of the 17 Medium-Term Management Plan

	Result for FY2016	Target for FY2017
Operating income to net sales	7.9%	8.4% or more
Return on assets (ROA)	5.9%	7% or more

Setting up three indicators as guidelines to achieve the Business Objectives

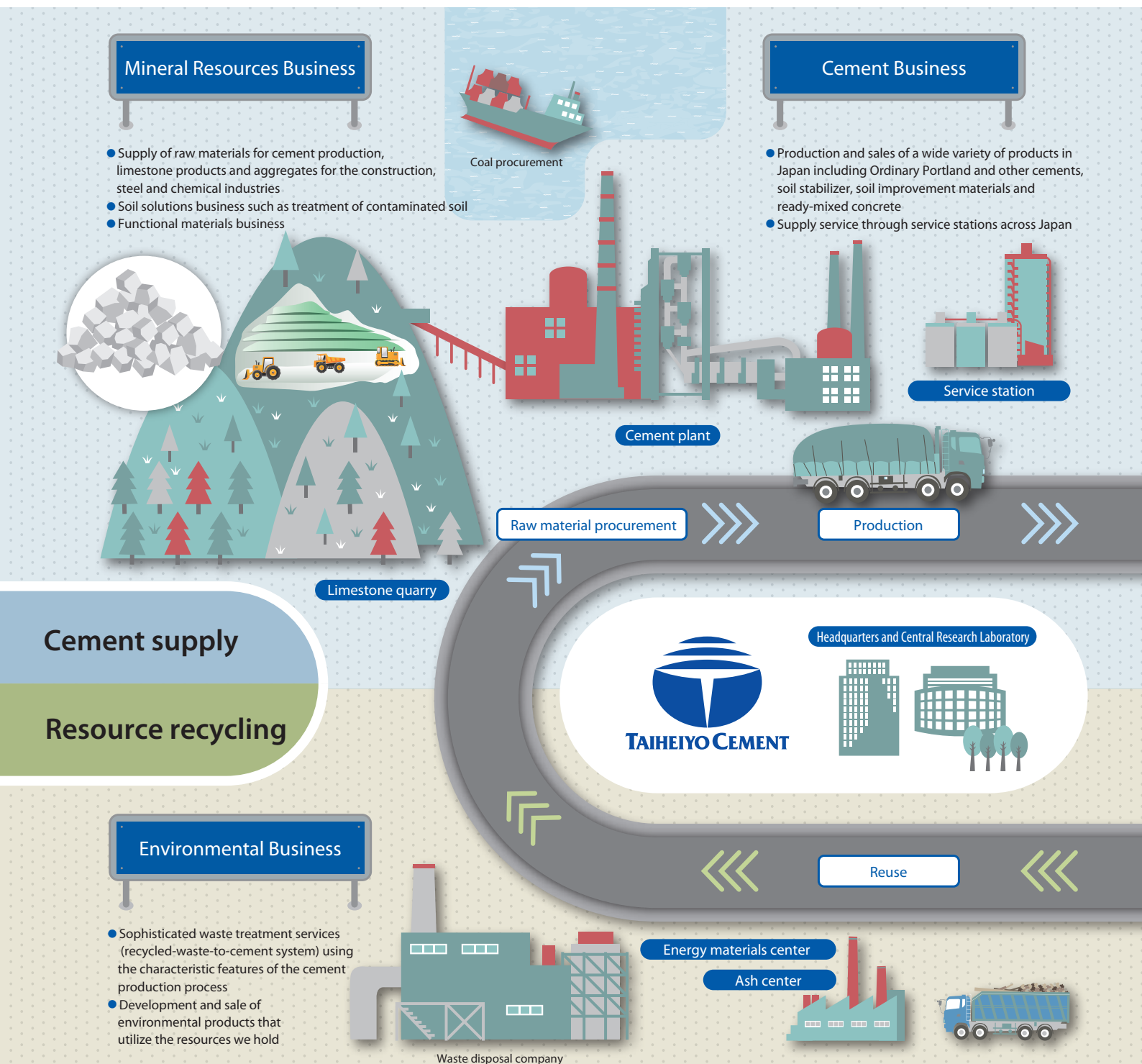
Generate and Improve Our Earnings Capacity	Build a Flexible and Strong Financial Structure	Enhance Stockholders' Returns
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Business Operations and Material Issues of the Taiheiyo Cement Group

▶ GRI102-2, 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.

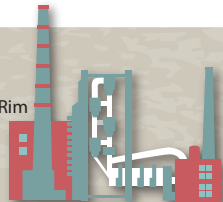


STEP 01 | Identification of Issues

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



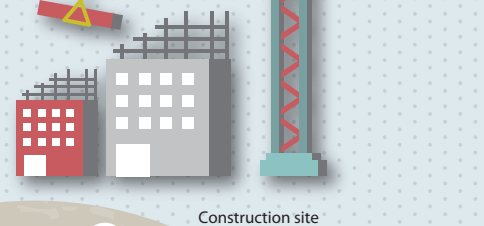
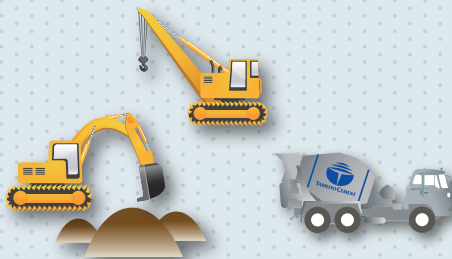
Construction Materials and Building Construction & Civil Engineering Business

- 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



Ready-mixed concrete plant

Concrete products manufacturing plant



Logistics and supply

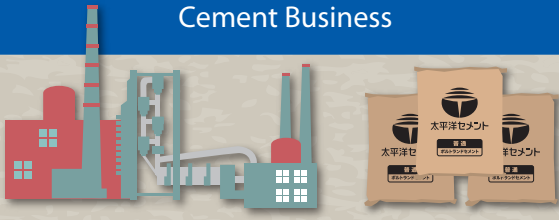

Use

Sea transportation



Power plant Steel mill Water supply and drainage treatment plant Waste incineration plant



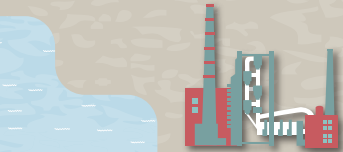
Social Contribution and Initiatives by Segment (STEP 01)

	Cement Business	Mineral Resources Business
		
	<p>Products and Services We contribute to the building of safe and secure social infrastructure by supplying a variety of high-quality construction materials.</p> <p>Initiatives through our Business Operations 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> <p>To ensure that the quality of all our products remains highly reliable 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.</p> <p>In sales 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.</p> <p>In our technical divisions 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.</p> <p>At our cement plants 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.</p>	<p>Products and Services 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 ultra-high-purity silicon carbide which is a single crystal material for power semiconductors.</p> <p>Initiatives through our Quarry Operations 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.</p> <p>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.</p> <p>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>Cement segment</p> <ul style="list-style-type: none"> Development of our innovative quality predictive system with a focus on maintaining and improving product quality. Promotion of R&D activities, such as lowering costs, protecting the environment, saving energy and reducing CO₂ emissions in the production of cement. <p>Concrete segment</p> <ul style="list-style-type: none"> Promotion of our "Concrete Solution Menu" to provide useful information to each user through a dedicated website utilizing the technical data we have accumulated. Focus on R&D activities on cement-based materials with the world's highest strength Development of diagnostic and repair technologies that contribute to ensuring the safety and security of infrastructure. Striving to expand the use of concrete as a pavement material. 	<ul style="list-style-type: none"> Development of functional materials that add value to the mineral resources we hold, such as hollow spheres and ultra-high-purity silicon carbide. R&D activities on immobilizing agents, a technology for treating contaminated soil.

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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Sales contact at the head and branch offices User societies and industry associations Technical journal and product catalogue Technical workshop Website
Employees		<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Briefing sessions, debriefing sessions, tours and environmental monitoring system Social contribution activities CSR reports Dialogue
	Local governments	<ul style="list-style-type: none"> Notifications to local governments CSR reports Dialogue
	NGOs and NPOs	<ul style="list-style-type: none"> Meetings and gatherings Surveys Dialogue Social contribution activities
Suppliers	Business partners (procurement)	<ul style="list-style-type: none"> Procurement briefing sessions
	Partner companies (facilities operation)	<ul style="list-style-type: none"> The Health and Safety Cooperative Committee

Environmental Business	Construction Materials and Building Construction & Civil Engineering Business	International Business
		
<p>Products and Services 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>Initiatives through our Business Operations 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>Products and Services 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>Products and Services 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"> ● U.S.: Our operations include cement manufacture, ready-mixed concrete, aggregates and more on the West Coast. ● China: 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. ● Southeast Asia: 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.
<ul style="list-style-type: none"> ● Development of technologies for recycling waste that is difficult to recycle and recovering rare materials. ● Development of water-related technologies such as for wastewater purification and phosphorus recovery. ● Development of technologies for removing materials contaminated by radiation. 	<ul style="list-style-type: none"> ● Proceeding with an initiative to serve as a center for generating synergies across the group's R&D activities. 	<ul style="list-style-type: none"> ● 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.

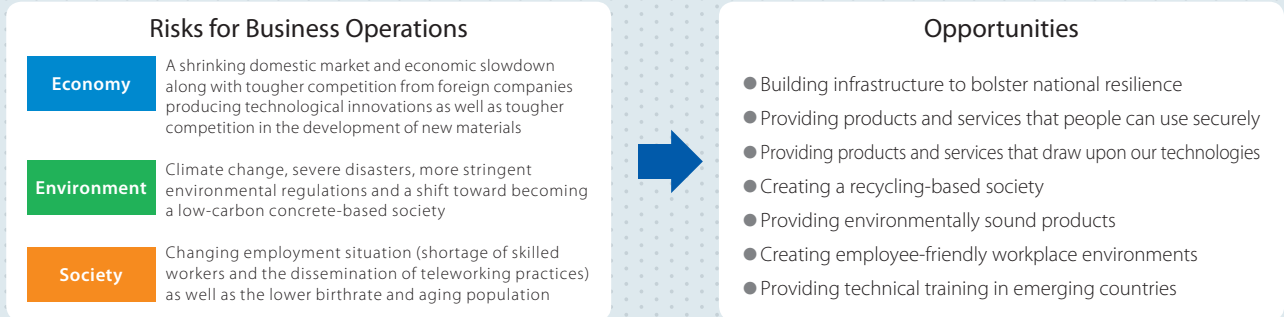
Stakeholder Expectations and Demands

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

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

In identifying material issues for sustainability we examined opportunities provided by risks for our business operations and produced a list that shows the relative relationship of these opportunities to SDGs. We classified 17 goals by the 3 levels of strength of their relationship to our business operations and identified 5 goals that were most closely related to our business operations.

Risks and Opportunities



Relationships between SDGs and Our Business Operations



STEP 02 | Prioritization

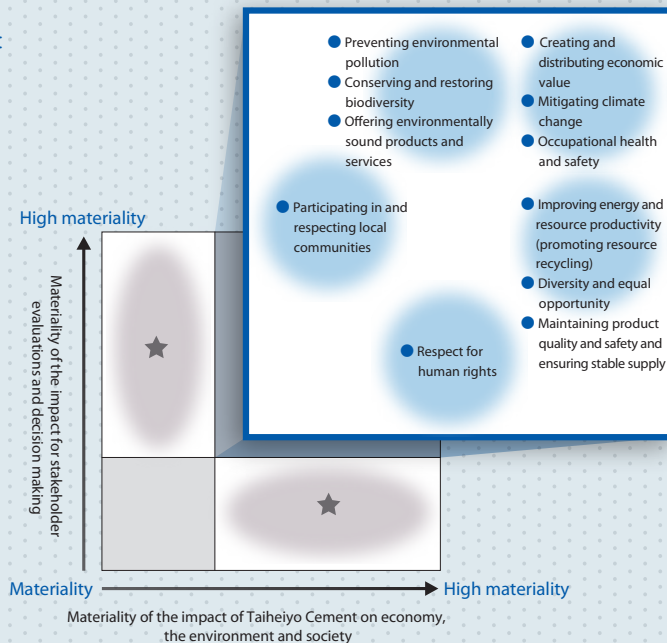
We identified sustainability issues while referring to international guidelines and stakeholder feedback in the context of our business. Through internal meetings we then held discussions on the priority themes for the Taiheiyo Cement Group, resulting in 11 priority aspects of the material issues.

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

- GRI Sustainability Reporting Guidelines (G4)
- GRI Sustainability Reporting Guidelines (GRI Standards)
- ISO 26000
- SDGs, SDG Compass, SDGs Industry Matrix
- AA1000SES (AA1000 Stakeholder Engagement Standards)
- ESG surveys and evaluations
- Internal questionnaire and feedback surveys
- Stakeholder Dialogue
- CSR report questionnaire survey
- 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

Categories	Material Aspects	Boundaries of Major Impact		Management Approaches	Report Page
		Taiheiyo Cement	Value chain		
Economic	Creating and Distributing Economic Value	✓	✓	Society	Policy: • Conducting business activities in accordance with our 17 Medium-term Management Plan (fiscal 2015 to fiscal 2017) pp. 06-07 pp. 60-63
Environmental	Improving Energy and Resource Productivity (promoting resource recycling)	✓	✓	Industry and regional waste-related facilities	Policy: • Environmental management policy • WBCSD-CSI "CSI Charter" pp. 36-39,45
	Mitigating Climate Change	✓	✓	Industry and regional waste-related facilities	System: • Setting up Environmental Management Committee • All plants, head office, branches and the Central Research Laboratory are operating in compliance with ISO 14001 pp. 36-37,45
	Preventing Environmental Pollution	✓	✓	Areas around plants	Evaluation: • CSR Objectives for 2025 • Group environmental targets based on the CSI Charter and KPIs • Monitoring and review by the Environmental Management Committee pp. 42-43
	Conserving and Restoring Biodiversity	✓	✓	Areas around plants	p. 40
	Offering Environmentally Sound Products and Services	✓	✓	Society	pp. 44,50-51
Social	Occupational Health and Safety	✓	✓	Partner companies	Policy: • Occupational Health and Safety Policy System: • Establishment of the Environmental Management Committee • OSHMS has been running in all plants and mines Evaluation: • CSR Objectives for 2025 • Monitoring of data on health and safety including information from partner companies pp. 58-59
	Diversity and Equal Opportunity	✓			Policy: • The Basic Policy Concerning the Development of Human Resources System: • The Basic Policy Concerning Diversity • Development of a long-term human resource development system, a fair evaluation system and comfortable working environments Evaluation: • CSR Objectives for 2025 • Quantitative targets for diversity • Monitoring various kinds of personnel data pp. 54-57
	Maintaining Product Quality and Safety and Ensuring Stable Supply	✓	✓	Cement users Society	Policy: • Quality Policy System: • A unified ISO 9001-based management system for product development, design and production • Technical support in the framework of Taiheiyo Brand Cement/Concrete (TBC) activities Evaluation: • Analyzing suggestions and inquiries related to quality • Regularly disclosing safety-related data on our website pp. 48-51
	Participating in and Respecting Local Communities	✓	✓	Areas around plants	Policy: • Identifying communication with communities as a material issue in the Mission of the Taiheiyo Cement Group and the Basic Policy of CSR System: • Promoting company-wide activities by the Stakeholder Communication Committee Evaluation: • Managing progress and sharing information under the company-wide action plan pp. 60-63
	Respect for Human Rights	✓	✓	Partner companies	Policy: • Basic Policy Concerning Human Rights and Labor Practices System: • Promoting company-wide activities under the Human Rights Committee • Contact points for counseling Evaluation: • Managing progress according to the company-wide action plan and facilitating the exchange of opinions and negotiations at labor-management consultations p. 54

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 2016).
- Externally
 - ➔ Third-party opinion by experts
 - ➔ CSR report questionnaire survey
 - ➔ Review by external advisors



Megumi Suto

Professor, Graduate School of Business and Finance, Waseda University
 Ms. Suto is an expert in corporate governance, corporate finance and financial systems. Before joining Waseda University, she served as a guest scholar at the Brookings Institution in the U.S. and at Oxford University in the U.K. She also served as a member of the Japanese government's Financial System Council and as a board member of the Japan Sustainable Investment Forum.

Summary of Ms. Suto's Talk

Japanese society is currently undergoing five major structural changes based on globalization, the development of information technology, the resolution of environmental issues, instability in world politics and the aging of its population. Because of these changes, the values of companies that people recognize are diversifying. This means that a variety of stakeholders are monitoring corporate activities from different perspectives, and companies are being evaluated on the basis of how these activities are connected. Once a problem occurs, the risk quickly spreads like a chain reaction, making it difficult for companies to hedge. To effectively manage risks, companies must constantly collect and analyze information and be fully aware of their relationships to their external environment. However, in practice many Japanese companies experience challenging gaps between (1) internal principles and the external environment, (2) information that companies disclose and that which investors seek, and (3) criteria by which society evaluates companies and their self-assessments. And so companies are not fully aware of how public expectations are changing, which is rapidly leading to greater risks for many of them as well as higher costs to deal with the risks.

Companies must increase their corporate value while considering both the impact they have on society and the impact that societal changes have on them. They should strategically relate CSR activities to corporate value, review them under their governance structure and use CSR as the foundation for corporate strategy. Moreover, it is crucial for companies to regard their relationships with stakeholders as an intangible asset as well as a source of future cash flows. They should also recognize CSR as an aspect of risk management, identify potential risks in the context of their relationships with stakeholders and proactively develop plans to respond to such risks should they materialize.

Thirteenth | Stakeholder Dialogue

How Should We Identify and Capitalize on Long-term Risks and Opportunities?



As the pace of change accelerates across the globe, the mere application of conventional values and approaches is no longer a sufficient response, and companies that fail to adapt are certain to lose their competitiveness over the long term. Against this backdrop, we must consider how companies should identify risks and opportunities from economic, social and environmental perspectives, as well as how to capitalize on them as part of long-term business strategy.

We invited experts to lecture on these topics and speak with our directors and employees at a discussion session. The content of this dialogue is posted on the intranet for all employees to view and share so that we can more effectively promote our CSR activities. (The dialogue took place July 6, 2017.)

Discussion Session

Participant: How have companies who have started overseas business taken risk into account in their decision making?

Yoshizaki: As an example, a company refers to "risk" as "value-creating risk" and "uncertainty" as "value-destroying risk." To them uncertainty is not a risk that we should be ready to take, as it could be a source of profit if it can be measured and managed.

Participant: When we are asked to disclose information in surveys by evaluating organizations and investors or on other occasions, they sometimes decide that our view is wrong.

Suto: We should strive to work out such difference in views. For instance, when we develop a long-term strategy, such as for responding to climate change, we must have the capacity and self-confidence to accurately explain our stance. When people or organizations outside the company point out an issue that you had not been aware of, you should accept it gratefully.

Participant: In the environmental field, the depletion of resources has become a serious problem. I've realized that companies will not be able to survive over the long run unless they abandon the conventional approach that assumes continued growth and adopt a completely new approach.



**Tatsuhiro
Yoshizaki**

Mr. Yoshizaki is Chief Economist at Sojitz Research Institute, Ltd. After joining Nissho Iwai Corporation (currently Sojitz Corporation), he served at the Brookings Institution in the U.S. as guest scholar and secretary to the chairman and as a researcher at Keizai Doyukai (the Japan Association of Corporate Executives). He is the author of many books, including *American Logic* (published by Shinchosha) and has provided commentary on a number of television programs.

with Participants

Yoshizaki: From an economist's point of view, the declining population does not necessarily mean there is no need to grow. It's not so simple. I'm optimistic when it comes to believing that people will eventually find a substitute anytime a resource is about to be depleted. We should continue to conduct business, believing in the mechanisms of the market.

Participant: Japan has a rule that certain companies must appoint a given number of outside directors to bring an external perspective into their corporate management. In my view, however, Japanese companies have nurtured a corporate culture that takes external environments and communities into account. And so, do we need to stick to such a formality when it comes to legal requirements?

Suto: In this time of rapid change, placing too much importance on formality, which is often the case with Japanese companies, poses a major risk. The perspectives of people outside the company are essential for building relationships with stakeholders that have different values and ethical standards from those of Japanese society and are gaining their high regard. We must appoint individuals that can recognize their roles and issue statements from independent standpoints. On top of that, companies must explore what types of people should be appointed, and why.

Summary of Mr. Yoshizaki's Talk

These days we often hear the phrase "uncertainties that face businesses," and geopolitical risk is one of these. Geopolitics is a social science and a study of strategy from the standpoint of the state, with geography as a factor that humans cannot control as a given assumption. Public opinion has recently become increasingly volatile in almost every country and has often easily shifted to extremes, perhaps a good example of geopolitical risk as well. As shown by Mr. Trump's victory in the U.S. presidential election, the launch of missiles by North Korea and Brexit, unpredictability is a characteristic of geopolitical risk.

According to Frank Knight, a renowned American economist, risks can be classified into two types: those that can be statistically measured and uncertainties that cannot. If a risk can be measured, we can conduct a simulation and take appropriate countermeasures even if it is great.

On the other hand, a risk that cannot be measured reveals a weakness in corporate management. However, as long as companies do business in highly competitive markets, completely avoiding uncertainty is impossible, so management must deal with unmeasurable risks. Robert Rubin, treasury secretary for the Clinton administration, once remarked that the certainty is that there is no certainty, and thus the only thing we can do is keep trying to figure out how to deal with it.

This is the very best approach for companies to do business in a society faced with uncertainty.



1

| Special Feature |

Standing Tall as a Symbol of the City

The Ofunato plant marked its 80th anniversary in 2017. We remain committed to its continued growth in harmony with the community while shifting its business model to a sustainable one that responds to the changing times.

1936

May

Construction of the Ofunato plant begins.

1937

December

Operations start at the Ofunato plant.

1968

December

Operation of the No. 5 kiln begins.



2



3



4



5

1. The Ofunato plant overcame adversity in the wake of the Great East Japan Earthquake and celebrated its 80th anniversary in 2017. Its kiln overlooks the port and streets of Ofunato City.
 2. The Ofunato plant in 1947, the year of its 10th anniversary. 3–5. Extensive damage at the Ofunato plant due to the Great East Japan Earthquake.



Playing a central role in processing the disaster debris was the No. 5 kiln, which was on a hill and not affected by the tsunami.

Desalting equipment installed immediately after the earthquake to prevent damage to cement caused by salt.



Treating Disaster Waste

Salt can dramatically impair the quality of cement so disaster debris from the tsunami could not be processed without pre-treatment to remove the salt. We therefore sorted the debris into combustibles and non-combustibles and installed a salt removal plant to clean the debris using water. We also expanded the capacity of our chlorine bypass system to accelerate treatment of the debris.

Related "Special Feature" sections in our previous CSR reports ("Special Feature 1" in both our 2012 and 2013 reports) are available at: http://www.taiheyo-cement.co.jp/english/csr/feature_fr.html



Dump truck carrying aggregate materials from a quarry site

This road disappeared under earthquake debris but was later backfilled with soil. The volumes of materials for roads and crushed coarse rock for harbors supplied in 2011 compared to the previous year increased by about 2.5 times and 17 times respectively.



Supplying Construction Materials to Affected Areas

Before starting the reconstruction of roads and harbors and the erection of temporary housing and other structures, sunken ground had to be backfilled. The affected areas needed a tremendous volume of backfill materials as well as materials for the construction of base courses for the roads, so crushed coarse rock were used for harbors and a huge volume of aggregates were required for the concrete work. Group company Ryushin Mining Co., Ltd. produced large volumes of the required materials by fully leveraging its technological strengths and undertook responsibility to stabilize supplies. These efforts contributed to the reconstruction of the affected areas.

1980	1986	1990	1995	2009	2011	The Great East Japan Earthquake occurred on March 11.		
November	May	November	November	June	March	June	November	December
Completed construction of a 150-meter stack.	Started waste heat power generation.	Installed blast furnace slag cement production equipment.	Received the TPM Continued Excellence Award*.	Rated by Iwate Prefecture as a three-star (highest grade) standard-compliant company in the industrial waste treatment business.	The Great East Japan Earthquake occurred and the tsunami that followed damaged 70% of the plant's facilities.	Started processing disaster debris in the No. 5 kiln.	Completed recovery work of the No. 5 kiln and resumed cement production.	Started processing disaster debris in the No. 1 kiln.

* Total Productive Maintenance. The TPM Continued Excellence Award is given to a business site that has received a TPM Excellence Award (Category A or B), has maintained and improved its achievements and has a system in place to maintain that level of excellence.

Overcoming the Disaster of the Great East Japan Earthquake

The Ofunato plant manufactures two million tonnes of cement a year and is the company's sole production plant in the Tohoku region, representing about 6% of the group's total worldwide production. The Great East Japan Earthquake occurred in March 2011 and its seismic force and tsunami struck the area, including Iwate Prefecture's Ofunato City where the plant is located. Fortunately, there were no casualties at the plant; however, 70% of its facilities were severely damaged and operations had to be suspended. While there were concerns that the plant might permanently close, our president visited immediately after the disaster and provided reassurance that the company would restart operations there as soon as possible. What followed were strenuous efforts to resume operations and contribute to the recovery of the affected areas.

Electricity to the plant was reinstated within one month of the earthquake thanks to the efforts of Tohoku Electric Power Co., Inc. This was essential for treating the tremendous volume of disaster debris scattered across the city and supplying cement for reconstruction work. During this period, when we fully dedicated ourselves to the plant's recovery, we illuminated the kiln's stack to symbolize the restoration of the area and as a means of encouraging local residents.

Two months later the plant started processing the disaster debris. Its new salt removal plant was used to treat debris containing salt from the tsunami and all our available resources were directed at accelerating the debris treatment, an undertaking that would continue for three years. The total volume of disaster debris recycled as raw materials for cement amounted to 969,000 tonnes, representing about 20% of the total disaster debris generated in Iwate Prefecture.

As recovery of the affected areas progressed, the plant's facilities operated at full capacity to meet the growing



Online automated analysis incorporating XRD/Rietveld analysis



Stabilizing product quality with advanced technologies

Maintaining and Improving Product Quality

We ensure stable product quality by quickly predicting variations in quality when using waste and by-products as raw materials and adjusting the component ratios. The Ofunato plant applies its sophisticated technologies to manufacture special low-heat cement that requires more sophisticated production technologies compared to those used for other types of cement.

Half a century ago, residents of Sumitacho used Mt. Horoshi for harvesting grass to feed their cattle and horses. The mountain will soon be transformed into a limestone quarry.



Quarry Development

Mountains have existed on the earth far longer than mankind and, over time, their appearance and roles have changed. When we extract limestone from mountain quarries we strive to ensure harmony with the surrounding natural environment, conduct in-depth surveys and ensure sufficient care throughout the quarry life-cycle.

Investigation

We conduct all necessary in-depth surveys and reviews, ranging from surveys of limestone characteristics and reserves, to environmental impact assessments, in a process that generally takes five to ten years to complete.

Mining

Step-like mountain profiles unique to quarries are generated using the bench-cut process while focusing on safety and efficiency. During quarry operations we maintain full awareness of the needs to protect rare animal and plant species and prevent environmental disruption.



Post-mining

Once our work is completed at a quarry we plant tree seedlings on its slopes and restore the area to as close to its original natural environment as possible. Some of the old quarry sites are used for large-scale solar power systems.



demand for cement in Iwate, Miyagi and Fukushima prefectures. With the treatment of disaster debris now behind us, the plant has returned to how it was before the disaster.

Addressing Social Issues

The cement industry views waste as a resource as we can reuse materials such as waste plastics and wood as alternative fuels, and sludges and ash as alternative raw materials. Since cement production is unique in terms of the high temperature used in the burning process, we can safely use large volumes of waste and by-products. This is one of the industry's strengths. However, highly advanced technologies are required to ensure that high-quality cement is manufactured when reusing waste and by-products, particularly with a wide variety of materials and compositions. To meet this requirement we are constantly bolstering our operating system.

The Ofunato plant reuses about 700,000 tonnes of waste and by-products a year. Capitalizing on its production capacity and proximity to a dedicated port, the plant accepts and treats waste generated from a wide area outside the Tohoku region. While the recent shortage of final disposal sites is a serious and growing problem across Japan, finding land for new landfills is also difficult. Given this situation we are focusing on leveraging the strengths of the cement industry so that a wider variety of waste can be used to address the needs of society.

Adding New Drivers for Growth

Ensuring the procurement of raw materials is critical to fulfilling our responsibility for the stable supply of cement. For the Ofunato plant we quarry limestone at two quarries, one in Ofunato City and the other in Sumitacho, where we are also developing Mt. Horoshi. With a limestone reserve



We preserve rare plant species in their native areas and cultivate them in the company's botanical garden.



To protect rare plant species we check on them daily and provide the necessary care.

Takushi Sato
Mining Operations Department
Mining Operations Division
Ryushin Mining Co., Ltd.



For nearby residents we hold several rounds of briefings.

Caring for the Local Community and Protecting the Environment

We strive to care for local residents and protect the environment. We have been conducting an environmental impact assessment for over ten years for the development of Mt. Horoshi and we have collaborated with experts and local residents to protect rare animal and plant species. Furthermore, we minimize noise and vibration generated during our operations while also limiting car driving hours.

2021

...

Scheduled start of quarrying at a new location.

estimated to last 100 years, the new quarry will play a key role in the Ofunato plant's cement production. And its high-quality limestone will facilitate the plant's treatment of waste generated across a broad surrounding area.

Since the coal-fired power plant was damaged by the earthquake, it has been depending on electricity purchased from another supplier. However, the group company Ofunato Electric Power Co., Ltd. plans to construct a biomass power plant at the site and start supplying the electricity it generates through eREX Co., Ltd. to the plant at the end of 2019. The project is expected to promote the use of environmentally friendly renewable energy and revitalize the community through local recruitment while also creating new jobs in the fuel transport business. Moreover, business at the plant will be developed in partnership with the community as it leverages the aspects of its business that are unique to the cement industry and contributes to the realization of a sustainable society.

VOICE

Passing on Our Technologies to the Next Generation while Leveraging the Ofunato Plant's Strengths

Masayuki Yagame (left)
Manager
Production Department, Ofunato plant



Masami Sasaki (right)
Manager
Administration Department,
General Affairs Section



The Ofunato plant's stack has always been a widely recognized symbol of the city.

Local residents were very relieved when the plant restarted after operations were suspended due to the Great East Japan Earthquake. I've heard that its resumption significantly encouraged those who were impacted by the disaster.

As a company that has conducted business for a long time in Ofunato City, one thing we can do is pass on the advanced technologies developed by our predecessors as an inheritance to those who follow us, while ensuring the stability and improvement of the quality and stable supply of cement we deliver from the plant. The cement industry will be passed on from one generation to the next and excellent employees will always be essential to its growth. Therefore, we must focus on development of human resources. Through efforts to gain the trust and understanding of the local community we will strive to further improve product quality and technologies while reflecting the needs of the times in our products.

Creating Our History for the Next Few Hundred Years in Partnership with the Community

VOICE

Aiming to Be a Sustainable Contributor to the Development of All Our Partners

Takahiro Sato
Director General of Ofunato City



Taiheiyo Cement is a leading company in Ofunato City and its employees enthusiastically interact with local residents, participating in various events to deepen their relationship with the community. And we expect them to continue these efforts. Given the many issues that the local government cannot address on its own, we are very grateful to the plant for accepting disaster debris generated by the Great East Japan Earthquake. We hope the plant goes even further by treating general waste with the technologies it developed while supporting the area's restoration. I trust that the government and private companies will cooperate closely, by which I mean private companies support the government just as the government supports them. We want the plant to grow long into the future alongside the community while also meeting the needs of the times with its waste treatment, biomass power generation and other businesses.

Our Commitment to:

Management P. 22

The Environment P. 34

Collaborating with Society P. 48





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

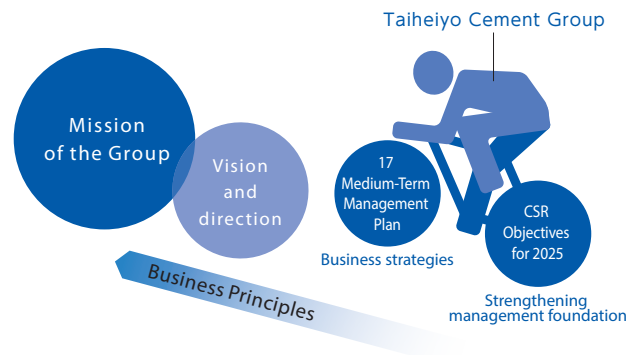
► GRI102-15, 16

The Mission of the Taiheiyo 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 our 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 Taiheiyo 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 and ensure all group companies are kept well informed.

Basic Policy for Promoting CSR Management

► GRI102-15

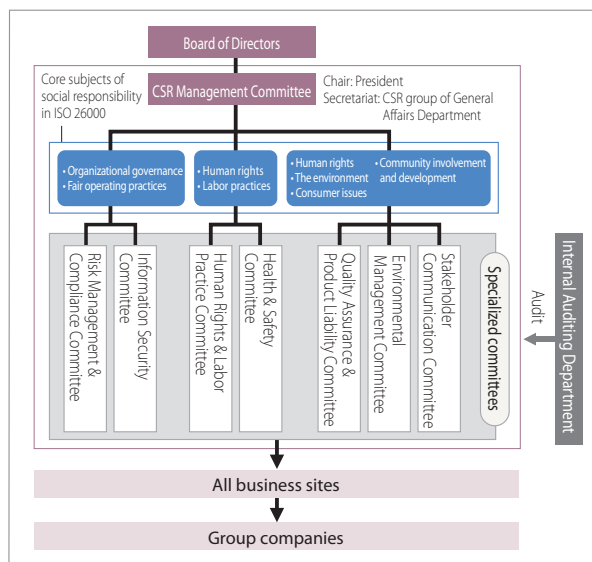
We promote CSR management in accordance with our CSR guidelines which specify actions that are essential for realizing the Mission of the Taiheiyo Cement Group and implementation of our Business Principles. The guidelines direct the company in conducting activities in and outside of the business that 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.

Basic Policy for Promoting CSR Management

► GRI102-18, 19, 20, 21, 28, 29, 30, 32

To promote our CSR management we have created a cross-departmental CSR Management Committee, chaired by the company 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

► GRI102-27

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, including for group companies, once a year. In addition, we continued to hold CSR report presentations at all our business sites in fiscal 2016.

● Executive-level CSR Training (FY2016)

Date	Companies in Attendees	Topic
November 7, 2016	97	<ul style="list-style-type: none"> • Past, present and future of gender equality • Role of management in the prevention of misconduct

● CSR Report Presentations (FY2016)

Date	Location	Attendees
October 2016–February 2017	• 17 sites, including the headquarters, branches, plants and central research laboratory	759



CSR report presentation at the headquarters

Collaboration with External Organizations

► G102-11, 12, 13

■ WBCSD Cement Sustainability Initiative

We have participated as a member of the Cement Sustainability Initiative (CSI) of the WBCSD since 2000. As a core member of the CSI we work with 23 other cement companies from around the world to address the sustainable development challenges facing our industry.

In 2002 the CSI published an Agenda for Action detailing

joint commitments by ten core member companies in accordance with research based on dialogues with stakeholders worldwide about the sustainable development of the cement industry. Following this Agenda for Action, which was created as a vision for the following 20 years, the CSI established working groups for each key challenge. These include climate protection, 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 been developing key performance indicators (KPIs; see page 64 for fiscal 2016 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 CO₂ emissions and energy use, a standard CO₂ and energy protocol for reporting by the world's cement companies, and a regime for providing highly reliable information on CO₂ emissions. The CSI also built a global database and reports actual CO₂ emission volumes and energy use data for a significant number of the world's cement plants. We recognize that the issues the CSI addresses 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 124 companies (representing about 1 million employees as of May 2017), most of which are headquartered in Tokyo. Under its basic philosophy of voluntary management and full participation, the federation actively tries to resolve the issue known as Dowa, a discrimination issue in Japan, and other human rights issues.

Results of FY2016 CSR Efforts

▶ GRI102-11, 44

	Plan	Results	Evaluation	See Also
Organizational Governance and Fair Operating Practice	Organization Risk Management & Compliance Committee			
	1. Continually improve risk management based on PDCA cycles, including group companies, respond to new risks, and enhance efforts to resolve existing issues			
	• Response to the Minamata Convention on mercury	Formulated "The Initiative toward Compliance with the Enacted Air Pollution Control Act and Other Laws and Regulations"	○	28-30
	• Optimize inventory management: establish a supply-demand adjustment system	• Reported information on sales demand forecasts to the production department every month and completed a change to the shipping scheduling system (next two months)	○	28-30
	• Countermeasures for heavy rain, flood and inundation due to levee failure	• Gave warnings to business sites in the rainy season twice and continued to share business site information on damage caused by heavy rain and countermeasures	○	28-30
	• Response to earthquakes and tsunamis	• Conducted an initial response drill for large-scale earthquakes, organized by an external consultant at two plants; however, some plants were unable to hold the drill	△	28-30
	• Countermeasures against riots and terrorist attacks	• Formulated simulation (compact version) for procedures for foreign business sites in the event of a crisis	○	28-30
	• Leaks of technical information and know-how	• Raised awareness of document management rules managed by the General Affairs Group as well as confidential treatment of documents and encryption of e-mail attachments to external recipients (at the Central Research Laboratory in February)	○	28-33
	• Misconduct at affiliates	• Explained the outline of the initiative to strengthen governance at the Group Executive Committee in May • Explained and exchanged opinions about the management of affiliates at a seminar for executives in June • Issued procedures for the handling of the designation of "Affiliates that Require Intensive Supervision" in May, obtained approval for the designation in September, and issued a designation notice in September	○	28-30
	• Central management of radioactive materials	• Completed the central management of radioactive materials pursuant to the storage rules	○	30,50
	• Prevent incidents of bribery overseas	• Disclosed on our website in January the "Top Message against Bribery" and "Taiheyo Cement Group Anti-bribery Policy"	○	30
	• Continuous improvement of risk management using PDCA cycles	• Guidance was provided to each business site with regard to including risks assessed as either C or D in FY2015 as part of the voluntary review of the FY2016 risk countermeasures action plan. All of the sites followed our guidance; the PDCA was confirmed to be functioning effectively; and we reported the results of a voluntary review of the risk countermeasures action plan for the half year (ended in October) to the 3rd committee meeting • 94% of items assessed rated A and B (roughly the same as in FY2015)	○	29-30
	2. Enhance risk management			
	• Identify and assess company-wide risks: conduct once in three years an identification and assessment of risks at all business sites of the company and group companies	• Reviewed the method used to identify and assess risks and determined the method to identify risks for FY2016 • Conducted training in July on the identification of risks for all risk management and compliance promoters of the company • Identified and assessed risks at each business site by September, selected 9 themes that the committee will work on in and after FY2017	○	29-30
	Organization Information Security Committee			
	1. Enhance Information Security Management System and ensure its ongoing operation and improvement			
	• Maintain and manage the company's information security	• No serious problem or security accident occurred that required convening an extraordinary committee meeting • Conducted a backup datacenter activation drill in Kitakami in August and improved the back-up system startup time by 20 minutes from the previous drill in March • Improved the information system so that employees could use it more easily in the event of a disaster and used a single sign-on update for a system used in disaster recovery	○	31
	• Conduct an information security level survey for group companies and follow up on findings and tasks	• Surveyed 104 companies + 5 listed companies and the average score was 2.8 (previously 2.8); completed a written follow-up action for all surveyed companies and made follow-up visits to 4 companies	○	
	2. Implement security countermeasures based on the plan			
	• Improve the security level by implementing information security-related projects	• Completed the single sign-on update and LAN improvement at the head office and Central Research Laboratory projects • Established the investment plan "Enhancing the monitoring of information leaks" (in a tie-up with the Security Operation Center) • Vulnerability check: conducted an investigation into the possibility of information leaks assuming an unauthorized program breached the company's security system through targeted e-mail	○	31
3. Conduct education/training/awareness-raising programs				
• Raise employee awareness of security across the group	• Included information security training in position-specific courses and conducted e-learning and other programs in June, August and November • Called attention to suspicious e-mails and ransomware as necessary by means of an in-house bulletin board (9 times) • Distributed to group companies copies of the pamphlet on the Amended Personal Information Protection Act and material calling attention to targeted attack mails and ransomware in March	○	31	
4. Monitor and assess the status of information security				
• Promote the appropriate use of information through periodic monitoring	• Detection of viruses from March 2016 to February 2017: 1,148,487 e-mail cases, 844 website viewing cases, 30 PC cases; no damage was caused.	○	31	
• Conduct an internal information security audit	• Conducted paper audits: from FY2016 added the setting of themes for voluntary initiatives at each business site; on-site audits at Kansai and Shikoku branches in March	○		
5. Continue operation and improvement of the Personal Information Protection Management System				
• Ensure a quick and secure response to related failures and environmental changes	• Personal information protection TF: 1st round in September, 2nd round in March; loss of company mobile phones: 1 case in the first half of FY2016 and 2 in the second half. They were locked and so there was no possibility of personal information leakage.	○	31	
• Continuing the practice and enhancement of the Personal Information Protection Management System	• Review of our response to the enforcement of the Amended Personal Information Protection Act on May 30	○		
Human Rights and Labor Practices	Organization Human Rights & Labor Practices Committee			
	1. Raise human rights awareness and continue training programs throughout the group			
	• In-house training and awareness raising	Number of participants by training type: (1) top-management seminar for group companies: 129, (2) new recruits: 131, (3) follow-up training: 88, (4) communication + on-the-job practical training: 60, (5) Career development training: 52, (6) training for newly appointed managers: 27, (7) training for foremen: 7, (8) techno-school special training: 4, (9) DVD training: visit to business sites with DVD training materials on the prevention of maternity harassment	○	54-55
	• Conduct measures to prevent harassment based on findings of the questionnaire survey on harassment	• Harassment prevention training at plants: total of 22 rounds at 6 plants and 1 office with 216 participants, including 89 employees of 22 partner companies • Distributed to all business sites posters to raise awareness of the importance of preventing sexual and power harassment	○	54,57
	• Training in and raising of human rights awareness for group companies	• Conducted training and awareness-raising activities for group company employees who joined the in-house training program • Distributed copies of the book "Toward Tomorrow and materials related to harassment and fair employment to 102 affiliates	○	54-55
	• The Industrial Federation for Human Rights	• Participated in meetings (training sessions, group meetings, working group, etc.)	○	23
	2. Promote employment of persons with disabilities group-wide			
	• Achieve the Statutory Employment Ratio for Persons with Disabilities: 2%	• Achieved a 2.39% Employment Ratio for Persons with Disabilities • Created the Medium-term Persons with Disabilities Employment Plan, allotted entitlement to the company's student scholarship to a specific number of students with disabilities, and attended a seminar for the recruitment of persons with disabilities	○	56
	• Support employment of persons with disabilities at group companies	• Provided 102 affiliates with information on the two laws related to persons with disabilities, both enforced in April 2016 • Accompanied the staff of one affiliate on our visit to a school	○	56
	3. Initiatives to address issues related to human rights and labor practices			
• Promote the empowerment of women and group-wide improvement of operational efficiency and make greater efforts with regard to human rights and various labor-related issues in the promotion of group human resources	• Conducted: • DVD training on harassment and held an exchange meeting for the group's female engineers in July • a management seminar to promote the empowerment of women (22 rounds) • the Group Human Resources Promotion Meeting and Group Recruitment Staff Meeting in October • an initiative to change summer lifestyles • promotion of the wider use of the flextime system and Early Leaving Office Day (Wednesday and Friday) throughout the year • the Premium Friday initiative	○	54-57	
• Education and training based on the new training system and global human resource development	• Overseas trainee program: 8 person (4 from the U.S., 3 from the Philippines, 1 from Vietnam), foreign scholarship: dispatched 3 persons (to the U.S.)	○	55	
• Progress of CSR Objectives for 2025	• Ratio of female employees under "G Course" categories to at least 30%: new recruits in April 2017 (31.6%) • Ratio of female employees of at least 10%: 7.1%, as of February 11, 2017 • Raising the ratio of newly appointed female managers to 10%: 3.6% in March 2017	○	54-57	

	Plan	Results	Evaluation	See Also
Human Rights and Labor Practices	Organization Health & Safety Committee			
	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	<ul style="list-style-type: none"> 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 FY2016: (1) fatalities: 2, (2) lost-time injuries: 29, (3) number of work-related accidents: 95 (4) absence ratio: 0.448% 	×	58-59
	2. Promote health and safety activities			
	<ul style="list-style-type: none"> Promote concrete activities to reduce accidents Provide and share 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 business sites and affiliates 	<ul style="list-style-type: none"> Equipment improvements: measures were taken to prevent falling accidents from bulk cement trucks at all but one of our directly managed cement plants and at 743 business sites, including those of affiliates. Review of procedures, rules, etc. We revised (all applied to group companies in March): <ul style="list-style-type: none"> the list of companies mandated to report accidents procedures for an accident statistics survey procedures for promptly reporting on occupational accidents accident cause analysis/accident review statements Health and Safety Rules In October we also conducted a stress check and formulated procedures for conducting risk assessment of chemical substances In August we issued the Declaration of the State of Safety Emergency in the president's name and held an Extraordinary Safety Meeting in September. <p>In summary, our FY2016 activities included the "Initiative to Improve our Weaknesses" as planned and it began to take effect. We were able to create a plan and the foundation for developing a safety culture for the Taiheiyō Cement Group and could thus build a system to reduce work-related accidents. However, the system has not yet produced the results we expect from it. We will focus on implementing the system in all areas of our business sites and will review the results of our efforts before determining whether we should lift the state of safety emergency.</p>	○	58-59
	3. Review the health and safety system			
	<ul style="list-style-type: none"> Check countermeasures taken after an accident occurs 	<ul style="list-style-type: none"> Reviewed our designation of affiliates required to report work-related accidents, the rules for reporting accidents and the accident review statement Raised awareness of procedures for reviewing work-related accidents 	○	59
	4. Promote compliance			
	<ul style="list-style-type: none"> Ensure that the requirements of the central government and administrative bodies are met 	<ul style="list-style-type: none"> Conducted stress checks and risk assessment of chemical substances, and responded to amendments to laws and regulations on health and safety 	○	57,59
	Organization Quality Assurance & Product Liability Committee			
1. Quality Management System				
<ul style="list-style-type: none"> Improve the system: revise the quality control rules to reduce risks Maintain and improve QMS: respond to ISO 9001: 2015 	<ul style="list-style-type: none"> Verified and reviewed the appropriateness of items and the frequency of tests for each product, and reviewed 16 test lists Created a draft of the QMS organizational structure, a draft of the quality manual in line with the shift to ISO 9001: 2015, which will be implemented in March 2017 	○	48	
2. Quality Risk Management:				
<ul style="list-style-type: none"> Identify customer needs and establish quality goals Countermeasures against individual quality compliance risks Create the Emergency Response Manual 	<ul style="list-style-type: none"> Conducted a quality survey compared to competitors; quality assurance for cement: 2 cases, quality assurance for special cement: 1 case, and quality assurance for related products: 3 cases Complied with internal standards for minor component concentrations and radioactivity levels, and reviewed the amended JISR5204 and FAF-SiO2 issue Revised the Manual for Emergency Response to Serious Quality Deficiency in April and made it available in the spring during the Regional Quality Liaison Meeting 	○	48	
3. Response related to affiliates				
<ul style="list-style-type: none"> Identify target affiliates, products and services Link to the quality assurance system of affiliates 	<ul style="list-style-type: none"> Reviewed the targets list; no items were to be revised Verified the quality assurance system of affiliates through a quality problem survey 	○	48	
4. Countermeasures for quality deficiency and complaints: initiatives to improve customer satisfaction				
<ul style="list-style-type: none"> Reduce the number of claims and quality deficiencies (subject of target values: cement products) (1) Serious claims: zero/year (2) Claims: 9 cases/year (3) Quality deficiency: 12 cases/year Manage the results of affiliates 	<ul style="list-style-type: none"> Cement products <ul style="list-style-type: none"> (1) Serious claims: 0 (2) Claims: 6 (3) Quality deficiency: 22 Cement-related products <ul style="list-style-type: none"> (1) Serious claims: 0 (2) Claims: 14 (3) Quality deficiency: 7 The relevant business divisions started to inform affiliates that the company would request them to continue making improvements in quality assurance 	○ ○ ×	48	
Organization Environmental Management Committee				
1. Promote company-wide EMS				
<ul style="list-style-type: none"> Set EMS objectives and targets, and plan, operate and evaluate EMS 	<ul style="list-style-type: none"> Established the compliance plan, conducted a compliance review and an internal audit in October/November, and underwent third-party surveillance in March, during which there were no non-compliance findings Added the Construction Materials Business Department and Business Planning & Administration Department as subject organizations Implemented a program to train EMS staff and EMS internal auditors in November Completed a response to the new standards and a revision of related manuals in November; currently revising our common procedures manual 	○	34-35	
2. Countermeasures to mitigate climate change				
<ul style="list-style-type: none"> Reduce greenhouse gas emissions (CSR Objectives for 2025), reduce specific net CO₂ emissions per tonne of cementitious product by 10% from FY2000 levels by FY2025 (by -0.41% from FY2015) 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) 	<ul style="list-style-type: none"> Reduced by 5.9% (reduction rate: -0.0%/year) for FY2015 from the FY2000 level at the company and group (including overseas companies) (1) Benchmark index by sector of 3,891 MJ/t or less (including shipment): 3,841 MJ/t (reduced by 11 MJ/t from the FY2014 level), (2) Reduction of energy consumption per unit of cement production by 39 MJ/t from FY2010 levels by FY2020: reduced by 27 MJ/t (industry) and reduced by 45 MJ/t (the company) from FY2014 levels, (3) Reduction of greenhouse gas emissions from FY2015 to FY2019 by 13% from FY2005 to FY2007: reduced by 23% in FY2015 	△	36-37	
3. Environmental risk (air pollution) measures				
<ul style="list-style-type: none"> Develop countermeasures assuming regulations on mercury contained in emissions 	<ul style="list-style-type: none"> Started to verify the state of compliance based on the compliance review criteria, surveyed the mercury input of raw materials and fuel at each plant, and provided details about the Amended Air Pollution Control Act 	○	42	
4. Education, awareness raising and information dissemination regarding the environment				
<ul style="list-style-type: none"> Collect and provide information on environmental issues 	<ul style="list-style-type: none"> Conducted initiatives related to Environmental Month (distributed the president's message and promoted initiatives at each business site), reduced electricity consumption, and took advantage of the environmental portal site 	○	35	
Organization Stakeholder Communication Committee				
1. Activate communication within the company				
<ul style="list-style-type: none"> Change in the employee mindset Instill the management policy Communicate activities of the company Identify issues to address and measures to take in order to activate internal communication 	<ul style="list-style-type: none"> Conducted an employee survey, took countermeasures against weaknesses and identified issues (e-learning, etc.) Held discussion sessions with executive officers at 18 business sites with 1,184 participants and verified their effectiveness through a questionnaire survey Held CSR report briefing sessions at 17 business sites (759 participants) and verified their effectiveness through a questionnaire survey Held a dialogue session with the editorial team for in-house newsletters 	○	57	
2. Develop and publish the CSR report				
<ul style="list-style-type: none"> Publish CSR Report 2016 in Japanese at the end of September and in English at the end of October 	<ul style="list-style-type: none"> Published the CSR report in Japanese in September and in English in October, and reported in accordance with the "Core" criteria of the GRI G4; updated the website 	○	66	
3. Response to the SRI Survey, etc.				
<ul style="list-style-type: none"> Respond to principal CSR-related external surveys such as the SRI Survey 	<ul style="list-style-type: none"> Responded to CDP, DJSI, IntegreX, Toyo Keizai, etc., and was selected as an excellent company in the Asia Pacific region in the DJSI survey for the third consecutive year 	○	53	
Organization Others				
<ul style="list-style-type: none"> Hold a CSR Workshop for group executives Periodically report relevant information about group companies to local communities (twice per year) Hold group legal round tables 	<ul style="list-style-type: none"> Held in November (97 companies participated) Implemented in April and October Held in November (95 companies) 	○	23	
			○	-
			○	30

Note: The content in the "Results" column has been prepared using information reported by specialized committees as of the end of March 2017.

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 and responsible company we continuously strive to ensure the management of our organization is sound.

Management Organization

► GRI102-18, 19, 22, 23, 24, 28, 29, 30, 33, 35, 36, 37

Corporate Governance System

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.

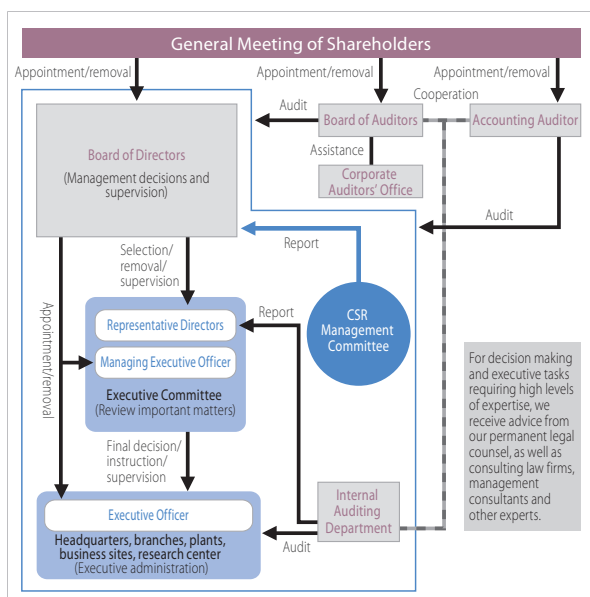
Our organizational structure is anchored by our Board of Directors and Board of Auditors. We have also introduced an executive officer system in order to separate management decision-making and monitoring/supervisory functions from executive administration.

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 information relevant to their duties. Our Internal Auditing Department conducts internal audits, identifies issues that require improvement and reports audit results to the president, activities that 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 2016 we held 15 board meetings, with absences in only one, when one board director was unable to attend.

Corporate Governance System



Overview of Corporate Governance System (as of June 30, 2017)

	Number of People
Board chairman	President and representative director
Number of board directors (female board directors) (one-year term)	13(1)
Number of outside directors (independent directors)	2(2)
Executive officers	21
Concurrently serving as board directors	9
Number of corporate auditors (female corporate auditors)	4(0)
Number of outside directors (independent directors)	2(2)

Major Meetings Held in Fiscal 2016

Meetings	Meetings Held	Attendance Rate of Outside Directors
Board of Directors	15	100%
Board of Auditors	13	100%
Executive Committee	30	-

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 2016 we engaged all directors in a self-assessment survey, after which the results were analyzed by the board chairman and outside directors, and reported to the Board of Directors for future discussion on related issues and measures. As a reflection of these efforts, the Board of Directors is considered to be well managed and its overall effectiveness ensured, despite the need to address some issues that remain.

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 decision. 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, 2017)

Name	Attribute	Reason for Appointment
Yoshiko Koizumi	Lawyer	Extensive experience as a lawyer and keen 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).

■ <http://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 the levels of remuneration for individual auditors are decided through deliberation by auditors. 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 (FY2016)

	Board Members Who Received Remuneration	Amount of Remuneration Paid (Million Yen)
Board directors	19	745
Auditors	5	72
Total	24	817

The above numbers include six board directors and one auditor who resigned at the conclusion of the 18th annual general meeting of shareholders on June 29, 2017.

Internal Control System

► GRI102-30

In accordance with our Basic Policy for Building an Internal Control System, we are building 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. Our Internal Control Report, based on the policy, has confirmed that effective internal control over financial reporting for fiscal 2016 was maintained. An auditing firm we appoint has expressed its opinion that the report was appropriate. In the Business Report for fiscal 2016 we began presenting 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 *1	Basic Policy *2	Report *3
Principle 1.4	Cross-shareholdings		Article 22	
Principle 1.7	Related party transactions		Article 23	
Principle 3.1 Full disclosure	Company objectives (e.g., mission), management strategies, management plans	●		
	Basic concepts and policies on corporate governance		Article 2	●
	Policies and procedures in determining the compensation of senior management and directors		Article 15	
	Policies and procedures on the appointment of senior management and nomination of director and corporate auditor candidates		Articles 5, 9 and 12	
Supplementary Principle 4.1.1	Board of Directors' decisions and scope of matters delegated to management		Article 3	
Principle 4.8*4	Effective use of independent directors	-	-	-
Principle 4.9*5	Independence standards and qualification for independent 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/corporate auditors of the Taiheiyo Cement Group		Articles 7 and 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 4.8 Effective use of independent directors* is not applicable to our company.

*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.

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

Risk Management and Compliance

Legal compliance and risk management are at the foundation of our business activities. We strive to thoroughly ensure the compliance of group companies and continue efficient risk management activities toward maintaining and improving the soundness and sustainability of our business.

Basic Risk Management and Compliance Policies

► GRI102-16

Basic Risk Management Policy

The materialization of any significant risk at the company may not only damage our management resources but also adversely affect our stakeholders. Any resulting loss of stakeholder trust or public reputation could leave the company severely damaged.

We formulated the following Basic Risk Management Policy to effectively respond to any significant risk as soon as it is identified and ensure the continued and sustainable growth of our business. In line with this policy we are creating our risk management system and pursuing effective risk management measures to reduce significant risks and minimize loss in the event that any such risks materialize.

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 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

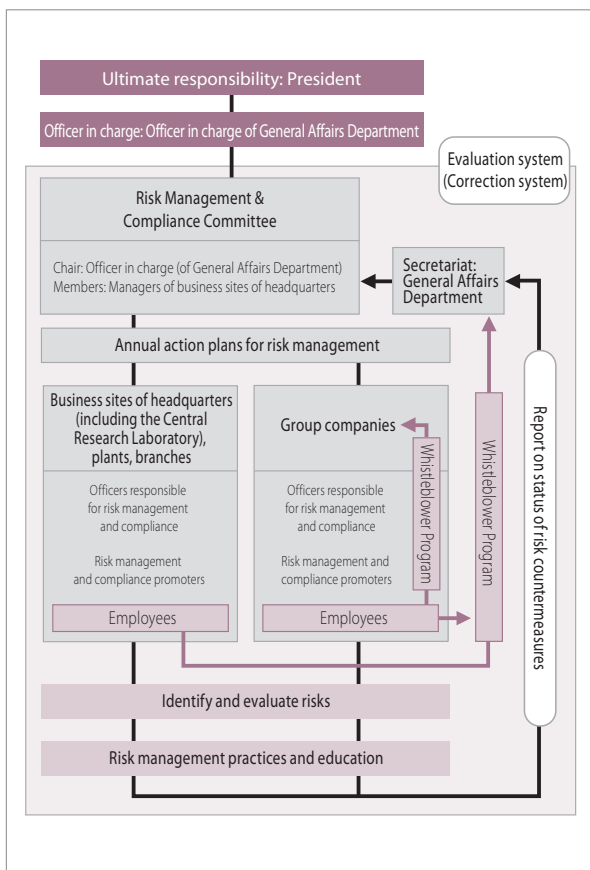
► GRI102-30, 31

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 and presides over the Risk Management & Compliance Committee in order to advance organized and planned risk management and compliance promotion activities.

The committee plays a core role in our risk management and compliance promotion system. It embodies the policy, identifies 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 gives instructions for advancing the awareness and education of employees. We held four Risk Management & Compliance Committee meetings in fiscal 2016.

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 duties such as promoting specific initiatives related to risk management and compliance promotion. In addition, the company offers various forms of support to group companies to ensure risk management and compliance across the group.

● Risk Management and Compliance Promotion System



Note: As of April 2017, 98 group companies are managed under the above system.

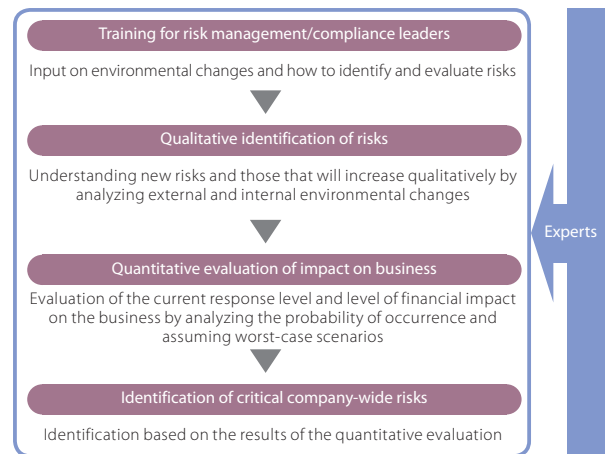
Risk Management and Compliance Promotion Activities

► GRI102-11, 17, 201-2, 205-2

■ Identifying and Evaluating Company-wide Risks

We identify and evaluate company-wide risks every three years and include those of our group companies. In fiscal 2016 we identified company-wide risks that may have a serious impact on the management of our group based on environmental changes over the next ten years while referring to guidelines such as ISO 31000. During this process we provided risk management training to risk management and compliance leaders, and also consulted risk management experts.

● Process of Identifying and Evaluating Company-wide Risks



● Critical Company-wide Risks that Were Identified

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

Risk 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 countermeasures are implemented through PDCA cycles. In fiscal 2016 we conducted the following risk countermeasures.

Risk Management and Compliance Promotion Activities (FY2016)

Major Risk	Major Activities
Company-wide risks	Planned and implemented measures against the following company-wide risks in accordance with "Investigation and analysis of company-wide risks:" (1) Air pollution, (2) Inventory optimization, (3) Heavy rain, flood and inundation due to levee failure, (4) Earthquakes and tsunamis, (5) Riots and terrorist attack, (6) Leak of technical data/know-how, (7) Scandals involving affiliates, (8) Unified management of radioactive materials, (9) Prevention of foreign bribery
Prevention of foreign corrupt practices	•Disseminated the message from the president on anti-bribery and established and posted the Anti-Bribery Basic Principle (Policy) on our website
Improprieties and crimes by employees	•Conducted a monthly e-learning training program for all employees
Earthquakes and tsunamis	•Conducted initial response drills for large-scale earthquakes with a focus on cement plants •Provided feedback including the introduction of safety confirmation methods and the Shake Out drill, selection of tsunami evacuation sites and dissemination of related information

Based on these results from the fiscal 2016 investigation, the following nine risks were selected by the Risk Management & Compliance Committee for countermeasures to be implemented in fiscal 2017: (1) Leakage of pollutants and hazardous substances (air, water quality, and soil contamination), (2) Enhancement of information security, (3) Product/service accidents, (4) Aging of facilities and equipment, (5) Strengthening of business continuity planning (earthquakes, tsunamis, floods and other natural disasters), (6) Strengthening of overseas crisis management measures, (7) Enhancement of group corporate governance including risk management and the compliance system, (8) Occupational accidents and (9) Shortage of human resources.

Emergency Countermeasure Task Force

Although we received 14 emergency reports in fiscal 2016, none required action by the emergency countermeasure task force. Emergency reports requiring urgent attention, including proposals for measures to be taken, are deliberated by the CSR Management Committee.

Anti-Bribery Basic Principle (Policy)

In addition to our Basic Compliance Policy we established the Anti-Bribery Basic Principle (Policy) in January 2017. This strengthened our anti-corruption efforts in the light of the recent global trend toward tightening anti-bribery enforcement. Under the new policy we will ensure thorough compliance with our anti-bribery measures in all our activities.

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

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

Risk Management and Compliance Promotion Training for Group Companies

We provide training for officers responsible for risk management and compliance as well as the risk management and compliance promoters within group companies to ensure effective risk management and promotion of compliance. In November of fiscal 2016 we conducted a training program on the fundamentals of risk and crisis management, our management system, risk identification and evaluation methods.

Group Legal Round Tables for Group Companies

Since fiscal 2005 we have been holding round-table discussions attended by management and legal affairs representatives from our group companies. These discussions 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 2016 we discussed the following issues.

Group Legal Round Tables (FY2016)

No.	Date	Attendees	Topics
24	November 8, 2016	105 (from 95 companies)	•Response to reports on abuse of power •Recent major trends in legal revisions

■ Whistleblower Program

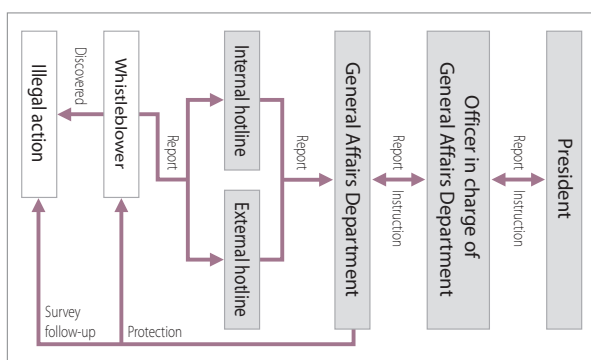
We properly handle reports and proposals in accordance with company procedures and have whistleblower hotlines both internally (at the CSR Group of our General Affairs Department) and externally (at a law firm).

Our internal hotline is located in a dedicated, locked room that is only accessible to hotline staff. It is equipped with dedicated phone and fax lines, and a computer with a dedicated address in order to safeguard the privacy of those submitting reports. Our external hotline has been made 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 have created regulations so that whistleblowers using the program are not subject to unfavorable treatment. In January 2015 we revised the regulations to also enable anonymous reporting (keeping secret the whistleblower's name and department).

In fiscal 2016 we received one report and responded to it in accordance with our regulations.

● Whistleblower Program



Information Security

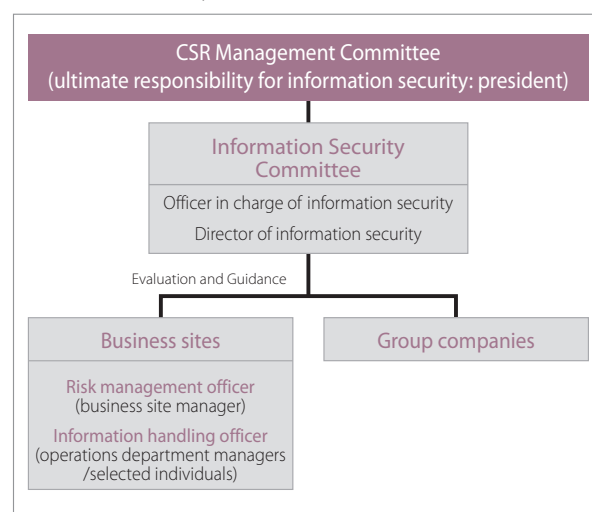
■ Information Security Promotion System

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 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.

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

■ Information Security Promotion Activities

In fiscal 2016 we conducted a backup datacenter activation drill, disaster recovery drills, a security level survey of group companies, information security training (three e-learning sessions) and handled information security incidents. Although we experienced no major incidents related to information security in fiscal 2016, there was an incident at a group company involving computers infected with ransomware. We handled this appropriately and sent warning information across the group to all employees. Looking ahead we will continue to strengthen our capabilities for responding to any targeted attacks.

Protection and Use of Intellectual Property

Intellectual Property Policy

Our fundamental intellectual property policy is to manage intellectual property in line with business and R&D strategies to contribute to the profitability 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 its staff members to the headquarters and the Central Research Laboratory. Those assigned to the headquarters mainly perform administrative tasks while those assigned to the laboratory handle applications for and the protection of rights and research efforts. In addition, intellectual property promoters are assigned as contact points to the business divisions and the Central Research Laboratory to promote strategic intellectual property activities in collaboration with the Intellectual Property Department. We also promote intellectual property activities at group companies by regularly convening members in charge of intellectual property at key group companies to exchange information and conduct study meetings.

Outline of Our Intellectual Property

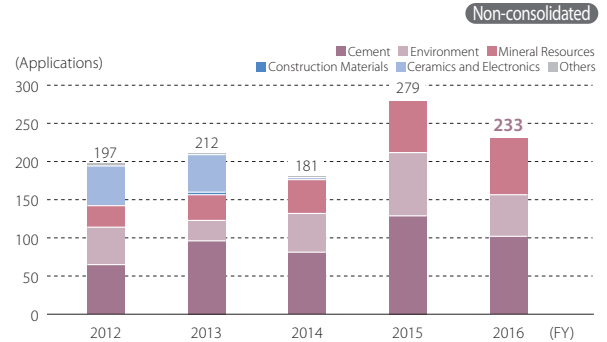
As of the end of fiscal 2016 the company (on a nonconsolidated basis) had 679 patents pending, owned 1022 patents and registered 257 trademarks, bringing the total number of group-owned patents to 1,791.

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. Recognizing the need to obtain patents for technologies in order to increase business revenue from patents, including for peripheral technologies, we are broadening the scope of our applications while strengthen our overall patent portfolio. For example, in February 2017 the company issued a press release that included: "New Molding Technology Using Inorganic Premix Developed for 3D Printers" and it filed a large number of patent applications related to this technology.

The approximation graph showing the relationship of R&D expenses to the number of patent applications (fiscal

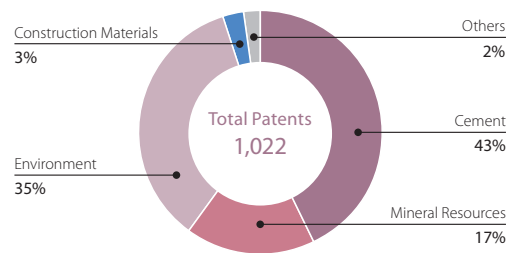
2014 results) indicates that the average inclination of all industries is 0.9 compared to 2.4 for the general chemical industry. The chemical industry is expected to be highly efficient in creating a large number of inventions and Taiheiyo Cement (denoted by a red dot) is above the industry average, a testament to the effectiveness of our investment in invention.

Number of Domestic Patent Applications by Segment



Few applications for ceramics-related patents have been submitted since fiscal 2014 because the ceramics business was transferred to another company.

Domestic Patents by Segment (FY2016) Non-consolidated



Ratio of Patent Applications to R&D Expenses in Japan



Created by the company based on the "Study on IP management for implementing IP strategies" (November 2015), Japan Intellectual Property Association

Licensing Activities

While the company primarily conducts R&D to ensure competitive business advantages, we proactively license useful technologies to other companies as well. Of course, 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 Intellectual Property Strategy Guidelines. We formulated this guideline based on the Guideline for Acquisition and Control of Intellectual Property (the Ministry of Economy, Trade and Industry) to make sure that their 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.

On a daily basis we strive to prevent infringements of competitors' patents through the regular circulation of selected patent information, a patent watch system and a patent review service. We are also increasing employee awareness through the workshop, in-house training and intellectual property strategy meetings. There have been no cases in which we have been sued for intellectual property infringement and thereby hindered in our business.

To manage trade secrets and prevent technology leaks we formulated and enforce Information Security Management Regulations and Document Management Rules respectively. In 2007 we formulated and enforced the Know-how Judgment Guidelines for guidance on judgment whether to file a patent application for a technology or keep it secret as internal expertise in order to prevent technology leaks.

We have instructed group companies to reinforce rules for handling intellectual property rights and ensure agreements are made for the transfer of rights with each inventor.

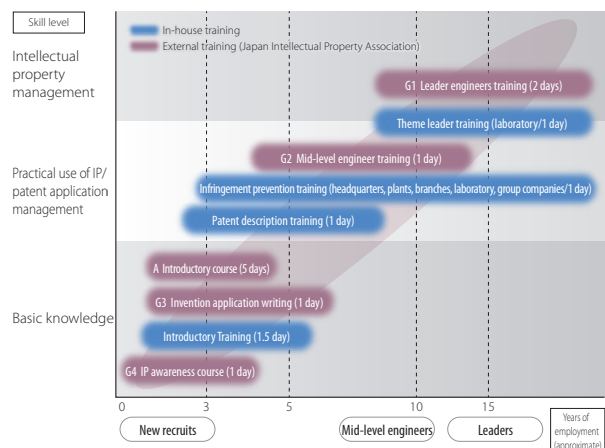
While actively licensing our technologies in Japan and overseas we also address the risks of overseas licensing. The legal systems of emerging Asian countries are different from the system in Japan. For example, licensors are responsible for quality/performance assurance in those countries. In addition to internal information dissemination, we are studying how to avoid risks in cooperation with specialized lawyers who are familiar with situations in those countries.

Training and Awareness Raising

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. Other employee training efforts include workshops held by the Japan Intellectual Property Association in addition to in-house training at our Central Research Laboratory and headquarters. In response to the Amendment to the Patent Act in April 2016, we revised our regulations concerning inventions by employees and ensured that research division members were made fully aware of the details of the revision through workshops. We also conducted basic training on intellectual property with 186 attendees including employees from group companies. Through efforts including information exchange gathering and study meetings, we are not only raising awareness about intellectual property but are strengthening the group's capability in the management and use of intellectual property.

System of In-house Training on Intellectual Property



Number of Attendees for Intellectual Property Training Sessions Implemented in Fiscal 2016

Training Content	Attendees		
	Taiheiyo Cement Corporation Employees	Group Company Employees	Total
Introduction	34	44	78
Description	19	0	19
The revised Patent Act	84	5	89
Total	137	49	186



Introductory training on intellectual property

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 a unified 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, 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 Cement Sustainability Initiative.

Created in January 2006
Revised in April 2012

1. Business Activities Impacting the Environment

We improve eco-efficiency by assessing the environmental impact of our operations. Implementation of environmental management systems, together with development and adaptation of our products and technologies, reduce environmental impact. Furthermore, as a member of the local community, we strive to maintain a good 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. Encouraging Environmental Conservation

While encouraging the development of environmentally friendly products and technology, we focus on environmental conservation.

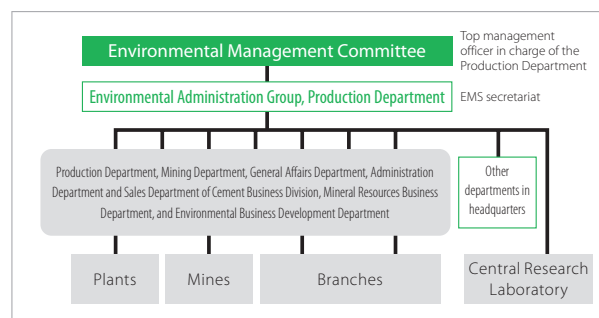
Company-wide Environmental Management System

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 we obtained ISO 14001 certification at the Japan Testing Center for Construction Materials (JTCCM), an incorporated foundation. In March 2015 the company-wide system was audited for the second time and recertified.

■ 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

CO₂ Emission Reduction Targets

Cement production-related CO₂ emissions from Taiheiyo Cement and group companies

Reduce specific net CO₂ 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_x, SO_x and dust from the main stacks of kilns at the cement production sites of Taiheiyo Cement and group companies

Limit NO_x, SO_x and dust levels per tonne of clinker (g/t-clinker) to the target levels achieved in fiscal 2010

Group Efforts

Each group cement company in Japan and overseas is committed to environmental preservation. As of fiscal 2016 over 90% of the group's total cement output is produced in ISO 14001-certified plants. The U.S. plants that are not ISO-certified operate their own EMS. In 2017 CalPortland Company received their thirteenth consecutive Energy Star Partner of the Year Award from the U.S. Environmental Protection Agency and Department of Energy in recognition of excellent environmental management practices.



At the Energy Star Award Ceremony

Internal Environmental Audits

In fiscal 2016 we conducted internal environmental audits at all our sites. As priority items from this year's audit, confirmations of the review of compliance with laws as well as other requirements and external communications 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. The audit identified 10 findings including 5 for which improvements were requested. Corrective actions have been taken for all of the 5 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 viewing environment-related DVDs, holding lectures and taking part in local cleanup activities. In fiscal 2016 more than 200 activities took place at group offices.



Training for containing heavy oil leakage (Ofunato plant)

Compliance with Environmental Laws

► GRI307-1

Environmental Accidents

We had no legal or regulatory violations in fiscal 2016 that were subject to fines or penalties. Moreover, no environmental accidents occurred that could affect areas outside the premises of our plants.

Response to Environmental Accident

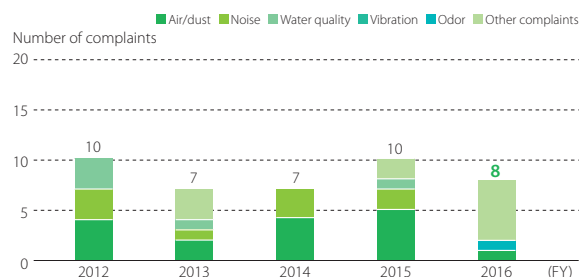
Each plant maintains emergency response plans in preparation for possible environmental accidents. They also conduct training, including fire fighting training in cooperation with local fire departments. Other education includes training on how to reduce environmental impact when an environmental accident 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. We are therefore 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. If we receive an environmental complaint, whenever possible we quickly travel to the site in question to check the situation, investigate the cause and provide an explanation. Then, if we find that our activities are the cause, we implement improvements.

In fiscal 2016 our cement plants received 20 environmental reports. We responded to 8 of these complaints that were associated with our operations.

● 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 CO₂ reduction targets for cement-related CO₂ 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.

► GRI103-2, 3

Greenhouse Gas Emissions and Long-term Quantitative Targets

► GRI102-11, 302-3, 305-1, 2, 4, 5

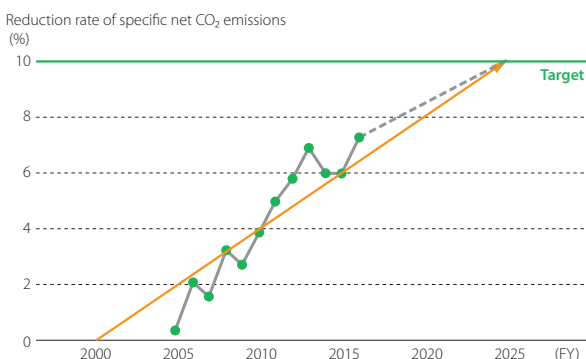
Among the total greenhouse gas emissions generated by our domestic group companies (excluding power generation companies) that are reporting their greenhouse gas emissions by business segment in accordance with the Act on Promotion of Global Warming Countermeasures, about 94% of greenhouse gas emissions were generated from cement production companies in fiscal 2014.* 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 2016. 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 4.5% of Scope 1 and Scope 2 (direct air emissions) in fiscal 2016.

The bulk of greenhouse gas emissions associated with the operations of our group companies is CO₂ 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 CO₂ 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.

* Most of our overseas affiliated companies are cement production companies so the total CO₂ emissions from production overall is higher than that of domestic companies alone.

● Progress in Meeting Our CO₂ Reduction Targets in CSR Objectives for 2025



Efforts Related to the Cement Production Process

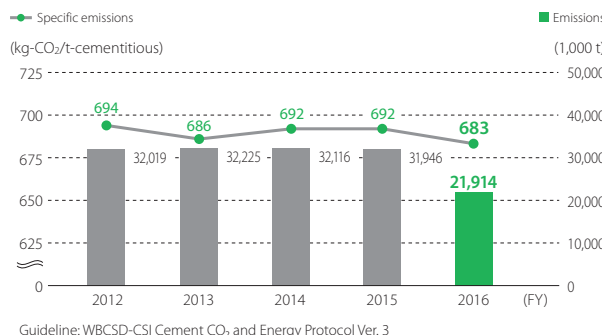
► GRI302-1, 3, 4, 305-4, 5

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 (CaCO₃ → CaO + CO₂). About 35% of CO₂ 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 CO₂ 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 CO₂ emissions from the calcination of the limestone used as raw material, and have started using waste heat power generation to tackle CO₂ emissions associated with conventional electricity generation.

The specific heat consumption of clinker production increased in fiscal 2016 due to a significant change in the composition of the group's cement plants and, as a result, the ratio of alternative fuels to total fuel use declined. However, specific net CO₂ emissions and total CO₂ emissions decreased significantly.

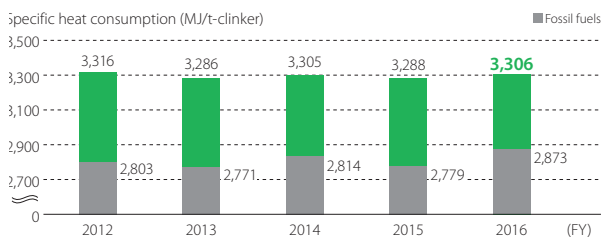
● Specific Net CO₂ Emissions per Tonne of Cementitious Product (WBCSD)



■ Efforts to Save Energy

Specific heat consumption of clinker production by the group's cement plants in fiscal 2016 increased by 18 MJ/t-clinker from the previous year's level to 3,306 MJ/t-clinker.

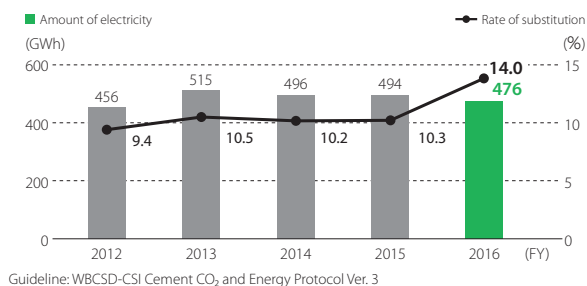
● Specific Heat Consumption of Clinker Production WBCSD



■ 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 2016 slightly declined from fiscal 2015 to 476 GWh. However, its ratio to all electricity consumed in the production of cement increased to 14.0%, reflecting the higher proportion of operating waste heat power generation systems as a result of a change in the composition of our cement plants. We were therefore able to reduce CO₂ emissions by about 328 thousand tonnes in fiscal 2016 compared to purchased power generated from coal-fired power plants (emission factor: 0.69 t-CO₂/MWh).

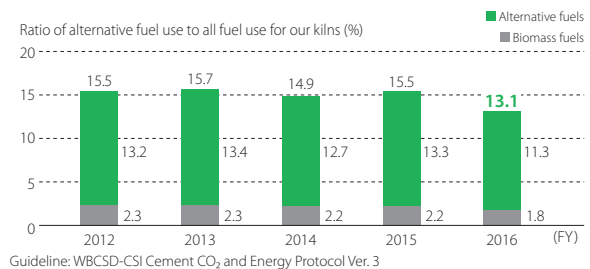
● Electricity Generated by Waste Heat WBCSD



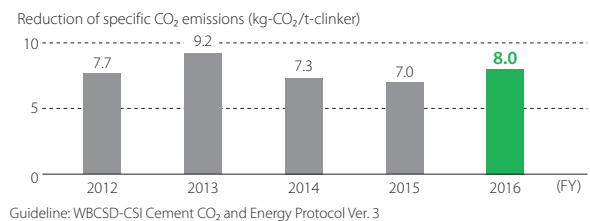
■ Use of Alternative Energy Resources and Alternative Raw Materials

In fiscal 2016 non-fossil energy and biomass energy accounted for about 13.1% of all energy used for group kilns. A decrease of about 8.0 kg-CO₂/t-clinker was also achieved by using alternative raw materials. As a result of using both alternative energy resources and raw materials, reductions in CO₂ emissions are expected to reach 1.18 million tonnes (emission factor for coal: 0.096 kg-CO₂/MJ).

● Ratio of Alternative Fuels and Biomass Fuels WBCSD



● Reduction of Specific CO₂ Emissions by Replacing Limestone with Alternative Raw Materials WBCSD



Reducing CO₂ Emissions during Transportation

► GRI305-3

We contract the delivery of our raw materials and products to transportation companies and are striving to reduce CO₂ 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 introducing conventionally powered ships with low environmental impact.

Our CO₂ emissions in fiscal 2016 decreased by 3% compared to fiscal 2015 mainly due to a 4% decrease in the distance transported despite a 2% increase in the tonnage transported.

● CO₂ Emissions by Mode of Transportation (FY2016) Non-consolidated

Mode of Transportation	Tonnage Transported (1,000 t)	Average Distance Transported (km)	Transported Tonne × Kilometer (1,000 t × km)	CO ₂ Emissions (1,000 t)
Ship	17,516	455	7,969,867	98
Truck	14,084	53	749,308	43
Railway	5,204	27	141,303	3
Total	36,803	241	8,860,478	145

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.

▶ GRI103-2, 3

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.

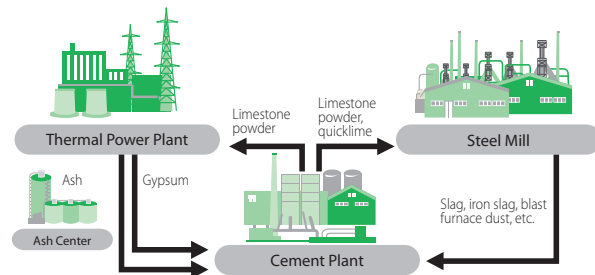
▶ Incineration Residues Recycling System

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.

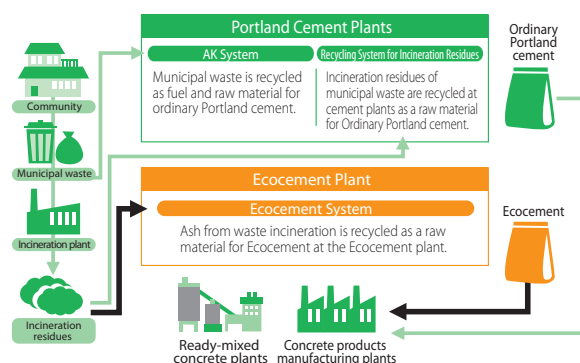
▶ AK System

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



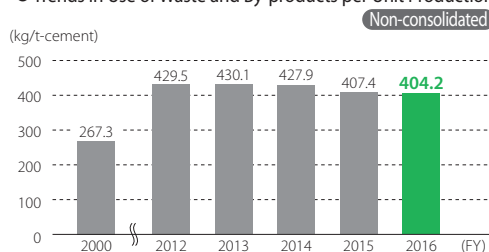
● Municipal Waste Recycling Systems for Cement Production



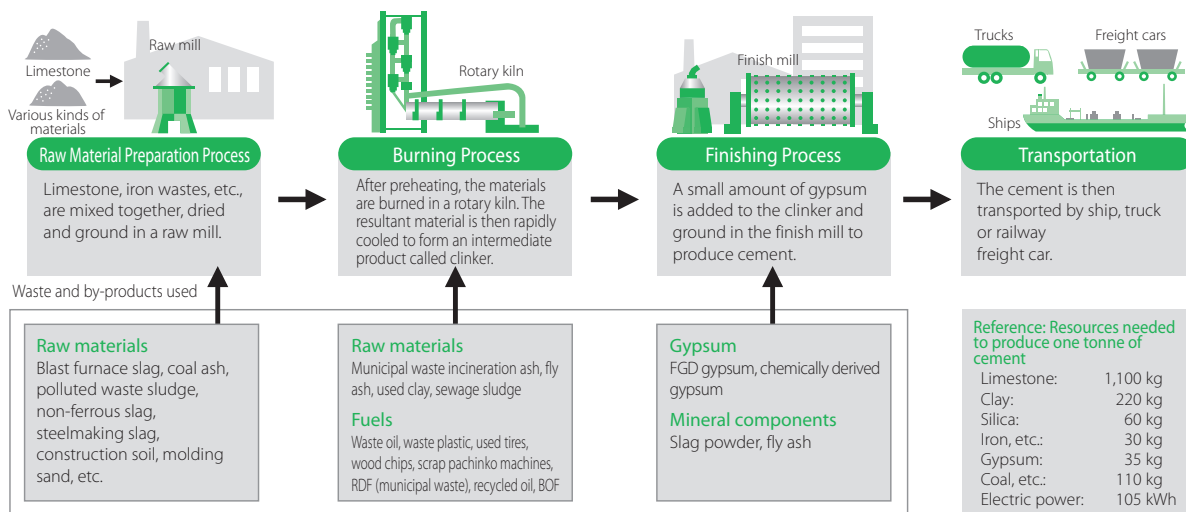
Performance of Recycled-Waste-to-Cement System ▶ GRI301-1, 2

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 2016 the volume of recycled waste and by-products decreased by about 117 thousand tonnes from the previous year to 6.450 million tonnes due to decreases in cement production and demand for blended cement. This means we recycled 404.2 kg of waste and by-products per tonne of cement produced.

● Trends in Use of Waste and By-products per Unit Production



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



● Waste and By-products Used in Cement Plants (FY2016) Non-consolidated

Waste and By-products		Total Amount (t)	Rate (kg/t-cement)
Industrial	Coal ash (including JIS fly ash)	1,974,224	123.7
	Blast furnace slag	1,155,493	72.4
	By-product gypsum	529,095	33.2
	Unburned ash, dust emissions, dust	517,717	32.4
	Dirt and sludge	387,011	24.3
	Construction soil	343,717	21.5
	Waste plastic	143,908	9.0
	Waste oil	139,709	8.8
	Wood chips	62,215	3.9
	Other	702,511	44.0
	Subtotal	5,955,600	373.2
Household	Water treatment plant sewage sludge and ash	356,580	22.3
	Municipal incinerator ash	117,658	7.4
	Municipal waste, etc.	20,507	1.3
Subtotal	494,745	31.0	
Total	6,450,345	404.2	
	Raw material-related	5,955,703	373.2
	Fuel-related	494,642	31.0

Conserving Biodiversity

Conserving biodiversity in the course of doing business is a material corporate issue. Our approach to conserving biodiversity includes complying with strict legal requirements and striving to harmonize human activities with nature while interacting with the environment and wildlife in our cement and mineral resources business.

► GRI103-2, 3

Considering Biodiversity in Operations

► GRI304-1, 2, 3, MM1, MM2



■ Environmental Impact Assessment

Cement production starts with quarrying limestone, the primary raw material for cement. Since quarrying requires the removal of topsoil, it has an impact on the natural environment and landscape. Our quarry development is not solely related to quarrying. We are acting with the belief that it is important to care for the conservation of the local ecosystem and promote the development of the local economy.

We therefore study and implement conservation measures to minimize environmental impact and strive to achieve sustainable quarry development while taking into consideration the opinions and ideas exchanged with the local government, community and academics.



Raptors survey

■ Protection of Rare Plant Species

Since 1972 we have been protecting and nurturing rare species of native plants on Mt. Buko, the location of the Minowa Quarry of Chichibu Taiheiyo Cement Corporation (Chichibu, Saitama Prefecture). We created a botanical garden at the quarry and, together with local experts and other people, we preserve 65 native plant species there while increasing the plant population.

Additionally, since 1995 our Central Research Laboratory has continued to research and develop ways to preserve and grow endangered plants, starting with primrose and miyamasukashiyuri and then adding lady's slipper orchid and sanicula tuberculata Maxim in 2011, and to verify genetic diversity of native plant species using biotechnology. In fiscal 2016 we developed a measure to prevent the growth of mold and bacteria in lady's slipper orchid and sanicula tuberculata Maxim fields which had long been a problem.

■ Protection of Water Resources

In quarrying we pay close attention to protecting not only terrestrial plants but also water resources such as spring water in an effort to conserve biodiversity. 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 the water to local communities for everyday use.

■ Greening Quarries

We are continuing our efforts to restore greenery to the quarry slopes on terraces formed during the quarrying process. We undertake these efforts immediately after the slopes are made. We also plant vegetation in stockyards for excavated topsoil where no construction work is expected. In our efforts to protect ecosystems we use as many types of native species as we can in the locations where we plant, which are usually mountainous.

The Fujiwara Quarry on Mt. Fujiwara-dake (Inabe, Mie Prefecture) has conducted a greening test using a tentative quarry slope, which we plan to excavate. The quarry also repeated the test, studied the quarry's optimal greening conditions and accumulated know-how that can be applied for future quarry slopes.

All of our quarries are still under our operation; however, once our work there is completed our plan is to restore the areas as close as possible to the original natural environment.

► Key performance indicators (KPIs) in accordance with the Guidelines on Quarry Rehabilitation developed by the WBCSD-CSI are listed on page 64.



Appropriate Use of Water Resources

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

Water Risk Analysis

According to the results of the water risk analysis conducted using Water Risk Filter*, the average score for total basin risk for all our plants (weighted average taking into account the cementitious production volume) was 2.4 (maximum 5.0), which indicates no high risk and was slightly lower than the previous year's figure (2.5). The highest total basin risk score was 3.8 and dropped slightly from the previous year's figure (4.0). The volume of cement produced at the plant with the highest total basin risk score accounted for about 3% of the production volume of all the plants. However, no imminent threat was found when we analyzed conditions at that plant.

*Water Risk Filter: A water risk mapping tool developed by the World Wide Fund for Nature (WWF) for evaluating impacts on businesses related to water scarcity, flooding, drought, seasonal variation, physical water quality risks, regulatory risks, etc.

Status of Water Consumption

► GRI303-1, 2, 3, 306-1

Most of the water used at our cement plants is for cooling of production equipment, exhaust gas and in-house power generators. The water discharged from the plants is therefore mostly mere cooling water and is not polluted, as defined in the Water Pollution Control Act. Our plants located near the ocean use seawater for cooling in-house power generation equipment. We circulate and reuse all fresh water at our plants (except for household wastewater) in an effort to reduce the amount of water withdrawal and prevent water pollution in discharge water.

The total withdrawal of fresh water for fiscal 2016 was about 27 million m³ and the total seawater withdrawal for the same fiscal year was about 150 million m³. The seawater was used for cooling in-house power generation equipment at our plants near the ocean and then released back to the ocean after use. Fresh water discharged was about 14 million m³, which means that about 13 million m³ of fresh water was used by our plants. However, the water was used for the cooling of equipment and exhaust gas and not as a raw material for our products. Consequently it is evaporated.

In fiscal 2016 we withdrew 0.833 m³ of fresh water (water withdrawal per unit of production) to produce 1 tonne of cement. Compared to fiscal 2013, when we started collecting data, the amount of water withdrawal decreased by about 10 million m³, partially due to the change in plant configuration, and water withdrawal per unit of production increased by about 4%.

Appropriate Use of Water Resources

► GRI303-1, 2, 3, 306-1

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

While Jiangnan-Onoda Cement Co., Ltd. in China operates a plant next to the Yangtze River, the surrounding areas are outside the range of the municipal water supply. The company therefore uses the water it withdraws from the river as industrial water and drinking water for employees after purifying it, and it also supplies the water to about 5,000 people living in the surrounding areas as drinking water. Furthermore, Taiheiyo Cement Philippines supplies clean water to local communities in the Philippines from a well drilled for the company.

● Status of Water Consumed

WBCSD

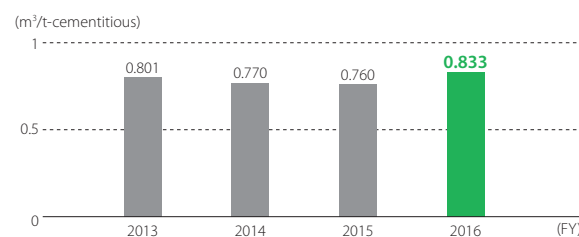
(Unit: 1,000 m³)

	FY2013	FY2014	FY2015	FY2016
Surface water	19,997	15,394	13,717	7,505
Ground water	14,216	17,358	18,329	16,232
Industrial water	2,986	2,996	3,037	2,983
Other	44	42	0	0
Total fresh water withdrawal (I)	37,242	35,791	35,083	26,719
Total seawater withdrawal	150,402	151,535	148,836	146,097
Total withdrawal	187,644	187,325	183,918	172,816
Total fresh water discharge (O)	14,632	14,253	13,871	12,964
Total seawater discharge	150,402	151,535	148,836	146,097
Total discharge	165,034	165,787	162,707	159,061
Total fresh water used (I-O)	22,610	21,538	21,212	13,755

Reference guidelines: WBCSD-CSI Protocol for Water Reporting Ver. 1.0

● Fresh Water Withdrawal per Unit of Production

WBCSD



Reducing Environmental Impact

We continue to act to protect and reduce impacts on the environment through means such as preventing environmental pollution, making effective use of resources, reducing waste and appropriately managing chemicals.

► GRI103-2, 3

Preventing Environmental Pollution

► GRI305-7

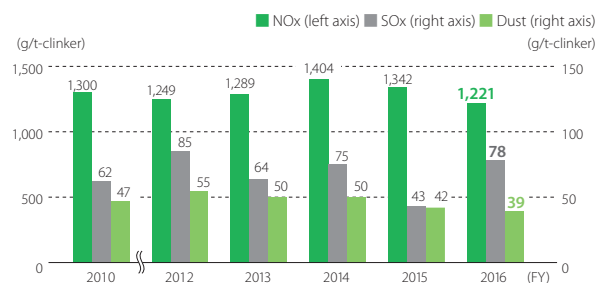
Air Pollution

The main air pollutants generated from cement production are NOx, SOx and dust contained in the combustion gases emitted from cement kilns. To ensure 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 will focus on controlling the emission of air pollutants with the goal of maintaining fiscal 2010 emission levels.

Emissions of NOx and dust were lower than in fiscal 2010, whereas emissions of SOx were slightly higher than in fiscal 2010 since some plants 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.

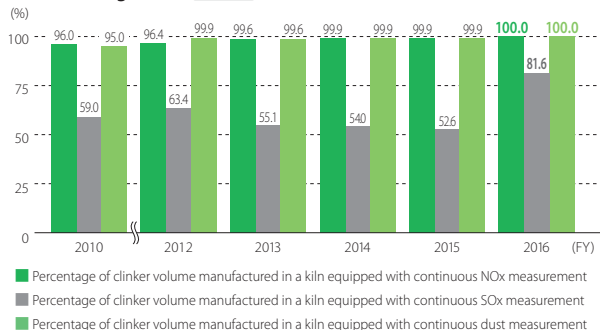
Specific Emissions per Tonne of Clinker for Selected Pollutants

WBCSD



Monitoring Rate

WBCSD

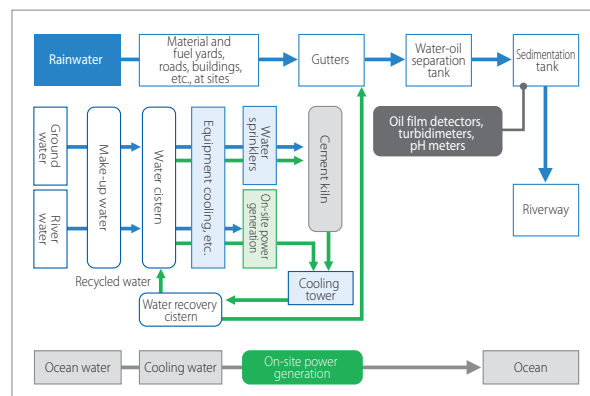


Guideline: WBCSD-CSI Emissions Monitoring and Reporting Ver. 2.0

Water Contamination

Most of the water discharged from our plants to public waterways is cooling water and is 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 pollutants by installing bunds around our oil tanks and acid/alkali tanks, as well as 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

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 in fiscal 2000. We are in the process of conducting drilling studies, etc., starting with higher-risk locations, to verify whether the soil is contaminated or not. Actions are taken as necessary based on the findings.

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

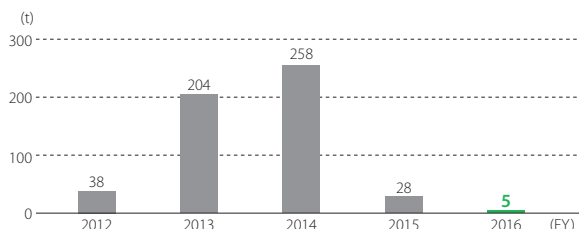
Reducing Waste

► GRI306-2

Initiatives at Plants and Quarries

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

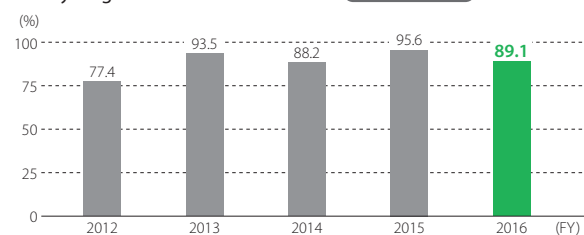
● Volume of Waste to Landfill



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 cement products. The returned cement is recycled and used as raw material.

● Recycling Rate of Residual Cement (Non-consolidated)



Initiatives at Offices

Our special purpose subsidiary Taiheiyō Service Corporation installed a paper recycling machine to recycle the company's used copy paper and in fiscal 2016 we recycled approximately 540 thousand sheets of A4 size paper.

Appropriate Management of Chemical Substances

► GRI306-2

Pollutant Release and Transfer Register (PRTR)

The PRTR Law requires us to report on the equipment installed at our Kumagaya plant for the washing of municipal waste incineration ash. The ash 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		
	FY2014	FY2015	FY2016
Dioxins (mg-TEQ)	0.0020	0.0034	0.0010
Ferric chloride (kg)	160	148	140

Management of PCB Waste

The Act Concerning Special measures against PCB Waste was enacted in June 2001. In accordance with this law we ensure that PCB waste at all 43 of our facilities nationwide is properly stored and processed, and we report an inventory every year. 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 2016 the 13 capacitors stored at the Nishitama Mine and Tokyo Branch were processed. Capacitors and electrical ballasts stored in the Kamiiso plant and Tokyo Branch are scheduled for processing in fiscal 2017.

● Status of Disposal of PCB Waste (Non-consolidated)

Waste	(Unit: number of machines)				
	Stored in FY2015 (as of March 31, 2016)	New Target for FY2016	Processed in FY2016	Stored in FY2016 (as of March 31, 2017)	Planned Processing for FY2017
Capacitors	14	15	13	16	14
Transformers	0	0	0	0	0
Electrical ballasts	273	80	0	353	80
Total	287	95	13	369	94

Environmentally Sound Products and Services

In response to public concern about environmental protection we offer eco-products and services that capitalize on the advantages of cement and related technologies that we have developed, and contribute to conserving resources and reducing CO₂ emissions.

▶ GRI103-2, 3

■ Lightweight Non-Shrink Mortar with Dust Suppression Taiheiyo J-Flow KR² (Taiheiyo Materials Corporation)

Taiheiyo J-Flow KR² (Dust Suppression Type) is a new non-shrink lightweight mortar product used for back filling of steel reinforcement plates. It is increasingly being used in seismic retrofitting work for elevated railway bridge piers and other structures. Taiheiyo J-Flow KR², a non-shrink lightweight mortar, has also been widely used for seismic retrofitting work, but with the added feature of dust suppression. It therefore has reduced environmental impact. Preventing pollution at construction worksites is essential for seismic retrofitting in enclosed spaces such as railways, subways or terminal stations in urban areas. Also, we are seeing growing demand for reducing the amount of dust generated during construction work.



Seismic retrofitting work

■ Ground Improvement NJP-2way Method for Liquefaction Prevention (Onoda Chemico Co., Ltd.)

Since the Great East Japan Earthquake, liquefaction prevention for revetments has been underway in the Tokyo metropolitan area. Work often has to be carried out at small sites, such as along the Sumida River, where available space for construction yards is difficult to find. Consequently construction methods with low environmental impact on nearby houses and plants must be adopted.

NJP-2way is a ground improvement method with low environmental impact that was developed to prevent liquefaction and uses an ultra-high pressure jet grouting system. With NJP-2way, large-diameter ground improvement works can be conducted quickly using small machines. Displacement during the work is low and the volume of the mud sludge generated is reduced to about one-third of that using conventional methods, further reducing environmental impact.



Using NJP-2way in seismic retrofitting for the flood barrier of the Sumida River

■ Water Retentive Paving Block with Recycled Aggregates Ocean Eco Cool (Taiheiyo Precast Concrete Industry Co., Ltd.)

This concrete paving block offers the same water retention and evapotranspiration effects as soil since it retains underground moisture and rainwater in fine pores generated inside the block. With this mechanism the product offers a cooling effect similar to sprinkling water, limiting rises in pavement surface temperature and thereby mitigating the urban heat island effect. All of the raw materials used for the product are highly environmentally sound recycled materials such as ceramic tile scraps burnt at 1,100°C and granulated blast furnace slag. We contribute to reducing environmental impact by ensuring that these recycled materials represent at least 60% of our raw materials.



Using "Ocean Eco Cool" in road construction work near Kanda Station

■ Semi-flexible Paving Filler Chichibu Color Stuff Eco (Chichibu Concrete Industry Co., Ltd.)

For semi-flexible pavements cement fluid is injected into the porous asphalt to improve its durability. It is applied in a variety of places such as the approach to road crossings, traffic circles in front of stations, bus stops and similar sites where ruts are easily formed.

Chichibu Color Stuff Eco is a high-performance premix product that can easily become a highly injectable high-performance cement fluid by just mixing with water. To contribute to the realization of a recycling-based society the product uses ecocement, in which municipal waste incineration ash and other recycled materials are the principal raw materials, accounting for 10–30% of the cement fluid by weight.



Chichibu Color Stuff Eco used at the plant



Environmental Accounting

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

▶ GRI103-2, 3

● **Environmental Conservation Costs** (Non-consolidated) ▶ GRI201-2 (Unit: million yen)

Category	Main Activities	Investment			Cost		
		FY2014	FY2015	FY2016	FY2014	FY2015	FY2016
Business area costs		2,868	3,589	3,254	15,383	15,540	13,729
Details	Pollution prevention	1,944	2,617	1,209	6,582	6,681	7,782
	Global environmental conservation	779	917	1,972	8,098	8,271	5,371
	Resource recycling	144	54	73	703	588	576
Upstream and downstream costs	Recycling waste and by-products as alternative raw materials and fuels for cement	2,026	1,732	655	5,218	4,922	4,633
Administrative costs	Implementation of the environmental management system	75	68	34	509	364	317
R&D costs	Innovations to the cement production process	295	426	346	660	699	739
Social activity costs	Factory tours	0	0	1	22	25	24
Environmental remediation costs	Emission levies	33	1	66	99	72	79
	Total	5,297	5,815	4,356	21,891	21,622	19,521

(Unit: million yen)

	FY2014	FY2015	FY2016
Total investment	21,462	22,744	22,507
Total R&D expenditure	1,109	1,065	1,216

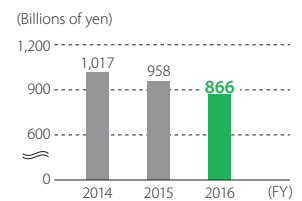
■ **Socioeconomic Benefits Derived from the Recycled-Waste-to-Cement System**

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 86.6 billion yen was identified for fiscal 2016. In that same year a decrease in the total amount of waste and by-products used led to about a 10% decrease in EEB compared to the previous year.

● **External Economic Benefits (FY2016)** (Non-consolidated) ▶ GRI201-1

Impact	Inventory	Reduction (t)	Inventory Market Price (Yen/t)	Economic Benefit (Billions of Yen)
Climate change mitigation	CO ²	1,612,000	818	13
Depletion of energy resources	Crude oil	100,239	18,400	18
Depletion of mining resources	Natural resources	4,848,414	1,000	48
Shortage of landfills	Waste	5,237,515	15,000	785
Total				866



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-CSI Cement CO² 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 CO², 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: CO²: 3,000 yen/t (a hypothetical CO² 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

Increased Capacity to Treat Municipal Waste Incineration Ash and Other Chlorine-containing Waste at the Fujiwara Plant

▶ GRI201-2, 203-1

At the Fujiwara plant the presence of foreign objects such as large solid fragments in municipal waste incineration ash made it difficult to increase the volume of such ash accepted by the plant. To deal with this the plant plans to expand the capacity of its chlorine bypass system and a new system for removing foreign objects will be installed. When these systems are completed the capacity of the plant to treat municipal waste incineration ash and other chlorine-containing wastes will be increased by up to 20,000 tonnes per year, thereby enabling the plant to contribute to expanding the life of landfills.

Investment:
Approximately 840 million yen

Financial effects of expanding the life of landfills:
Approximately 400 million yen/year
(Estimated cost of landfill disposal is 20,000 yen/t.)

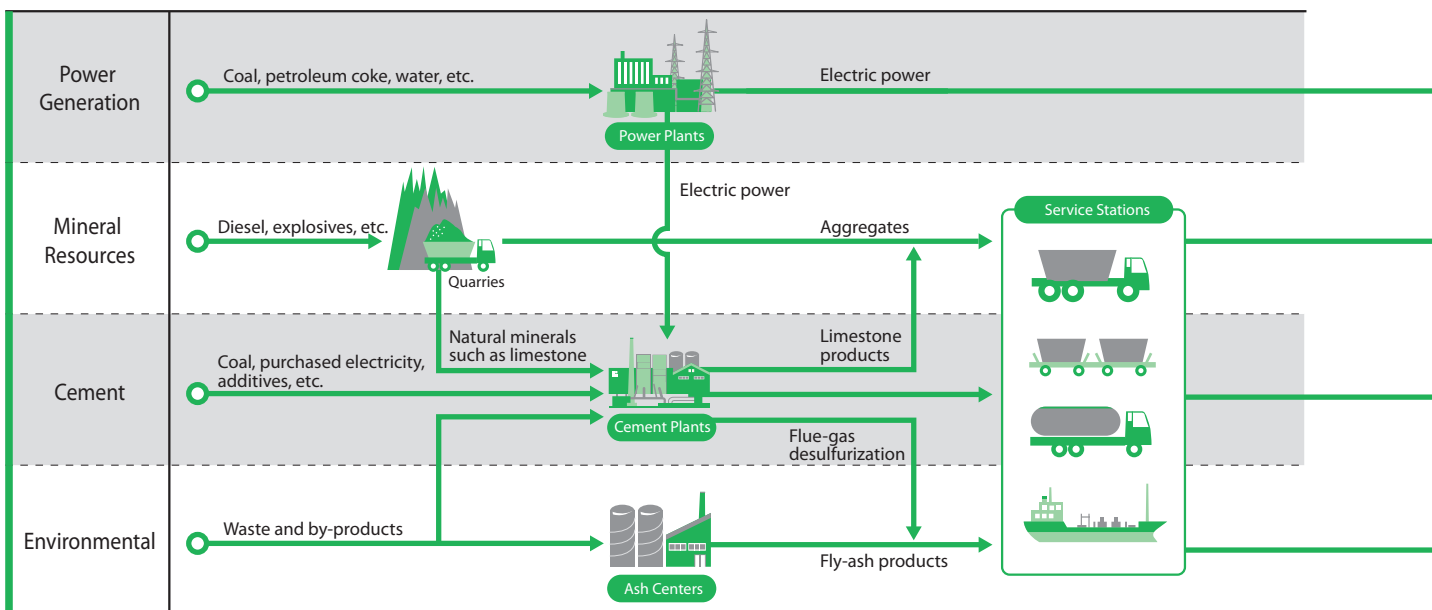
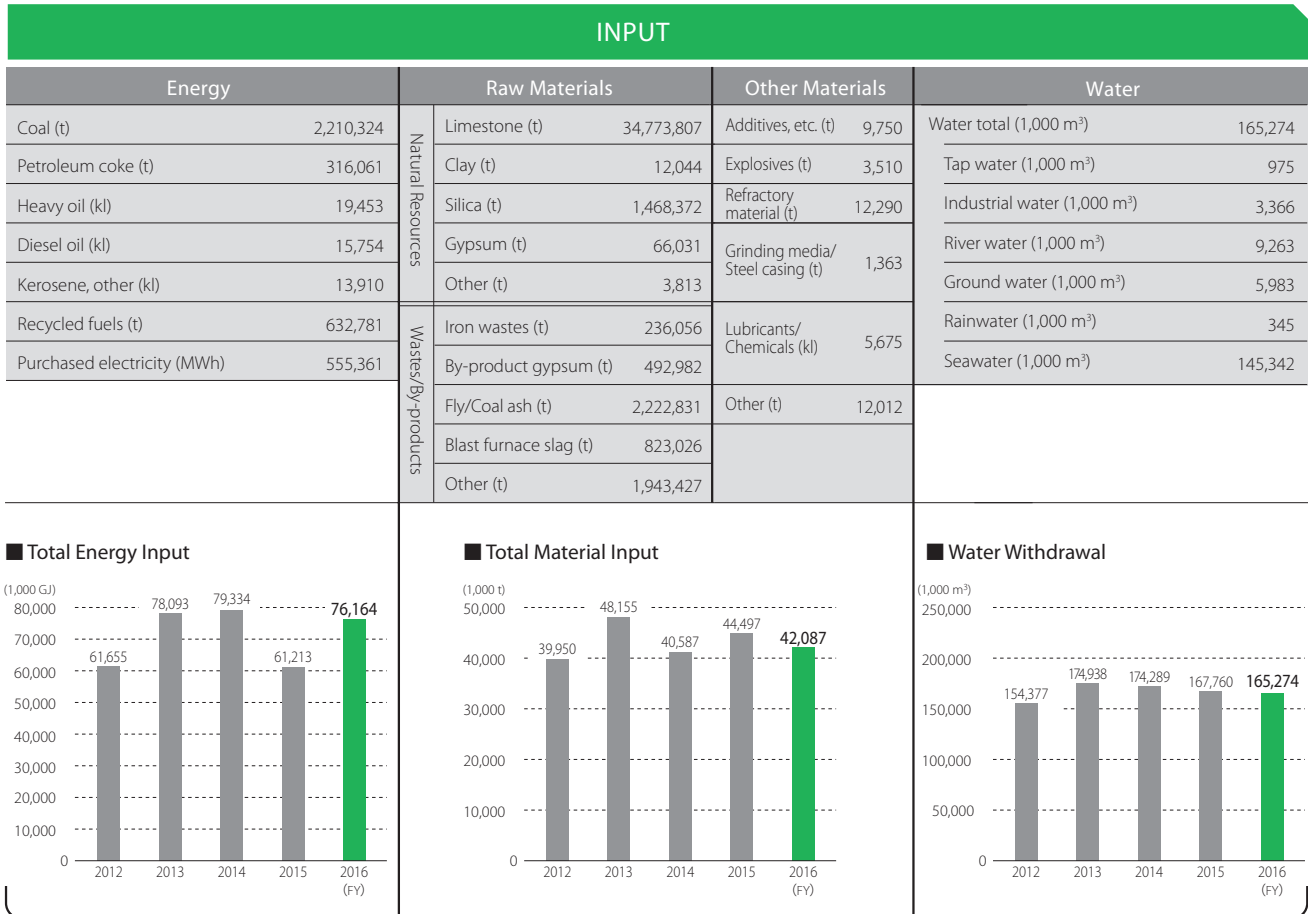


No. 5 kiln at the Fujiwara plant

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.

▶ GRI102-6, 7, 45, 301-1, 2, 302-1, 305-1, 2, 7, 306-1, 2

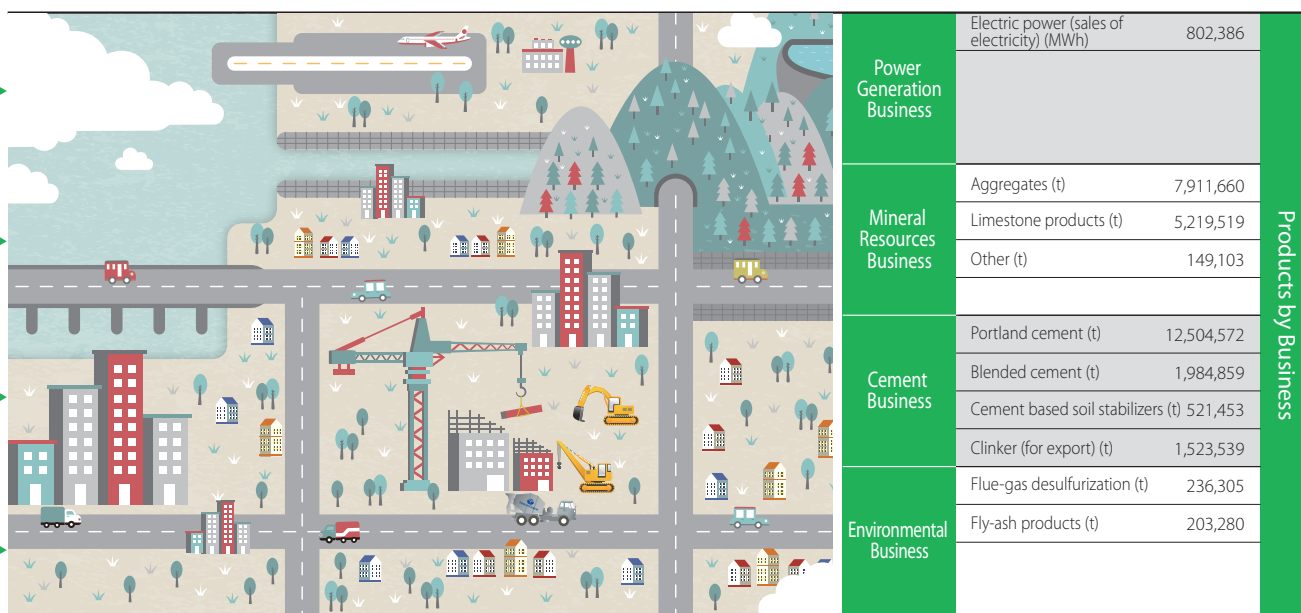


● Scope of reporting organizations

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.		

OUTPUT



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. Under our Quality Policy, which declares our commitment to quality assurance, we maintain the highest product quality in the industry. We also continually improve product quality and systems to earn customer trust in our brand in both domestic and overseas markets.

► GRI103-2, 3

Quality Policy

We established a quality policy based on our management policy in 1998, the year Taiheiyo Cement was launched, and have been continually raising awareness of the policy across the organization. We have made every effort to be a company that customers trust and rely on by implementing advanced technologies and establishing quality assurance systems that provide high-quality products and services through the efforts of each employee in accordance with the policy.

Quality Policy

By pursuing quality designs that meet users' needs and providing quality assurance, our customers' satisfaction shall be enhanced.

Quality Assurance Initiatives and Quality Management System (QMS)

► GRI416-1

We focus on stabilizing and improving product quality while capitalizing on the production and quality control technologies we have developed over the years. We have recently further enhanced product quality control by applying technologies such as an online analysis system for raw materials, clinker and cement and 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 started to transition into the new ISO 9001:2015 in fiscal 2016.

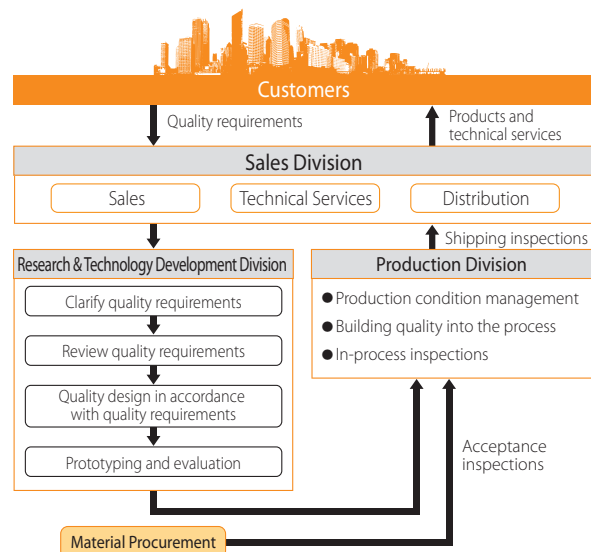
By fully applying the ISO 9001 approach in addition to our own quality management system, we are focusing on more deeply integrating our quality management system and business processes and ramping up efforts to improve our ability to continually provide ISO 9001-compliant products and greater customer 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 in order to provide suggestions for 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. As a result of these efforts, we could halve the number of quality issues handled in recent few years from between 40 and 60 at the time of Taiheiyo Cement's incorporation. We will actively identify potential quality risks, investigate the causes of each issue and implement extensive countermeasures while enhancing cross-divisional coordination toward establishing a higher level quality assurance system.

Since fiscal 2013 we have been expanding our quality assurance system to include 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

► GRI416-1

Today every product is expected to be safe and secure, 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. In addition, using the technology to recycle household waste we developed for recycling municipal waste into raw material for cement, we also recycle construction-related soil and waste materials as well as other waste into raw material for cement. When our cement plants accept waste we work to prevent its dispersal and minimize 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 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 then make a final determination on whether to receive the waste.

Information Provision Using SDS and Labeling

► GRI416-1, 417-1

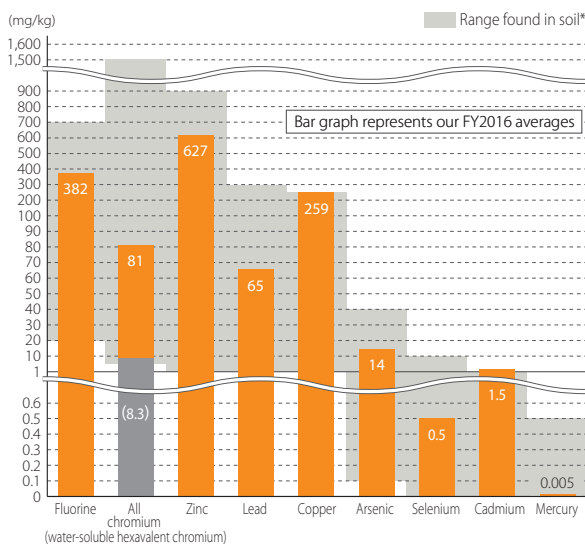
To ensure safer use of cement products we post safety data sheets (SDS) with hazard statements on our website. We also display product information on labels for bags and flexible containers.

According to the enforcement of the Partial Amendment to the Industrial Safety and Health Act (a change in the approach to controlling chemical substances) on June 1, 2016, manufacturers' risk assessment of chemical substances became mandatory. We will ensure the health and safety of those who use the products while helping to protect the environment by providing accurate information.

● Transition of Minor Components of Ordinary Portland Cement (Unit: mg/kg)

		FY1987	FY2012	FY2013	FY2014	FY2015	FY2016
Fluorine	Average	—	403	449	377	421	382
	Maximum	—	543	583	418	522	485
	Minimum	—	266	352	321	376	313
All chromium	Average	—	67	69	75	74	81
	Maximum	—	81	81	86	81	91
	Minimum	—	59	55	65	61	74
Water-soluble hexavalent	Average	17.4	5.8	6.0	7.4	7.4	8.3
	Maximum	32.3	6.6	7.2	8.6	10.6	9.8
	Minimum	5.3	5.4	5.1	6.1	5.7	7.1
Zinc	Average	556	474	526	540	529	627
	Maximum	1,059	682	689	711	659	741
	Minimum	137	284	403	412	436	496
Lead	Average	221	63	62	61	62	65
	Maximum	668	105	97	85	80	89
	Minimum	18	42	40	42	45	53
Copper	Average	122	142	189	183	216	259
	Maximum	233	224	277	281	355	355
	Minimum	17	88	131	131	133	154
Arsenic	Average	17	10	12	12	10	14
	Maximum	39	26	25	30	17	39
	Minimum	2	3	4	5	4	4
Selenium	Average	—	0.6	0.6	0.7	0.6	0.5>
	Maximum	—	0.6	0.6	0.8	0.7	0.5>
	Minimum	—	0.5>	0.5>	0.5>	0.5>	0.5>
Fluorine Cadmium	Average	1.5	3.2	3.0>	1.8	1.8	1.5
	Maximum	2.6	4.0	3.0>	3.0	3.0	2.0
	Minimum	0.6	3.0>	3.0>	1.0>	1.0>	1.0>
Mercury	Average	—	0.008	0.008	0.006	0.005>	0.005>
	Maximum	—	0.011	0.011	0.008	0.005>	0.005>
	Minimum	—	0.005>	0.005>	0.005>	0.005>	0.005>

● Transition of Minor Components of Ordinary Portland Cement



* H.J.M. Bowen, Environmental Inorganic Chemistry. Translated by Teruo Asami and Mitsuo Chino, Hakuyusha, 1983.

Ensuring Product Safety Following a Radioactive Accident

► GRI416-1, 417-1

As a consequence of the nuclear accident at the Fukushima Daiichi Nuclear Power Station of Tokyo Electric Power Company, we discovered in 2011 that some industrial waste used for making cement contained highly radioactive material. We have established a system for ensuring that the radioactive concentrations in cement shipped from our plants are below the limit set by the Japanese government as the safety standard* 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:

■ <http://www.taiheiyo-cement.co.jp/news/sokutei.html>

Enhancing Taiheiyo's Brand Power

We focus on enhancing the Taiheiyo brand, including our group companies. In order to facilitate a deeper understanding among users of the products and construction methods of group companies, since 2012 we have released our product catalogue, "Taiheiyo Navi," which encompasses all our major products and construction methods.

We revised Taiheiyo Navi in 2017 and improved content related to concrete solutions. We present products and construction methods as well as examples of how products are combined as a means of optimizing their performance.



Pages in Taiheiyo Navi

User Societies and Industry Associations

► GRI417-1

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. National Taiheiyo Cement Ready-mixed Concrete Society, the largest of these

organizations, has established ten 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 aggregates, admixture and engineers at ready-mixed concrete plants
Tohoku	Concrete Strength Competition (participants declare their target strengths)
Tokyo	Workshop for building the knowledge of young employees in areas such as in-house standardization
Kanto	Health and safety workshop related to the Amendment to the Industrial Safety and Health Act
Hokuriku	Case study of formulations of annual targets related to JIS certification
Chubu	Concrete Strength Competition (participants declare their target strengths)
Kansai	Contest: Improvements in Daily Operations
Shikoku	Experiencing the mixing of special concrete
Chugoku	Concrete Strength Competition (participants declare their target strengths)
Kyushu	Health and safety patrol at ready-mixed concrete plants

■ Initiatives through the Taiheiyo Cement Association for the Paving Block Industry

The association held an overseas study tour and workshop in Bangkok, Thailand, in September 2016, with many participants from paving block manufacturers that are association members. They visited the Nong Khai plant of SCG Landscape Corporation and examined their block manufacturing operations. They also visited the large-scale trade show "Concrete Asia 2016," the first such show in Thailand for concrete. The event provided opportunities to learn about current technological development of paving blocks as well as market trends, valuable information that can be applied to operations of the member companies.

They also visited the Khao Wang plant of Siam White Cement Corporation, an OEM company that manufactures white cement. There they conducted an onsite review of the production process and quality control system for white cement, essential to the manufacture of paving blocks, and thereby gained confidence in the company's supply system

and product quality.

After returning to Japan we provided information through technical and sales workshops for member companies throughout Japan, during which the tour participants reported on each study theme. We will continue striving to expand the market for concrete paving blocks in collaboration with member companies and cement users.



At the Concrete Asia 2016 trade show



At the Kaowan plant of Siam White Cement Corporation

Promotion of R&D Activities

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

■ Promoting Glocal Cement Concrete®

We obtained the locally certified green label for Taiheiyo Green Cement and started selling this mixed cement in Singapore in 2015 as an environmentally friendly, low-heat cement. Also in Singapore we constructed an additional silo dedicated to the product. Beginning in fiscal 2017 our researchers are stationed at a group company in the country to raise the level of technical support in order to broaden the application of the product in collaboration with the Central Research Laboratory. We capitalize on our proprietary system used in the design of cement and technology for analyzing thermal cracks of concrete in developing cement and concrete for the overseas market. And we are working to further expand this business both globally and locally by leveraging our technological strength as a cement manufacturer.



Silo dedicated to Taiheiyo Green Cement

■ Material for Casting Mold for Binder-jetting 3D Printers

The use of 3D printers to produce casting molds conventionally involve inorganic feed materials of which gypsum is the main component. However, the melt temperature of the casting material over 1,200°C can result in the generation of gas causing defects in the cast products. After studying the components and composition of materials from a new perspective we were able to develop an innovative inorganic material that solves the problem. The photo below shows a sample of a casting mold made of the material. Even when we cast iron with an elevated melt temperature of about 1,600°C in the casting mold, no gas-derived defects were generated, and the surface of the product was smooth. Application of the material is expected for a wide variety of purposes such as metal casting at a high melt temperature and the manufacture of complex-shaped casting molds.



Casting mold for T-shape pipe

■ Technology for Recycling Lithium-ion Batteries for Vehicles and the Cement Production Process

The volume of used lithium-ion batteries for hybrid vehicles and other applications is expected to grow. These batteries contain various metals such as base metals and rare metals which are worth recycling, but they also contain combustible and difficult-to-treat fluoride. They must therefore be detoxified before their metal content can be collected, and in order to do this we have developed a dedicated roaster. Capitalizing on the benefits of the cement production process, the system detoxifies fluoride using calcium generated in large volumes during the process at a low cost while using waste heat for the roasting treatment which saves energy. We plan to conduct a demonstration test under near-operational conditions with the aim of quickly commercializing the technology.



Dedicated roaster jointly developed with Matsuda Sangyo Co., Ltd.

Partnership with Suppliers

Supply Chain Management

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

Fundamental Policy

We pursue growth together with business partners. To build relationships of trust and collaboration we promote trade based on fair contracting as well as compliance in each commitment we make. Our Standard of Conduct includes the following statements under the section entitled “Dealing outside the company in good faith” to ensure we conduct fair trade.

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 partner companies.
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 believe relationships of trust with business partners depend on the conduct of each employee and therefore encourage our employees to advance fair trade through a variety of means.

Trade Compliance Training

▶ GRI102-16, 205-2

Distributing the Standard of Conduct Casebook

We included fair trade in our Standard of Conduct, established as a guideline for individual action. We also 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.

Distributing the Antimonopoly Law Compliance Manual

We published and distributed to employees an Antimonopoly Law Compliance Manual 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 then offers examples of illegal conduct

in the form of “Don’t” statements to help employees more thoroughly understand the law.

In fiscal 2016 we continued to 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 employees on loan to group companies or others.

Taiheiyo Cement Standard of Conduct

A compass for action

We will think and act independently as members of the Taiheiyo Cement Group to help build social infrastructure, promote a closed resource cycle and vitalize local communities.

Dedication to fairness

We will maintain a fair and honest attitude at all times.

Dealing outside the company in good faith

We will deal with people outside the company fairly and in good faith.

Fostering collaboration and cooperation in the workplace

We will respect our colleagues and strive to grow together.

Appropriate use of company assets and information

Company assets and information are important management resources. We will handle them appropriately.

Officers lead by example

Directors and other officers recognize their role in setting the standard for conduct and will lead by example to ensure the thorough penetration of the Standard of Conduct throughout the company.



Standard of Conduct Casebook and Antimonopoly Law Compliance Manual

Partnership with Investors

Information Disclosure Policy

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 2016 we published 25 press releases. These and previous press releases are available on our website.

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

- <http://www.taiheiyo-cement.co.jp>
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 2016 we again held individual meetings and participated in IR conferences organized by a securities company. We also provide tours of our production sites (our plants and quarries) for our investors upon request.

- IR Activities (FY2016) Non-consolidated

Activities	Events	Attendees
Results briefings	2	167
Individual meetings	226	318
Tours of our facilities	4	17
IR conferences organized by securities companies	2	12



Tours of our facilities for analysts

External Recognition

- Selected as a Member of DJSI Asia Pacific for Four Consecutive Years

Taiheiyo Cement has been selected as a member of the Dow Jones Sustainability Asia/Pacific Index (DJSI Asia Pacific) for four consecutive years since fiscal 2014. The DJSI is a representative selection of socially responsible investment indices that evaluate the sustainability of companies in terms of economic, environmental and social criteria.

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



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 principle, we have been introducing measures concerning the development of human resources, the empowerment of women, the diversity of our workforce and improvement of the work-life balance. We are dedicated to creating employee-friendly workplaces where each employee can develop to their full potential.

► GRI103-2, 3

Basic Policy Concerning Human Rights and Labor Practices

Acknowledging 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, we formulated our Basic Policy Concerning Human Rights and Labor Practices in April 2015.

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

► GRI102-17, 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 page 52), 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

With the belief that education is the foundation for human rights we have been conducting a variety of educational activities focused on this issue. In addition to our conventional human rights training courses by position and those for the top management of our affiliates, we conducted harassment prevention training in fiscal 2016 at our seven business sites with the participation of partner companies. We also support our group companies by assisting them with training courses, distributing booklets and providing information on human rights. Moreover, during Human Rights Week, we promoted human rights awareness by collecting slogans from employees of the company and their families as well as our partner companies.

● In-house Training Related to Human Rights Issues and Call for Slogans (FY2016)

Non-consolidated

In-house Training and Call for Slogans	Participants
Top-management seminar at affiliated companies	129
Human rights training courses by position at the headquarters (including 87 people from 10 affiliated companies)	369
Harassment prevention training at plants (including 89 people from 22 partner companies)	305
Human rights training at business sites	333
Pregnancy discrimination related training (by DVD)	1,714
Slogans to raise human rights awareness (from employees and their families)	1,446

■ 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.

● Harassment Hotline

Internal	The Human Rights Committee and sexual harassment counselors have been allocated at all our business sites (54 in total).
External	Telephone and website consultations have been contracted to the Japan Institute of Workers' Evolution Harassment Hotline.

Human Resource Development and Evaluation

► GRI404-2, 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 their work environment where they can fully demonstrate their abilities and 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

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

■ <http://www.taiheiyo-cement.co.jp/english/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 and 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 2016 about 650 people had participated in training under these programs.

Respecting Diversity

▶ GRI404-2, 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 and the women's working group, which provides an opportunity to incorporate the opinions of more female workers on various topics, particularly those concerning employee retention. The ideas and discussions shared by the women's working group were put into proposals and reported to management. In fiscal 2016 we reviewed the system and established a new one based on these proposals. Also, we strengthened our awareness-raising efforts by conducting management training for promoting women's active participation and advancement in the workplace and playing a DVD for all employees, which included a message from top management related to the promotion of diversity.

We are steadily working on our action plans based on 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 31% of the new employees joining the company in April 2017, increasing the ratio of our female employees to 7.8%, which is a 0.8% increase compared to the previous year.

We also hired three foreign national employees (one woman) and will continue to hire outstanding employees with a focus on individual capabilities, regardless of nationality.



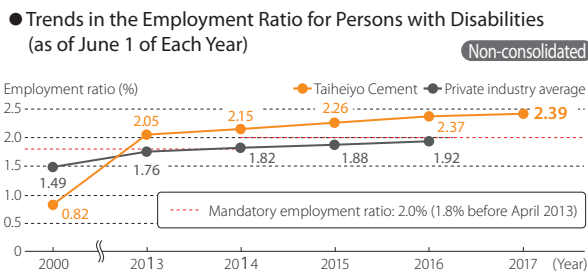
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Please visit our website for more information on the general business owner action plans pursuant to the Women's Active Participation Act, please visit our website.

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

■ Promoting Employment Opportunities for Persons with Disabilities

In fiscal 2000 we set up a committee to promote employment of persons with disabilities and have been making improvements to the work environment, including the establishment of three special purpose subsidiaries. As a result our employment ratio of persons with disabilities has improved steadily, which was at 2.37% as of June 2016 with an annual average employment ratio of 2.36% for fiscal 2016, exceeding the statutory ratio (2.0%) for ten consecutive years. Our employment ratio as of June 2017 was 2.39%, which also exceeds the statutory ratio. We will continue to promote the employment of persons with disabilities by our three special purpose subsidiaries while also continuing with our regular hiring of new graduates.



■ 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 place to work for individuals who seek re-employment by expanding opportunities in group companies.

Employee-Friendly Workplaces

► GRI401-3

■ 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 management.

► Support for Childcare and Caregivers

We established a long-term leave system 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 introduced a

reemployment system for employees who leave their jobs due to childcare 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. In fiscal 2017, marking the fifth term for our implementation of the general business owner action plans, we are working on various measures to achieve our goals in accordance with the plans we formulated.

General Business Owner Action Plans

Period of the plan: From April 1, 2017 to March 31, 2019 (2 years)

- Objective 1** 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 2** 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** Launch a portal site in support of the continuation of employment which introduces internal systems systematically
- Objective 3** Foster a workplace culture for promoting women's participation and advancement in the workplace
- Measures** Continue to improve workstyles while conducting training, etc., to further promote women's participation and advancement in the workplace
- 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	2014	2015	2016
Number of employees who took childcare leave (male employees in parentheses)	11(6)	6(3)	14(5)
Childcare leave rate for female employees	100%	100%	100%
Rate of annual paid leave taken	72.3%	73.2%	69.8%
Overtime work (monthly average)	17.7hours	17.3hours	16.1hours

■ 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 33 employees have taken this leave up to fiscal 2016.

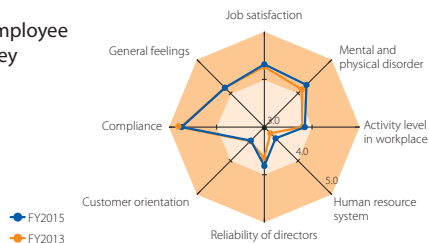
■ Mental Healthcare

We provide mental health checkups for all our employees (consultation rate: 94.2% in fiscal 2016). We also provide workshops focused on preventing mental health problems. In addition, we provide free counseling and similar services through our mental health support system contracted through the company's healthcare trust for employees as well as their families.

■ Employee Awareness Survey

To increase employee job satisfaction we have conducted an employee survey every two years since fiscal 2013. We added a comment section to the survey so that employees could anonymously share any information on activities that may violate human rights and compliance requirements. In fiscal 2016 we implemented measures to overcome the weaknesses indicated in the fiscal 2015 survey.

● Results of the Employee Awareness Survey



Employee Status

► GRI102-7, 8

● Employee Status (as of the End of FY2016)

(Unit: person)

		Female	Male	Total
Non-consolidated	Permanent employees	131	1,571	1,702
	Temporary employees	9	49	58
Consolidated	Permanent employees	1,496	11,512	13,008
	Temporary employees	271	598	869

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

Sound Labor-Management Relations

► GRI102-41, 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 which provide opportunities for labor and management to exchange opinions and negotiate issues on the basis of mutual trust and understanding. In fiscal 2016, 45 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 these 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 since fiscal 2014 that provide them, as well as the employees, with a valuable opportunity to interact directly. In fiscal 2016 these sessions were held at all our 18 business sites and attended by 1,184 people. In the post-survey, 92% participants regarded the sessions as a valuable opportunity for direct communication between executive officers and employees.





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 we continuously advance organized programs for health, safety and security to eliminate work-related accidents and create comfortable working environments, including in our supply chain.

► GRI103-2, 3

Taiheiyo Cement Health & Safety Policy

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

Taiheiyo Cement Health & Safety Policy

We are aware that the health, safety and security 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 Taiheiyo 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

We have assigned a Health & Safety Committee at each business site, including plants, quarries and branches, which are overseen by the Companywide Occupational Health & Safety Committee at our headquarters (chaired by the officer in charge of safety). The committees have representatives from both management and labor. The Companywide Occupational Health & Safety Committee collects safety related data from our group companies as well as the company itself and provides guidance. We began using the

OSHMS* at the company in 2002 and have been running the system at all cement plants and quarries since 2003.

*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



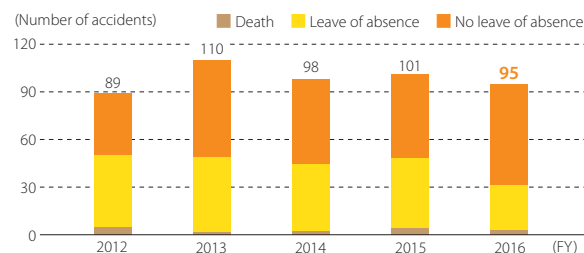
■ Safety Operation Officer Certification System

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, which restricts participants to those who have completed the foreman training course stipulated in the Industrial Safety and Health Act.

■ Work-related Accident Database

We have maintained a work-related accident database since fiscal 2008 to help avoid the recurrence of accidents. The database 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

► GRI403-2

In response to the frequency of serious accidents that occurred in our group companies in fiscal 2015, the safety emergency declaration was issued by the president in August 2016 to all our companies. In September we held an emergency safety meeting, convening all managers of business sites and the presidents of major affiliates. Moreover, we started taking action to improve the current situation by establishing a new safety management group in October which oversees the group's health and safety management.

Consequently the safety measures of our partner companies have been strengthened, the top down/bottom up approach and the restructuring of the safety system have progressed, and safety awareness, alertness and communication among employees have improved, resulting in fewer accidents.

Despite these efforts there were two fatalities at our overseas group companies. Focusing particularly on some of our overseas sites where the practice of effective risk visualization tends to be insufficient, we will work to eliminate workplace fatalities by conducting a safety awareness survey and taking measures to further strengthen safety management while promoting cooperative safety practices.

► Quantitative results related to safety are listed on page 64.

Strengthening Safety Guidance at Group Companies

As part of the safety improvement measures of the group for fiscal 2016, we formulated and implemented measures to improve the safety practices of all our business sites and group companies.

Especially for our group companies we provided detailed safety guidance such as training focused on the mastering of our basic safety rules. This included the formulation and posting of basic safety rules (six safety principles and ten promises to eradicate unsafe behaviors), daily repetition of basic rules before the start of work (for inexperienced workers), carrying a safety notebook that can be referred to whenever needed and visualization of risks using the KY board (risk prediction board).

Hands-on Safety Training

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 2016 was conducted at the Saitama plant on November 17 and 18 with a total of 132 employees from the Saitama plant and partner companies, who enthusiastically participated in and experienced simulated dangers involving heights, rotating equipment, electricity and an object hanging from a crane.



Experiencing getting caught in machinery

Health Management

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 2016 was 100%. We also hold clinics and provide information through an in-house newsletter for their health maintenance and improvement.

● Absence Rate (Non-consolidated)

(Unit: %)

	FY2012	FY2013	FY2014	FY2015	FY2016
Absence Rate	0.531	0.570	0.547	0.439	0.448

Health Issues Caused by Asbestos

The status of health issues related to asbestos at Taiheiyō Cement is that of the former employees with certified work-related injuries/illnesses, 42 have died and 8 are currently undergoing treatment (as of July 31, 2017).

We conduct continuing health examinations of employees who have been involved in the manufacture of products using asbestos, with a focus on retired plant workers. As of this time no nearby residents have reported health problems so we are not conducting health examinations for nearby residents.

Please visit our website for more information.

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



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 Taiheiyo Cement Group.

▶ GRI103-2, 3, 203-1, 413-1

● Major Activities (FY2016)

Theme	Activity	Sessions	Attendees	Examples
Protection of the local environment	Community briefing	55	1,017	• Briefing on waste treatment
	Brief the community on environmental issues	9	322	• Brief members of a neighboring community on environmental issues
	Environmental monitoring system	64	37	• Meetings, briefings and social gatherings of environmental monitors
	Community cleanup activities	209	1,237	• Cleaning of roads and rivers surrounding business sites • Participating in a community cleanup activity
Promotion of local culture and communication	Community forest conservation and nature protection activities	137	–	• 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
	Plant and quarry tours	311	8,604	• Plant and quarry tours for children, students, residents and government entities in a community
Regional development	Opening facilities to the public	1,212	13,418	• Providing schools and local organizations with access to our grounds, gymnasiums and meeting rooms
	Sponsoring, participating in and cooperating in local events	250	45,380	• Sponsorship of a boys baseball tournament • Participating and cooperating in a sports tournament, community festivals and events
Education and development of human resources	Provision of materials and rental of heavy machinery	27	339	• 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	20	437	• 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	10	124	• Participation and cooperation in activities to support the development of local industries • Providing industrial water for agricultural use
	Disaster prevention activities	–	–	• Conclusion of a regional disaster assistance agreement • Regional joint disaster prevention drills, regional fire-fighting activities
Support for areas affected by disaster	Others	–	–	• Support for economically distressed areas
	Scholarships	–	–	• Scholarships for students who need financial assistance living near our business sites
	Developing engineers	–	–	• Opening free concrete technology schools to train concrete engineers • Implementation of technical guidance programs
Support for areas affected by disaster	Internships and career experience opportunities	50	7,829	• Acceptance of domestic and foreign interns • Technical guidance for university students • Career experience, on-site training at quarries
	Others	7	1,038	• Provision of materials for building schools in local communities
Support for areas affected by disaster	Volunteering to support areas affected by disaster	10	43	• Participation in support groups • Free lease of company-owned land for use as a community gathering place in the stricken areas • Volunteer activities for the affected areas

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 also periodically report on the status of our acceptance of waste and by-products for recycling, emissions measurements and other information of community interest. 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. Furthermore, we offer tours of our business sites, especially our plants, to local residents and the families of our employees with a focus on school children and college students, as well as to government entities, people from industry and others.

■ Participation in the Hokutoshi Tree-planting Festival (Kamiiso Plant)

The Kamiiso plant has participated in the May community tree-planting festival hosted by Hokuto City, where the plant is located, since the event started in 2006. In 2016 the festival

was held jointly with the Hokkaido Tree-planting Festival and hosted by Hokkaido Prefecture in celebration of the 10th anniversary of Hokuto City's incorporation and the opening of the new Hokkaido Shinkansen line. Nine employees from the Kamiiso plant participated in the festival, which provided them with the opportunity to consider environmental protection through tree planting while deepening their relationship with local residents.



Kamiiso plant employees at the tree-planting festival

■ Museum Exhibition of Rare Plants (Chichibu Taiheiyo Cement Corporation)

The Miwa Quarry of Chichibu Taiheiyo Cement Corporation has engaged in conservation activities for rare plants native to the mining area since 1972. Rare plants that have been raised under the company's protection, including Chichibu *primula tosaensis*, purple gromwell and Miyama *lilium maculatum*, are exhibited at the Mt. Bukoh Museum every year when they are flowering. The museum welcomed 1,360 visitors during Golden Week this year.



Chichibu *primula tosaensis* at the exhibition

■ Roadside Cleanup around the Plant (Fujiwara Plant)

Each year in June and October the Fujiwara plant conducts a roadside cleanup around the facility in collaboration with its partner companies. Recently each community association in the Inabe area has been organizing community protection committees and enthusiastically conducting environmental conservation activities. As a member of the community the Fujiwara plant will continue to contribute to the preservation of the local environment through cleanup campaigns.



Regular cleanup activities

■ Burrowing Owl Conservation Activities (CalPortland Company, U.S.)

CalPortland Company is taking action to protect the endangered burrowing owls in Arizona State in cooperation with an NPO. The owls are especially valuable for farmers in the area because they prey on insects that harm their agricultural interests. In North America this owl's habitat is diminishing every year as land development progresses. With the cooperation of experts, CalPortland Company has constructed burrowing owl habitats within their quarry site and created an ideal environment for these birds to grow healthily. They fed the owls daily and successfully bred them as well. With the help and cooperation of experts and local residents, CalPortland's efforts to protect these endangered owls were ultimately considered successful.



A burrowing owl living in a protected habitat created at the quarry site

■ Reconstruction of the Aggregate Plant for Closed Production and Silo Storage (Qinhuandao Asano Cement Co., Ltd., China)

In August 2016 the aggregate plant at the quarry of Qinhuandao Asano Cement was reconstructed to enable closed production and silo storage of aggregates produced and stored in open air spaces. The remodeling has already been adopted by our aggregate companies in Qinhuangdao City, allowing us to produce the highest quality aggregates in the industry. We will continue to contribute to reducing environmental impact while also seeking to attain coexistence and prosperity with the region.



Reconstructed aggregate plant for reducing environmental impact

Promotion of Local Culture and Communication

■ Lighting the Torch with the Flame of the Ofunato Plant (Ofunato Plant)

The torch of the 71st National Sports Festival, which was held in Iwate in October 2016, was lit by the flame of Iwate Prefecture which, in turn, had been passed on from all the prefecture's cities and towns. In Ofunato City the flame was picked up at the Ofunato plant that supported the city's industries for many years and also significantly contributed to the restoration following the Great East Japan earthquake. At the lighting ceremony the plant manager lit the ignition rod with the flame from the rotary kiln and then passed it to the torch held by the mayor of Ofunato City.



At the torch lighting ceremony for the National Sports Festival in Iwate

■ Conducting Plant Tours (Kumagaya Plant)

The Kumagaya plant accepts about 2,500 plant visitors every year, ranging from elementary school children to members of local senior clubs and residents' associations, business operators, government personnel, regulatory authorities and foreign visitors. They are always impressed with the scale of our plant and how we treat waste. We will continue to disseminate accurate information and knowledge through our plant tours to help visitors understand our operations.



Helping visitors understand cement plant operations

■ Opening a Lecture Hall and Sports Grounds for Community Use (Saitama Plant)

The Saitama plant opens its lecture hall and sports grounds to local residents free of charge. They use the hall to practice Awa Odori and Japanese drums and they practice baseball and soccer on the sports grounds. People of all ages use the facilities for a variety of reasons including local sports events, festivals and as parking lots for the entrance and commencement ceremonies of nearby kindergartens.



Local children practicing soccer on the plant's sports grounds

■ Participation in the Tsukumi Folding Fan Dance Festival (Oita Plant)

The Oita plant takes part in various local events to deepen its relationship with the surrounding communities. Fifty plant employees participated in the Tsukumi Folding Fan Dance Festival, held every August, and enlivened the event with matching yukata and zori sandals. The Tsukumi folding fan dance with its beautiful movements has a history of about 450 years as a traditional performance that represents Tsukumi City. Every year about 800 people of all ages perform this beautiful dance at the festival.



Plant workers with matching yukata at the festival

■ Sports Events to Promote Regional Exchanges (Nghì Son Cement, Vietnam)

We have been conducting activities to bring Nghì Son Cement closer to local people. These activities include sports events that we conduct for local administrative agencies. We also convene meetings after the events to facilitate dialogue with staff members of the local administrative agencies. Looking ahead we will continue to build strong public-private relationships and contribute to regional development.



Interacting through sports with staff members of local administrative agencies

Regional Development

■ Removing Snow with Heavy Machinery (Buko Mining, Co., Ltd.)

Buko Mining has been maintaining the main roads in the Negoya district as a member of the transportation committee created by Yokoze town, Negoya district and four companies in the vicinity. For example, we partner with three other committee members to spray anti-freezing agent and remove the snow that has accumulated on the roads. We will continue to contribute to regional development while maintaining open communication with local communities.



Removing snow from the road around the plant

■ Providing Free Medical Services (Taiheiyo Cement Philippines, Inc., Philippines)

Since 2006 the company has been providing free medical services to 12 districts of San Fernando, where its plant is located, and has treated a total of 20,000 local residents to date. In fiscal 2016 the company dispatched doctors, dentists, nurses and employee volunteers to four districts near the plant's mine site and conducted free medical services, including checkups and dental care as well as distributing medicine and reading glasses to about 2,500 locals. Many people in the Philippines are unable to receive appropriate medical services due to financial reasons and therefore local residents and government bodies have been very grateful for the company's support.



An employee volunteer explaining the free medical services to local residents

■ Implementing a Life Support Program (Taiheiyo Cement Philippines, Inc., Philippines)

In fiscal 2016 the company conducted life support activities for local residents of three districts. A total of 12 goats were donated to farmers in the Bugho district and goat experts were there to give a seminar on raising goats, which included information on keeping them healthy and breeding.



Goats donated to farmers

Education and Development of Human Resources

■ Visiting Lecture at an Elementary School (Central Research Laboratory)

One of our researchers at the Central Research Laboratory served as a lecturer for a special sixth grade class entitled "Building My Career Plan" at Yachiyodai Elementary School in Yashiyo City, Chiba Prefecture. The class covered various regional contributions made by cement companies and discussed the fun of research and development. The children listened intently and showed a lot of interest in how various kinds of waste can be turned into cement and concrete to support communities while also contributing to the creation of a recycling-based society.



Children listening intently to our researcher

■ Conducting a Fire Drill (Dalian-Onoda Cement Co., Ltd., China)

Dalian-Onoda Cement has appointed and positioned a firefighting division and firefighting members within the company and at partner companies and conducts fire drills twice a year with lecturers invited from the local public security department. In fiscal 2016 the fire drills were conducted in May and November with a total of 100 participants. In addition, the company strived to raise employee awareness through efforts such as displaying posters on firefighting in the cafeteria.



Extinguishing a fire during a drill

■ Continued Implementation of the Scholarship System (Taiheiyo Cement Philippines, Inc., Philippines)

The 2016 scholarship award ceremony was held in June at the plant of Taiheiyo Cement Philippines and welcomed 12 high school students as new scholarship recipients. Taiheiyo Cement Philippines has been sponsoring the scholarship system since 2005 as part of its regional support project, the Social Development Management Program. Currently there are 72 scholarship students, 61 high school students and 11 university students who the company provides with monthly living expenses and tuition (full tuition for university students). The company intends to contribute through this program to local communities and society at large by supporting highly motivated students who are unable to receive formal education due to economic hardship and helping them develop as the driving force for regional development. Ten scholarship students are now working members of society and six are Taiheiyo Cement Philippines employees. The scholarship system is serving as a bridge between the company and the community.



Scholarship award ceremony held at the plant

■ Developing Concrete Engineers (Nghi Son Cement, Vietnam)

In Vietnam, where infrastructure development is underway in the wake of rapid economic growth, the need for more competent engineers has become an urgent public concern. Nghi Son Cement has opened a free concrete technology school to train Vietnamese concrete engineers. With 85 new

graduates in fiscal 2016, the number of graduates as of March 2017 was 1,289. The company will continue to support Vietnam's growth through the development of human resources.



At the graduation ceremony

■ Supporting Areas Affected by Disaster

■ Participating in the IPPO IPPO NIPPON Project in Support of Areas Affected by the Great East Japan Earthquake (Taiheiyo Cement Corporation)

We endorse and participate in the IPPO IPPO NIPPON Project, which is organized by the Japan Association of Corporate Executives and supports areas affected by the Great East Japan Earthquake. The project also serves as a platform for people who are particularly in need of support through donations. With the themes "development of human resources" and "revitalization of economy" it carries out medium and long-term support activities such as providing training materials for vocational schools.



■ Providing Relief Supplies for Yangtze River Flood Damage (Jiangnan-Onoda Cement Co., Ltd. in China)

In 2016 severe flooding occurred along the Yangtze River and had an impact on Nanjing City. Jiangnan-Onoda Cement, which is also on the river so that it can easily ship cement, sought a way to help out and ultimately provided relief supplies such as food and drink to the local emergency response branch after being referred by the Safety Supervisory Bureau of the Qixia District, Nanjing. The company's relief effort was featured on the Qixia District's website.



Providing relief supplies to damage-stricken areas

In accordance with the CSI Charter member companies pledge to publicly disclose their performance on the priority issues in 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 CO₂ 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 CO₂ and climate protection, emission monitoring and reporting, health and safety, and water, has been third-party certified by KPMG AZSA Sustainability Co., Ltd.

CO₂ Emission Reduction Targets

Cement production-related CO₂ emissions from Taiheiyō Cement and group companies

Reduce specific net CO₂ 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_x, SO_x and dust from the main stacks of kilns at the cement production sites of Taiheiyō Cement and group companies

Limit NO_x, SO_x and dust levels per tonne of clinker (g/t-clinker) to the target levels achieved in fiscal 2010

■ Key Performance Indicators of the CSI for Fiscal 2016*1

CO ₂ and Climate Protection (CO ₂ emissions, energy consumption)		FY2014	FY2015	FY2016
Number of facilities using CSI's "The Cement CO ₂ and Energy Protocol" guidelines for emissions inventory		22	22	18
Percentage of facilities using CSI's "The Cement CO ₂ and Energy Protocol" guidelines for emissions inventory (%)		100	100	100
Total CO ₂ emissions (million tonnes/year)	Gross	33.4	33.3	22.7
	Net*2	32.1	31.9	21.9
CO ₂ emissions per tonne of cementitious product*3 (kg-CO ₂ /t-cementitious)	Specific gross CO ₂ emissions	720	721	708
	Specific net CO ₂ emissions	692	692	683
Emissions from electricity purchased (million tonnes/year)		1.7	1.6	0.886
Specific heat consumption of clinker production (MJ/t-clinker)		3,305	3,288	3,306
Alternative fuel rate (% of thermal energy consumption) of kiln		12.7	13.3	11.3
Biomass fuel rate (% of thermal energy consumption) of kiln		2.2	2.2	1.8
Clinker/cement ratio (%)		83.9	84.1	83.1

Alternative Raw Materials Use	FY2014	FY2015	FY2016
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)	15.7	15.1	15.5

Health and Safety	2014	2015	2016
Fatalities			
Number of fatalities for directly employed	0	0	0
Fatality rate per 10,000 for directly employed	0	0	0
Number of fatalities for indirectly employed (contractors and subcontractors)	1	1	0
Number of fatalities involving third parties (not employed)	0	0	0
Lost-time injuries			
Number of lost-time injuries for directly employed	9	12	8
Injury frequency rate (per 1,000,000 man-hours directly employed)	0.88	1.18	0.97
Number of lost time injuries for indirectly employed (contractors and subcontractors)	13	5	10

Emission Monitoring and Reporting		FY2014	FY2015	FY2016
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 _x	99.9	99.9	100
	SO _x	54.0	52.6	81.6
	Dust	99.9	99.9	100
Total emissions (tonnes/year)	NO _x	55,503	53,019	32,897
	SO _x	2,947	1,712	2,108
	Dust	1,969	1,674	1,057
Specific emissions (g/t-clinker)	NO _x	1,404	1,342	1,221
	SO _x	75	43	78
	Dust	50	42	39

Local Impacts	FY2014	FY2015	FY2016
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	4	4	3

Water		FY2014	FY2015	FY2016
Amount of withdrawal (1,000 m ³)	Fresh water	35,791	35,083	26,719
	Seawater	151,535	148,836	146,097
Amount of discharge (1,000 m ³)	Fresh water	14,253	13,871	12,964
	Seawater	151,535	148,836	146,097

*1 Accounting and reporting of KPIs for fiscal 2016 is in accordance with the WBCSD-CSI's guidelines in "The Cement CO₂ and Energy Protocol" Ver. 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" Ver. 4.0, "Emissions Monitoring and Reporting" Ver. 2.0, "Guidelines on Quarry Rehabilitation" and "Protocol for Water Reporting" Ver. 1.0. 100% of data for subsidiaries and partner companies (regardless of percentage of ownership) subject to aggregation is counted.

*2 Net CO₂ emissions: gross CO₂ emissions minus the CO₂ 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 of the CSI under the following areas (the “CSI KPIs”) included in its CSR Report 2017 (the “Report”) for the fiscal year ended March 31, 2017.

- CO₂ and climate protection ¹
- Health and safety ²
- Emission (NOx, SOx and dust from kilns) monitoring and reporting ¹
- Water ¹

1 Periodic accounting is based on the fiscal year 2016 for domestic plants and the calendar year 2016 for overseas plants.

2 Periodic accounting is based on the calendar year 2016 for domestic and overseas plants.

The Company’s Responsibility

The Company is responsible for the preparation of the CSI KPIs in accordance with the following standards (the “Criteria”) issued by the Cement Sustainability Initiative of the World Business Council for Sustainable Development:

- CO₂ and Energy Accounting and Reporting Standard for the Cement Industry Version 3.1
- Guidelines for Emissions Monitoring and Reporting in the Cement Industry Version 2.0
- Safety in the Cement Industry: Guidelines for measuring and reporting Version 4.0
- Protocol for Water Reporting Version 1.0

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the CSI KPIs based on the procedures we have performed. We conducted our engagement in accordance with ‘International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information’, ‘ISAE 3410, Assurance Engagements on Greenhouse Gas Statements’, issued by the International Auditing and Assurance Standards Board, and the ‘Practical Guidelines for the Assurance of Sustainability Information’ of the Japanese Association of Assurance Organizations for Sustainability Information. 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 with the Company’s responsible personnel to obtain an understanding of its policy for the preparation of the Report.
- Inquiring about the design of the systems and methods used to collect and process the CSI KPIs.
- Performing analytical reviews of the CSI KPIs.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the CSI KPIs in conformity with the Criteria, and also recalculating the CSI KPIs.
- Visiting to the following four out of a total of 18 plants of the Taiheiyo Cement Group, selected on the basis of a risk analysis. (CO₂ emissions covered by the plants visited correspond to 37% ³ of the combined total of the Group’s CO₂ emissions.)

3 Based on the amount of absolute gross CO₂ for the fiscal year 2016 for domestic plants and the calendar year 2016 for overseas plants.

<u>Overseas plants</u>	<u>Domestic plants</u>
<ul style="list-style-type: none"> - Nghi Son Cement Corporation 	<ul style="list-style-type: none"> - Taiheiyo Cement Corporation: Oita Plant - DC Co., Ltd. - Myojyo Cement Co., Ltd.

- Evaluating the overall statement in which the CSI KPIs are expressed.

Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the CSI 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 6, 2017

Editorial Policy

Through this report we intend to convey how we conduct our CSR activities to our stakeholders. The report will also serve 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 2017 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 67) 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. Pages 6 and 7 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.
- We implemented a review of materiality in accordance with the GRI Standards and updated material issues, making clear the relevance of our business risks and opportunities to the SDGs.
- We convened a dialogue under the theme of “Long-term Risks and Opportunities.”
- In each section of the report we indicated the relevant indicators of the GRI Standards as well as relevant SDG icons.

Guidelines Used for Reference

- GRI G4 Sustainability Reporting Guidelines (Version 4)
- GRI Sustainability Reporting Standards 2016
- Environmental Reporting Guidelines 2012 Edition (Ministry of the Environment)
- Environmental Accounting Guidelines 2005 Edition (Ministry of the Environment)

Publication Dates

September 2017 (previous report: September 2016, next report: September 2018)

Clarifying Our 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.

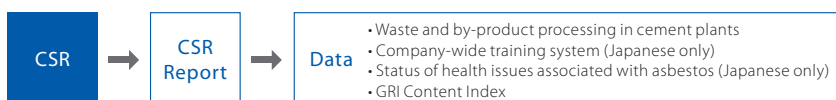


Reporting in Accordance with the GRI Standards

This report is prepared in accordance with the GRI “Core” Sustainability Reporting Standard 2016. The GRI Content index is available on our website:

■ <http://www.taiheiyo-cement.co.jp/english/>
 CSR → CSR Report → Data

The following information is available on our website.
<http://www.taiheiyo-cement.co.jp/english/>



Contact Information

TAIHEIYO CEMENT CORPORATION Corporate Social Responsibility Group, General Affairs Department
 Tel: +81-3-5531-7335 Fax: +81-3-5531-7552 E-mail: webmaster@taiheiyo-cement.co.jp

Scope and Boundaries of this Report

Reporting Period

Fiscal 2016 (April 1, 2016 to March 31, 2017)

We have also included information about events that occurred after this period when we deemed them of importance. In such cases this 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)

Scope of data collected for WBCSD*1-CSI*2 KPI reporting. Organizations covered are listed on page 7.

Category 3 (others)

- Material Balance of Business Activities (pages 46 and 47) and Volume of Waste to Landfill (page 43): Organizations covered are listed on page 47.
- Number of Fatalities (page 6) and the number of accidents registered in the Work-related Accident Database (page 58): employees of the company, group companies (including overseas) and our partner companies.

*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 CSI: Cement Sustainability Initiative

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.



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.

This is a translation of the Japanese-language report. If there is any discrepancy between the two versions, the Japanese version takes precedence.

Eiichiro Adachi

Counselor, the Japan Research Institute, Limited



This year's edition of the Taiheiyo Cement Group's CSR Report provided an opportunity for me to think again about what activities companies should get involved in and what information they should communicate during this period of industry transition.

Environmental and social values associated with concrete and its constituent ingredient, cement, can change considerably over time. For example, aquifer recharge and the use of natural energy sources such as solar and wind power are beginning to replace the earlier reliance on dams for water control and power generation because of their lower environmental impact. And, among building materials, wood is highly valued for its sustainability. Nevertheless, concrete and cement are expected to become even more important for reinforcing buildings against earthquakes, renewing social infrastructure and adapting to a dramatically changing climate.

Since cement production in Japan reached its highest level in fiscal 1996 at 99,267,000 tonnes, output has dwindled to 59,271,000 tonnes in fiscal 2016, 60% of its peak. Meanwhile, the cement industry has been accepting surplus

construction soil, waste materials and by-products from other industries as ingredients for cement. This has led to the awareness that a disruption in cement production would seriously impact the disposal of industrial wastes in Japan.

The Taiheiyo Cement Group's vision and direction targeting the mid-2020s states that the group intends "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." To convince investors and other stakeholders that this commitment is genuine, I believe you should consider drawing a more specific picture of your future business portfolio and pathway to creating higher corporate value. I suggest that several structural and editorial changes would improve this report so that it more thoroughly describes the relationships between your CSR activity policy, initiatives and results with the overall market outlook, trends and pace of change.

In particular, I found the report on labor accidents to fall short of my expectations, which included finding a more comprehensive accounting of the reasons behind the safety emergency declaration in fiscal 2016, the countermeasures taken and the remaining issues. Furthermore, most of the specific examples in the report are associated with operations in Japan, despite the facts that 40% of group employees are working outside Japan and 25% of group consolidated sales are outside Japan. This leaves room for improvement given the major concern for how Japanese companies govern their overseas subsidiaries and affiliates, control associated risks and globally operate their personnel systems. I hope the next CSR report will disclose more information on these issues.

Response to Third-Party Opinion

We are deeply grateful for Mr. Adachi's evaluation of our company initiatives this year as well as for those he provided for the previous two years.

While we agree that it is ideal to draw a more specific picture of the future business portfolio and pathway to creating higher corporate value, as Mr. Adachi has advised, we also acknowledge this as his encouragement for us as we struggle to accomplish that objective. However, given the difficulty of foreseeing the business environment, we will seek to draw that picture by deepening our stakeholder engagement and internal discussions.

In response to Mr. Adachi's remark on the safety-related information falling somewhat short in this report, against the backdrop of our claim to uphold safety as a top priority, in future we will dedicate more pages for a fuller context. Although our group companies, including those overseas, have been working to diversify their initiatives, their efforts have yet to yield notable results, so we will report more on their endeavors as well.

Moreover, we will further strengthen our communication with stakeholders so that we can better meet the expectations of society for the cement industry. Additionally, we look forward to receiving frank opinions on this report from readers.

Shigeru Matsushima

Director, Senior Executive Officer, CSR





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.



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