TAIHEIYO CEMENT REPORT2021

Integrated Report

TAIHEIYO CEMENT CORPORATION

Mission of the Taiheiyo Cement Group

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

We are committed to maximizing our corporate value by generating synergies among Taiheiyo Cement Group 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 of the economy, the environment and society, to realize sustainable development, a shared principle of the GCCA and 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.

Editorial Policy

In the report, we convey to our stakeholders how we conduct activities to address social issues and sustainably increase corporate value. We aim to deepen mutual understanding through constructive dialog and further evolve management while raising the level of disclosure.

Guidelines Used for Reference
- The International Integrated Reporting Framework (IIRC)
- Guidance for Integrated Corporate Disclosure and Company-Investor Dialogues for Collaborative Value Creation (Ministry of Economy, Trade and Industry)
- GRI Sustainability Reporting Standards (GRI Standards) 2016/2018
- Environmental Reporting Guidelines 2018 Edition (Ministry of the Environment)
- Environmental Accounting Guidelines 2005 Edition (Ministry of the Environment)
- ISO30414

Publication Dates
November 2021 (Previous report : December 2020, next report : October 2022)

Reporting in Accordance with the GRI Standards
The index for the GRI Content core option is available on our website.

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

CONTENTS

Scope and Boundaries of this Report

Reporting Period
FY2021
(April 1, 2020 to March 31, 2021)
It is clearly stated where information about events that occurred outside this period are included in the report.

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 displayed with data for categories 1 and 2.

Category 1 Non-consolidated Taiheiyo Cement Corporation (non-consolidated)
Category 2 GCCA Data collected for reporting of GCCA* KPIs. Organizations covered are listed on pages 10-11
Category 3 (Others)
- The Material Balance of Business Activities is listed on pages 80-81 and the Volume of Waste to Landfill is listed on pages 77 and 81
- Number of Fatalities (page 97) and the Number of Accidents Registered in the Work-related Accident Database / Number of Work-related Accidents that Occurred / Breakdown of Accidents by Type (page 89): Employees of the company, group companies (including overseas) and our contractors

* GCCA: Global Cement and Concrete Association

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.

Message from Top Management

Masafumi Fushihara
President and Representative Director

Aiming to continue our growth and become an outstanding leading company

Our mission is not merely to achieve financial growth, but to also develop business activities that are environmentally sound and make a positive contribution to society. Adhering to that mission, we aim to become a leading company in the Pacific Rim based around our cement business in Japan and our mineral resources, environmental and construction materials businesses. In addition to expanding our businesses globally, we have contributed to the preservation of the global environment and the creation of a recycling-based society via the special characteristics of our cement plants that make it possible to process and recycle large amounts of waste and by-products, and by maximizing the recycling technologies we have cultivated over the years.

We are currently moving forward with various strategies in the three steps of the 17 Medium-Term Management Plan, 20 Medium-Term Management Plan and 23 Medium-Term Management Plan in order to achieve our stated future vision and direction of becoming an enterprise group capable of providing a sense of safety and security to communities in the Pacific Rim by the mid-2020s. As a result of the initiatives in the first two aforementioned medium-term management plans to boost corporate value and establish a solid business foundation, I believe we were able to build an earnings foundation capable of maintaining operating income of 60 billion yen despite the unprecedented business environment created by the COVID-19 pandemic, which even delayed the holding of the Tokyo Olympics and Paralympics.

The 23 Medium-Term Management Plan is the final step towards achieving rapid progress, and I also see this as a period in which not just Taiheiyo Cement but the Japanese cement industry as a whole will be required to display business boldness and a determination to survive and commit to effective initiatives aimed at sustainable growth. In that business environment, the Taiheiyo Cement Group will contribute to the creation of a sustainable society, and lay solid groundwork for our next growth stage.

Results of Our Performance in FY 2021

In addition to achieving operating income of more than 60 billion yen for eight terms in a row, despite the COVID-19 pandemic, the achievement of our 20 Medium-Term Management Plan goals regarding growth investment, the further strengthening of our financial structure, and shareholder returns

In FY2021, factors such as the increase in COVID-19 infections around the world and the declaration of a state of emergency in Japan had a direct impact on sales of cement, concrete and building materials due to reduced demand for construction and project delays. As a result, FY2021 saw the lowest domestic demand for cement in 54 years. In addition, economic activities in general slowed down and there was also extensive stagnation in corporate activities, including in industries which have close links with our Mineral Resources Business and Environmental Business, such as the steel, paper and power industries. Overseas, some of the regions in which we operate were subject to lockdowns due to the impact of the COVID-19 pandemic. In the U.S., however,

demand for housing increased due to factors such as lower interest rates on housing loans and the increase in telecommuting. As a result, cement and ready-mixed concrete performed well in terms of sales volume and price. Under these business circumstances the group's net sales for FY 2021 declined from the previous fiscal year to 863.9 billion yen. However, operating income for FY 2021 increased to 63.6 billion yen.

Furthermore, in FY2021 which was the final year of the 20 Medium-Term Management Plan, we worked on establishing a solid business foundation while maintaining a balance with investing for continued business growth, strengthening our financial structure and enhancing shareholder returns.

Even though there were only limited opportunities to visit and negotiate, we were able to decide on appropriately timed investments for growth, including a capital and business alliance with a state-run group of cement companies in Indonesia and renovation of production lines at our cement plant in Cebu, Philippines.

We had set a net debt/equity ratio (DER) of 0.5 times or less as a guideline for the strengthening of our financial structure, but were able to surpass it by the end of FY2020, one year earlier than planned. The net DER at the end of FY2021 had improved to less than 0.4 times.

With regard to shareholder returns, we continued steady dividend payments of 60 yen per share during the three years of the plan (in FY2019 an additional commemorative dividend meant that the dividend payment per share was 80 yen.) In addition, we purchased 15 billion yen of treasury shares to achieve a total return ratio of around 30% for the period of the 20 Medium-Term Management Plan.

Unfortunately, given the aforementioned business environment, we were unable to achieve the operating income on net sales and ROA we had set as management targets. In particular, issues still remain with regard to reinforcing the earnings foundation of our domestic business. We identify this as a key management challenge that the Taiheiyo Cement Group will continue to tackle under the 23 Medium-Term Management Plan.

Outline of the Medium-Term Management Plan

Establish a business foundation with long-term stability, and aim to become an outstanding leading company

With regard to the business circumstances surrounding the Taiheiyo Cement Group, there are fears the downturn in demand for cement may continue for a certain period given the considerable impact of the growing momentum for CO_2 reductions, and also depending on when the COVID-19 pandemic comes to an end. In addition to the issue of the aging workforce on construction sites, the labor shortage is intensifying in the construction and logistics industries since the lengthy impact of the COVID-19 pandemic means that overseas workers cannot re-enter the country. If there are further delays to projects there is the possibility that the recovery of demand for cement will also be delayed.

On the other hand, given that climate change is becoming increasingly obvious in recent years, and it seems that every year major disasters occur, the government has announced a policy of building national resilience by actively promoting measures to prevent or mitigate damage from natural disasters. In Japan we anticipate that the current steady demand for cement will continue for a while due to factors such as redevelopment projects in urban areas, and the fact that construction work related to the Linear Chuo Shinkansen (maglev) is expected to start in earnest. Given that business environment we expect demand to fluctuate by around 40 million tons over the next decade or so.

Bearing in mind that anticipated demand, the Taiheiyo Cement Group has formulated the 23 Medium-Term Management Plan covering the three-year period from FY2022 to FY2024 based on our philosophy of contributing to the creation of safe and stable social infrastructure by continuing to provide essential products and technical services for the development of social infrastructure and for projects to prevent or mitigate damage from natural disasters, and maximizing our corporate value. Under the 23 Medium-Term Management Plan we will aim to construct a business model unique to us, where all businesses in our group function together comprehensively and integrally, with the aim of becoming an outstanding leading company. Our business targets for FY2024, the final year of the plan, are an operating income on net sales of 11% or more, and an ROE of 10% or more. We have adopted the following indicators as guidelines for achieving those targets.

- Net sales 750 billion yen or more
- Operating income 85 billion yen or more
- EBITDA 145 billion yen or more
- Net debt/equity ratio (DER) Around 0.4 times
- Net interest-bearing debt/EBITDA 1.5 or less

We plan to generate a cash flow of 330 billion yen over the three-year period of the 23 Medium-Term Management Plan by means of our cash flow, capital gains and so on, and, in principle, carry out new investment aimed at sustainable growth and implement shareholder returns while maintaining a net DER ratio of around 0.4 times.

Aiming to achieve carbon neutrality via sustainable growth investments

We plan to implement 280 billion yen of capital expenditure and investment and financing over three years, of which 120 billion yen will be allocated to growth investments. In addition, with the aim of strengthening the business foundation that supports our sustainable growth, we plan to prioritize the following themes: maintaining growth investment; implementing initiatives aimed at achieving carbon neutrality; enhancing our plants, mines and quarries; and restructuring our businesses in Japan. Amongst these themes, we recognize that the achievement of carbon neutrality plays a central role in our growth strategies, since establishing technologies for net zero CO_2 emissions is one of the most important challenges for the future of the cement industry, where CO_2 emissions from raw materials are unavoidable.

We published the Framework for Our Long-term Vision of Greenhouse Gas Emissions Reduction toward 2050 in March 2020. The goals stated in it were, in addition to an 80% reduction in CO_2 emissions in cement production, to contribute to reductions equivalent to 20% of CO_2 emissions throughout the cement value chain by 2050. However, in response to the carbon neutrality policy announced by the Japanese government in October 2020, we have revised the wording of that goal to "we aim to achieve carbon neutrality throughout the supply chain by 2050."

In order to achieve carbon neutrality, in addition to applying and developing existing technologies, it is essential that we develop innovative technologies and raise them to a level where they are practical and viable. We have set up the Carbon-Neutral Technology Development Project Team as a lateral in-house organization responsible for promoting the development of such innovative technologies. With the project team playing a core role, we will aim to establish at an early stage technologies that can feasibly be implemented by society, and to achieve carbon neutrality by 2050.

Aiming for sustainable growth by strengthening corporate governance, promoting diversity and creating a safety oriented culture

In addition to boosting our earnings capacity, we need to strengthen corporate governance, promote workplace diversity and create a safety oriented culture in order that the Taiheiyo Cement Group can achieve sustainable growth.

Recognizing that strengthening corporate governance is essential to boost our corporate value and fulfill our responsibilities to all our stakeholders, as a trusted company we will work even harder to maintain sound management.

Based on our awareness that respect for human rights and diversity are formative principles of a sustainable society, we will engage in various initiatives, such as promoting women's participation and advancement in the workplace, and adopting measures designed to attract diversity in our recruitment and offer a good work-life balance. We are striving to create employee-friendly workplaces where each employee can achieve professional growth. For example, we have set a ratio of at least 30% female recruits for jobs that have no geographical restrictions as our target in promoting women's participation and advancement in the workplace. Furthermore, in addition to aiming to create a suitable human resource portfolio with at least a 10% ratio of female employees, we are promoting an initiative aiming to increase the ratio of newly appointed female managers to at least 10%. Moreover, we engage in business activities based upon respect for human rights, and this includes our supply chains.

We consider the health and safety of our employees to be the foundation on which our company exists. We aim to eliminate work-related accidents and create comfortable workplace environments, and constantly engage in systematic health and safety activities. To be more specific, the Taiheiyo Cement Health and Safety Policy sets a target of zero work-related accidents, we have established our Companywide Health & Safety Committee chaired by the officer in charge of safety, and we are strengthening action at all our business sites and group companies that start with ensuring compliance with our safety rules. We are improving our OSHMS*, which was launched in 2002 and has been being rolled out to our cement plants, mines and quarries in Japan since 2003. Going forward, we will continue with our aim of creating a safety oriented culture.

* OSHMS:
Occupational Safety and Health Management System: A framework for reducing potential dangers at workplaces and promoting comfortable work sites by autonomously practicing continuous, uninterrupted health and safety management. Prescribed in the guidelines of the Ministry of Health, Labour and Welfare.

A Message to Our Stakeholders

The future envisioned by Taiheiyo Cement

Our business is based on cement. We have continued to grow while emphasizing the cement business and pursuing the potential of cement and concrete. We also contribute to the resolution of various social issues by providing environmentally sound products and working to create a recycling-based society. Securing a stable long-term source of limestone the raw material of cement, could be said to be a matter of life or death for Taiheiyo Cement, as we continue to achieve sustainable growth and contribute to society. We have already secured reserves in Japan of limestone equivalent to the total production volume of cement over the next 100 years. Going forward, we will continue with initiatives to enhance our plant facilities, mines and quarries, and will establish a system capable of ensuring a long-term stable supply of cement.

With regard to our overseas cement business, we will expand our business portfolio via steps such as our capital and business partnership with a state-run group of cement companies in Indonesia and renovation of production lines at our cement plant in Cebu, Philippines, strengthen our global logistics network, and strive to boost our market presence. At our business sites in each region we will deploy the advanced technologies we have nurtured in our Environmental and Mineral Resources businesses in Japan, and will aim to contribute to the development of local communities and to further boost our corporate value.

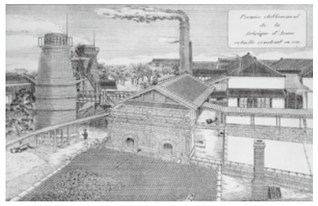
In addition to contributing to environmental conservation, resource recycling and measures against climate change via our business activities, we will strive to resolve transnational social issues by helping to create a sustainable society. This includes contributing to the protection of human rights and conservation of water resources and biodiversity, which are among the globally shared goals of the SDGs. We appreciate your kind understanding of our activities, and your expectations for our future growth.

History of the Taiheiyo Cement Group

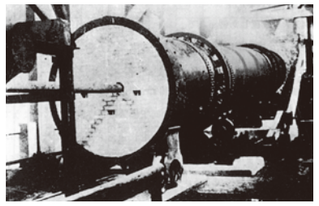
Taiheiyo Cement Corporation was founded in October 1998 through the merger of Chichibu Onoda Cement Corporation and Nihon Cement Co., Ltd., both of which had operated for over 100 years. The Taiheiyo Cement Group continues to support infrastructure development by supplying high quality cement and construction materials and applying advanced technologies at nine cement plants in Japan and eight in the Pacific Rim region, including in the U.S., China and Southeast Asia. We will continue to strive to create a sustainable society by demonstrating the group's overall capabilities.

Nascent Period of Cement Production in Japan

In 1873 the government constructed a cement production works in Fukagawa, Tokyo. Two years later the works successfully produced and launched sales of domestic cement comparable in quality to foreign products. Following this, Onoda Cement Co., Ltd., Asano Cement Co., Ltd. (predecessor of Nihon Cement Co., Ltd.) and Chichibu Cement Co., Ltd. were founded and underpinned the modernization of Japan.



Cement production works in Fukagawa, Tokyo



Japan's first rotary kiln (DB kiln)

Launch of Taiheiyo Cement

Taiheiyo Cement Corporation was founded in 1998 via the merger of Chichibu Onoda Cement Corporation and Nihon Cement Co., Ltd. The company has supplied cement for various national construction projects in Japan. In 2000 we completed the construction of the Nghi Son Cement Corporation plant in Vietnam, and then in 2003 made Taiheiyo Cement Philippines, Inc. a wholly owned subsidiary, further expanding the group's global network.

Commitment to Environmental Issues

In 2006 we formulated the Taiheiyo Cement Environmental Management Policy, which identified an active commitment to environmental issues as a key management challenge. Then in 2007 we launched the Taiheiyo Brand Cement and Concrete Project and began taking action to boost the value of the group's technological strengths and solutions.

A Period of Economic Downturn, Earthquakes and Adversity

The group marked its 10th anniversary amid a serious economic downturn in the wake of the 2008 global financial crisis. We then carried out business restructuring for the group in 2010. While the Ofunato Plant and eight of our service stations in the Tohoku region were out of action due to the Great East Japan Earthquake of 2011, our financial structure was bolstered by an increase in capital and we were able to navigate a way through this adversity.

Making Progress by Fully Deploying Our Capabilities

We formulated our 23 Medium-Term Management Plan as the third step toward realizing our future vision and direction targeting the mid-2020s. All businesses in our group will function together comprehensively and integrally as we aim to become an outstanding leading company.

Onoda Cement Co., Ltd. 1881

Chichibu Onoda Cement Corporation 1994

Chichibu Cement Co., Ltd. 1923

Nihon Cement Co., Ltd. 1947

Asano Cement Co., Ltd. 1883

Taiheiyo Cement

TAIHEIYO CEMENT

Since 1998

History of Our Products and Equipment

2000 May Acquired an exclusive license from three French companies for the inorganic composite material Ductal.

2001 July Started operating a municipal waste incineration ash washing system (Ash Washing System) at the Kumagaya plant.

2002 January Expanded the scale of the coal ash treatment business following completion of the Kanto Ash Center.

2002 November Started operating an AK system to recycle municipal waste as a raw material for cement at the Saitama Plant.

2002 December Started operating a facility to recycle wood as a biomass resource at the Oita Plant.

2006 July Developed Silica Fume Premix Cement for ultra-high-strength cement.

2007 August Commenced selling DENITE, a heavy metal immobilizer.

2007 December Ductal was used in the pier slabs of Haneda Airport Runway D.

2010 November Launched a phosphor material, ChiccaLight, for LEDs.

2011 March Suspended operations at the Ofunato Plant due to damage from the Great East Japan Earthquake.

2012 June Resumed full operations at the Ofunato Plant.

2014 August Harumi Onoda Remicon Co., Ltd. completed construction of an environmentally sound (indoor) plant.

2018 May Water purification material Ceraclean obtained ETV mark certification from the Ministry of the Environment.

2019 May Developed AI technology for predicting concrete slump.

2019 December Started operating a municipal waste incineration bottom ash washing system at the Kumagaya Plant.

2020 January Started commercial operations of a biomass power station at the Ofunato Plant.

History of Business Activities and Corporate Events

1998 October Taiheiyo Cement founded.

1999 May Obtained ISO 14001 certification at six directly operated cement plants in Japan.

2000 October Acquired the management rights to Grand Cement Manufacturing Corporation in the Philippines (currently Taiheiyo Cement Philippines, Inc.)

2000 November Completed construction of Nghi Son Cement Corporation (Vietnam).

2001 July Completed construction of Itoigawa Power Station and launched an electric power supply business.

2002 June Formulated the Mission of the Taiheiyo Cement Group.

2003 April Grand Cement Manufacturing Corporation made a wholly owned subsidiary. Company name changed to Taiheiyo Cement Philippines, Inc. in June 2003.

2003 April Launched a business to recycle construction soil as a raw material for cement.

2005 April Launched an electric power supply wholesale business at the Tosa Power Station.

2006 January Formulated the Environmental Management Policy of the Taiheiyo Cement Group.

2008 October Marked the 10th anniversary of the company.

2009 April Registered company-wide ISO 14001 integrated certification at six directly operated plants.

2010 March Announced business restructuring for the group.

2010 April Second production line of Nghi Son Cement Corporation came into operation.

2013 July Their Majesties the Emperor and Empress of Japan (in those days) visited the Ofunato Plant.

2015 May Formulated the CSR Objectives for 2025.

2015 June Acquired the Oro Grande plant (California, U.S.)

2018 May Jointly established the Global Cement and Concrete Association (GCCA) with the world's leading cement companies.

2018 October Marked the 20th anniversary of the company.

2019 June Supported the Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

2019 July Formulated and announced the main points of the Framework for Our Long-range Vision of Greenhouse Gas Emissions Reduction toward 2050.

2020 March Announced the Framework for Our Long-range Vision of Greenhouse Gas Emissions Reduction toward 2050.

2020 April Concluded the basic agreement regarding the capital alliance with the Semen Indonesia (SI) Group.

1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

The Kyoto Protocol comes into force

The Global Financial Crisis of 2008

The Great East Japan Earthquake

Adoption of the Paris Agreement

COVID-19 spreads

Taiheiyo Cement's Strengths

1 Stable supply of cement and mineral resource products

2 World-class environmental cement production technologies

3 Domestic and global networks

Taiheiyo Cement Group Business Network

▶ GRI102-4, 6, 7, 8, 45

The Taiheiyo Cement Group deploys production and logistics sites in Japan and overseas, and establishes systems to ensure stable supplies of cement and mineral products. In addition to that, we utilize our world-leading environmental cement production technologies to contribute to the creation of a recycling-based society and countermeasures to mitigate climate change.

1 Stable supply of cement and mineral resource products

A new site came into operation in the spring of 2021 at Ofunato Quarry in Iwate Prefecture. Our Oita Plant has made plans to develop new quarries in Tsukumi City and Usuki City. The planned sites, covering a total of 206 hectares, are expected to secure a hundred years' worth of limestone. Development work will begin in FY2022, and the plan is that they will start to be used in tandem with our existing quarries in FY2030. This development work is included in our planned investment of 100 billion yen. In Southeast Asia, we are moving forward with business expansion and the creation of the optimum logistics network, and are striving to provide a stable supply of cement and mineral resource products by reconstructing our logistics network covering the entire Pacific Rim area to include our new bases in Indonesia.

2 World-class environmental cement production technologies

We possess world-class environmental technologies in cement production, and are working on CCS/CCU technology used to separate and capture CO_2 in order to meet our goal of achieving carbon neutrality. Following the construction of a test facility at the Fujiwara Plant in Mie Prefecture, we are planning a demonstration plant with the support of NEDO (New Energy and Industrial Technology Development Organization). We also take steps such as dispatching engineers and researchers to research institutions around the world with the aim of securing the latest knowledge and, as a leading company in the cement industry, we are taking the initiative in measures to mitigate climate change.

3 Domestic and global networks

The Taiheiyo Cement Group continues to support infrastructure development by supplying high quality cement and construction materials and applying advanced technologies at our nine cement plants in Japan and eight in the Pacific Rim region, including in the U.S., China and Southeast Asia. Going forward, we aim to enhance our networks by building a new business portfolio in the Asian region and expanding our trading business in the global market.

Taiheiyo Cement Group Profile

Net sales	Consolidated: 863.9 billion yen Non-consolidated: 295.2 billion yen
Number of employees	Consolidated: 12,586 Non-consolidated: 1,838 (excluding employees on loan to group companies)
Subsidiaries	182 (including 114 consolidated subsidiaries and 6 equity-method subsidiaries)
Affiliates	102 (including 37 equity-method affiliates)


Calportland Company, Mojave Plant (Mojave, USA)


Calportland Company, Oro Grande Plant (Oro Grande, USA)

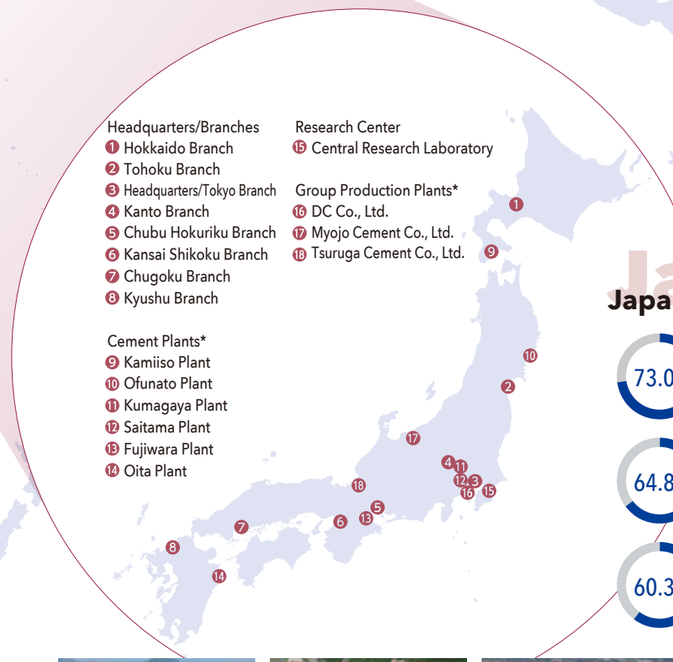

Calportland Company, Rillito Plant (Rillito, USA)

America

17.4% Net sales (FY2021 Consolidated) 150.3 billion yen

21.6% Number of employees (consolidated, as of March 31, 2021) 2,723 Male 2,458 Female 265

16.1% Clinker production capacity 4,710 thousand tonnes



Japan

73.0% Net sales (FY2021 Consolidated) 630.8 billion yen

64.8% Number of employees (consolidated, as of March 31, 2021) 8,154 Male 7,066 Female 1,088

60.3% Clinker production capacity 17,667 thousand tonnes

Other areas

9.6% Net sales (FY2021 Consolidated) 82.6 billion yen

13.6% Number of employees (consolidated, as of March 31, 2021) 1,709 Male 1,467 Female 242

23.6% Clinker production capacity 6,920 thousand tonnes


Dalian Onoda Cement Co., Ltd. (Dalian, China)


Jiangnan-Onoda Cement Co., Ltd. (Nanjing, China)


Nghi Son Cement Corporation (Nghi Son, Vietnam)


Taiheiyo Cement Philippines, Inc (Cebu, Philippines)


PNG-Taiheiyo Cement Limited (Lae, Papua New Guinea)


Taiheiyo Cement Corporation Kamiiso Plant


Taiheiyo Cement Corporation Ofunato Plant


Taiheiyo Cement Corporation Kumagaya Plant


Taiheiyo Cement Corporation Saitama Plant


Taiheiyo Cement Corporation Fujiwara Plant


Taiheiyo Cement Corporation Oita Plant

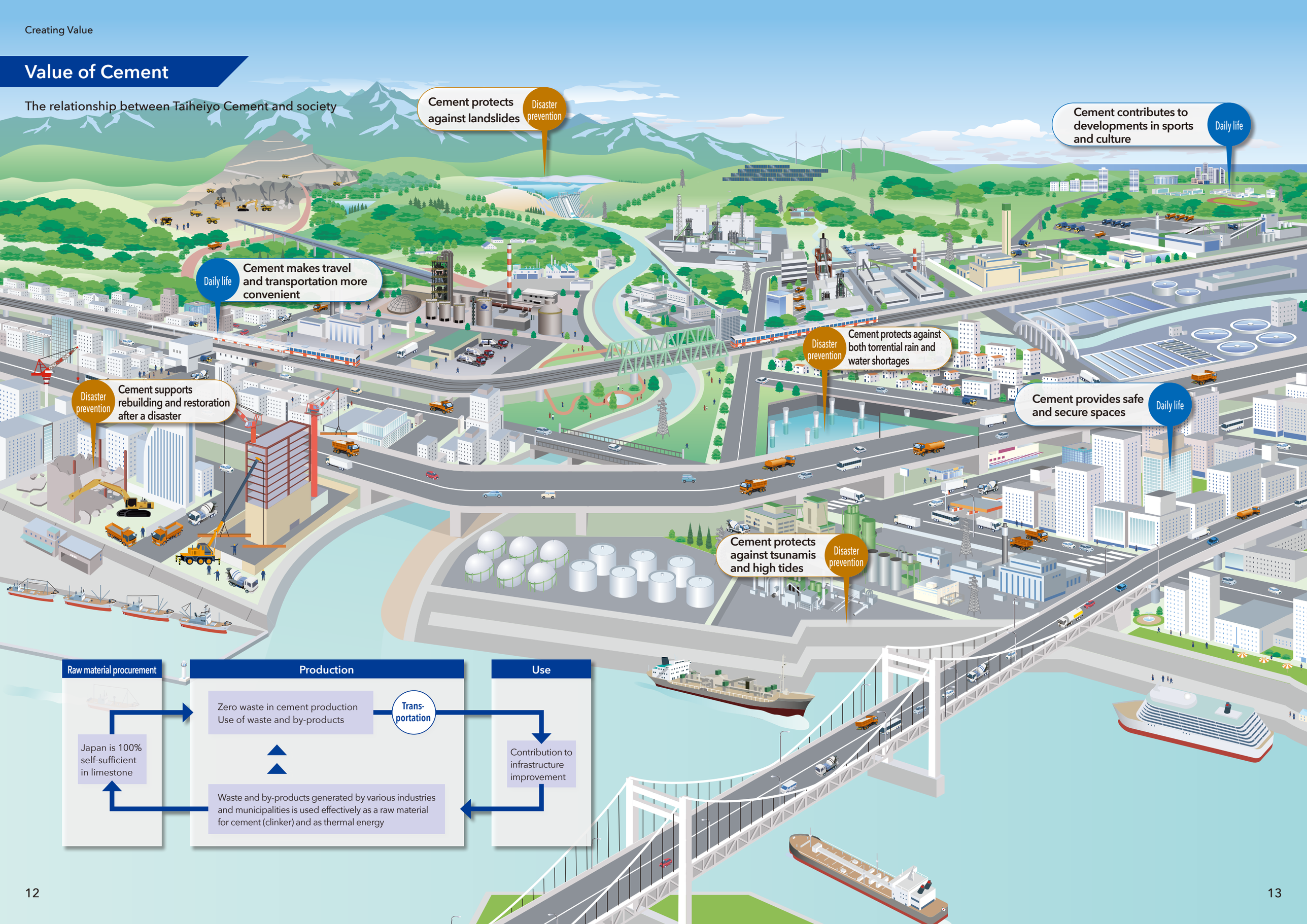

DC Co., Ltd.


Myojo Cement Co., Ltd.


Tsuruga Cement Co., Ltd.

Value of Cement

The relationship between Taiheiyo Cement and society



Initiatives Aimed at Achieving Carbon Neutrality

Ratio of global CO_2 emissions

Cement industry: 7%

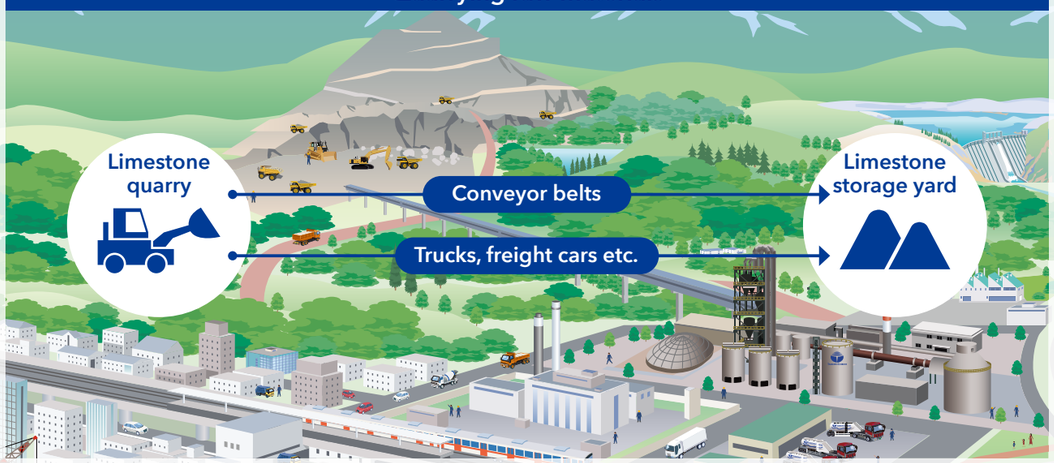
Source: Technology Roadmap Low-Carbon Transition in the Cement Industry, IEA and WBCSD (2018)

CO_2 emissions in Japan by industry

1st: Electric power
2nd: Steel
3rd: Chemical
4th: Cement

Reference: "The Cement Industry's Long-term Vision Toward Realizing a Decarbonized Society" Japan Cement Association. 2020 (in Japanese)

Quarrying raw materials



CO_2 emissions from the cement production process

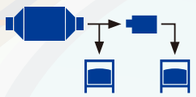
Raw materials preparation process

Limestone and other raw materials such as clay are mixed together, dried and ground.

Burning process

The mixed and ground raw materials are burned at 1,450°C to produce clinker.

Finishing process



A suitable amount of gypsum, etc. is added to the clinker which is then ground.

Transportation

The cement produced at the plants is transported by vessel or truck to service stations (logistics sites) throughout Japan.
It is then delivered to the user by truck.

Achieving Carbon Neutrality in the Cement Supply Chain

We aim to achieve carbon neutrality throughout our supply chain by 2050

CSR Objectives for 2025

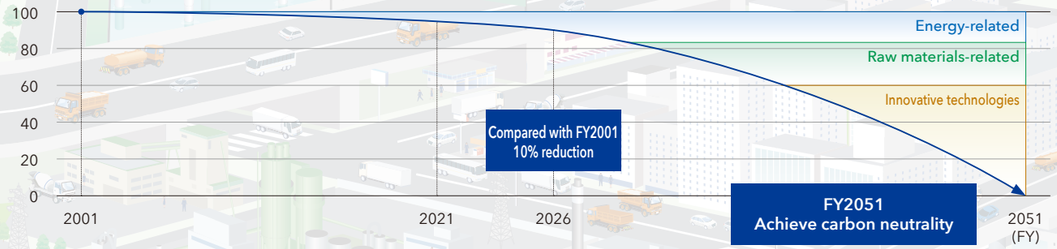
Reduction of greenhouse gas emissions:
Reduce specific net CO_2 emissions by **at least 10%** (Compared with FY2001)
As of the end of FY2021: 8.3%

Taiheiyo Cement takes up the challenge of mitigating climate change

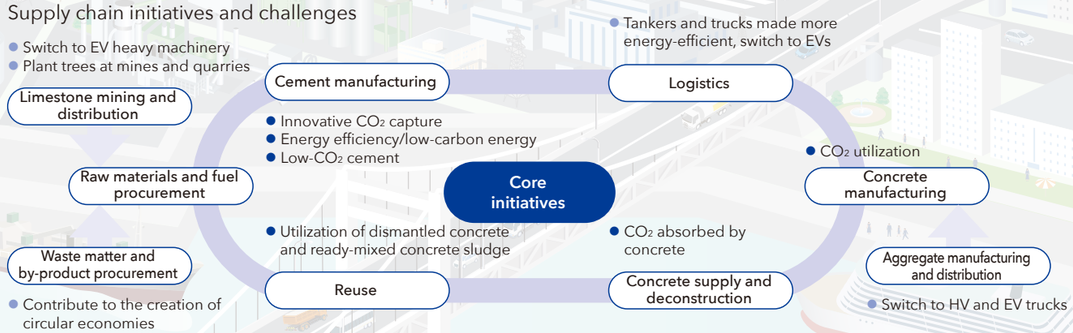
With the Carbon-Neutral Technology Development Project Team playing a core role, we aim to establish and implement feasible technologies at the earliest possible opportunities and meet the social and financial challenges toward achieving carbon neutrality.

Target	Main strategies	Main initiatives in the 23 Medium Term Management Plan	Investment sum
Energy sources	● Energy efficiency ● Low-carbon energy	● Installation of waste heat recovery power generation systems ● Installation of high-efficiency clinker coolers ● More waste plastic processing	20 billion yen
Raw material-derived	● Low-CO_2 cement	● Increase of cement admixtures ● Low-CO_2 clinker	
Innovative technologies	● CO_2 capture and utilization	● Development of innovative CO_2 capture technologies ● Utilization of dismantled concrete and ready-mixed concrete sludge ● Utilization of cement cured with CO_2	

Reduction ratio for CO_2 emissions (%)



Supply chain initiatives and challenges



Yuuichi Kitabayashi
Vice President and Representative Director
Carbon-Neutral Technology
Development Project Team

Marshalling All Our Wisdom and Aiming to Achieve Carbon Neutrality

In response to the policy announced by the Japanese government, the Taiheiyo Cement Group's long-term vision for reducing CO_2 emissions has been revised to "aim to achieve carbon neutrality throughout our supply chain by 2050." In our long-term vision, we plan to utilize the following three scenarios to achieve reductions in CO_2 emissions: apply existing technologies, advance existing technologies, and develop innovative technologies. The Carbon-Neutral Technology Development Project Team was set up in April this year with the aim of intensifying and accelerating initiatives. It is a lateral in-house organization that marshals all the wisdom of our company. Around 30 members, including people holding additional posts, are currently working mainly on the development of innovative technologies.

The 23 Medium-Term Management Plan identifies initiatives aimed at carbon neutrality as the Taiheiyo Cement Group's key strategies. We are scheduled to invest 20 billion yen in them during the period covered by the plan, which is part of the 100 billion yen we will invest over a ten-year period. As of this fiscal year, we have introduced ICP (internal carbon pricing) to accelerate capital investment in low carbon technologies by including the economic effects of reduced CO_2 emissions in our investment index. The ICP value will initially be set as the current market value (1,500 yen/CO_2 t) in J-Credit but will be periodically reviewed.

Of the CO_2 emitted during the cement production process, roughly 60% comes from the raw materials and 40% from the energy used. We plan to halve the energy-derived CO_2 via steps such as installing energy-efficient equipment and increasing the volume of waste plastic processed. We are developing technologies regarding raw material-derived CO_2, such as greater use of admixtures and the introduction of low-carbon clinker. However, since carbon neutrality cannot be achieved by applying and expanding existing technologies alone, it is imperative to develop innovative technologies such as carbon recycling, where CO_2 is separated from the cement kiln exhaust gas, captured and used efficiently.

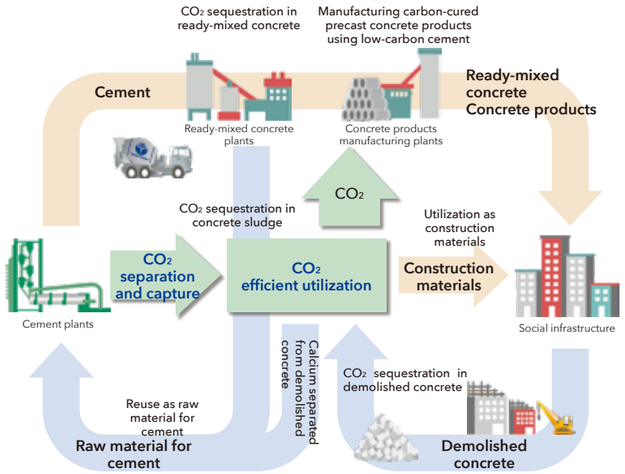
With regard to our research and development of innovative technologies, after successfully capturing 20 kg per day of high purity CO_2 at our Fujiwara Plant using the amine method, since 2020 we have been working on Development of Carbon Circulation Technology for the Cement Industry, a Taiheiyo Cement project that has been adopted by NEDO (the New Energy and Industrial Development Organization). In this project we are installing equipment at our Kumagaya Plant to capture 10 tonnes of CO_2 per day, 500 times more than the Fujiwara Plant prototype, and are developing optimal CO_2 separation and capture technologies. It is currently still under construction but a demonstration run is expected to start soon. With regard to carbon recycling technology, we are developing technologies to sequester CO_2 as carbonate in demolished concrete and concrete sludge, which are then used as construction materials such as raw material for cement or subbase pavement material. We are also carrying out R&D into CO_2 sequestration during the production of ready-mixed concrete and the curing of concrete products. These CO_2 sequestration technologies are getting the expected results in lab experiments and we will move on to demonstration tests using full-scale equipment in the near future.

An average size cement plant emits a few thousand tonnes of CO_2 per day, but CO_2 only makes up around 20% of the exhaust gas. This makes it necessary to process five times that amount of exhaust gas in order to capture all the CO_2, and that requires proportionately large-scale equipment which would be difficult to install at existing plants. Accordingly, we have also started R&D on the essential task of making that equipment more compact and less expensive. In addition to CO_2 sequestration technologies we are looking at technologies capable of creating low-cost synthetic methane but, since this would be difficult for the cement industry alone to do, we are also concentrating on technological development in collaboration with other industries that may lead to the efficient creation of energy sources.

The NSP kiln developed in Japan is currently the standard type around the world. Similarly, we are aiming to be a world leader in the carbon neutrality field as well, and to create technologies that become the global standard.

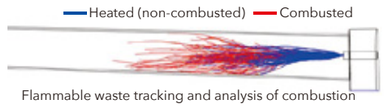
Example 1 Development of Carbon Circulation Technology for the Cement Industry (NEDO Demonstration Project)

In our Development of Carbon Circulation Technology for the Cement Industry project, funded by NEDO (the New Energy and Industrial Development Organization), we are installing a pilot plant with a capacity of 10 tonnes per day at the Kumagaya Plant to separate and capture CO_2 emitted during the cement production process. With the cooperation of group companies located near the plant we will demonstrate technologies to cause the captured CO_2 to react with demolished concrete, concrete sludge and ready-mixed concrete, which will then be reused as construction materials such as raw material for cement or subbase pavement material. The scheduled NEDO demonstration period is until FY2022, but we plan to continue with additional tests for a few years after that and compile the various kinds of expertise gained from the project.

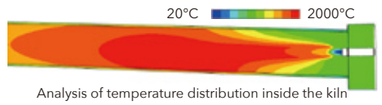


Example 2 Development of Kiln Burner to Increase the Amount of Waste Plastic Processed

We are aiming to increase the amount of combustible waste, such as plastic waste, used as an alternative source of energy so that we can reduce the CO_2 emissions generated during cement calcination. We used a thermohydrodynamic computer simulation to design a burner so that combustible waste can be efficiently combusted. The kiln burner has now been installed at the Saitama Plant and we are checking combustion, optimizing operations and running various tests, such as on the concrete quality obtained. We plan to make maximum use of combustible waste to reduce CO_2 emissions by adopting this kiln burner and the expertise we have gained at other plants.



Flammable waste tracking and analysis of combustion

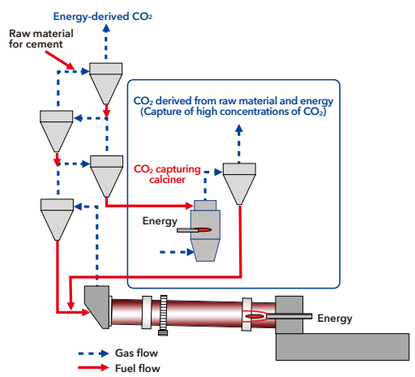


Analysis of temperature distribution inside the kiln

Thermo-hydrodynamics simulation of the kiln interior

Example 3 Development of Cement Production Processes that Capture CO_2

We are working on the development of innovative cement production processes that enable efficient capture of raw material-derived CO_2 generated by limestone calcination, which is recognized to be an unavoidable part of cement manufacturing. Since most of the raw material-derived CO_2 is generated in the calciner, making this a CO_2 capturing calciner will enable the efficient capture of high concentrations of energy-derived CO_2 during the calcination process as well as the raw material-derived CO_2. Being able to capture high concentrations of CO_2 directly makes it possible to use more compact equipment than that of CO_2 capture technologies such as chemical methods. This production process combines the high thermal efficiency of the suspension preheater with even greater waste treatment capacity, and inherits the advantages of existing NSP kilns.



Value Creation Process

INPUT

Material Aspects

Change
- Climate change
- Environmental pollution
- Occurrence of massive earthquakes
- Technological innovation: Evolution of digitalization (ICT)
- Changes in economic conditions
- Continuity and development related to declining birth rates and aging populations

Company-specific
- Waste treatment
- Aging facilities

Compliance
- Maintenance and improvement of the governance system
- Respect for human rights
- Occupational health and safety
- Accident prevention
- Waste treatment
- Participating in and respecting local communities

Opportunities
- Contributing to a recycling-based society
- Strengthening urban resilience, preventing disasters
- Provision of environmentally sound products
- Reconstruction in disaster stricken areas
- Development of carbon-neutral technologies

Capital

Financial Capital

Credit rating (as of August 2021)

A (JCR)

A- (R&I)

Manufacturing Capital

Domestic clinker production capacity (FY2021)

17,667 thousand tonnes

Overseas clinker production capacity (FY2021)

11,630 thousand tonnes

Intellectual Capital

Patents held (as of the end of FY2021)

1,273 in Japan

238 overseas

Human Capital

Number of employees (as of the end of FY2021)

12,586

Social and Relationship Capital

Relationships of trust with communities in which we do business

Individual meetings with investors

Events: 142

Natural Resources Capital

Limestone quarries of the group (as of the end of FY2021)

17

Utilization of waste and by-products (FY2021)

402.7 kg/t-cement

Strengths

Highly diverse organizations

World-class environmental cement production technologies

Capacity for stable provision of cement and mineral resource products

Global network

Stable financial footing

OUTPUT

Business Activities

Aiming to become
an outstanding leading company

We will construct a business model unique to us, where all businesses in our group function together comprehensively and integrally to achieve our aim of being "outstanding."

Boost the Group's Total Capabilities

Production — Logistics and supply — Use — Reuse — Raw material procurement

- Cement Business
- Construction Materials Business
- Mineral Resources Business
- Environmental Business

Research and Development

Efforts to mitigate and adapt to climate change

Reduction rate of specific net CO_2 emissions (compared with FY2001) (FY2021)

8.3%

Stable provision of products and services

Cement production in Japan (FY2021)

19,334 thousand tonnes

Cement production overseas (FY2021)

13,017 thousand tonnes

Creation and development of a recycling-based society

Socioeconomic benefits from environmental impact reduction due to the input of waste and by-products (FY2021)

89.2 billion yen

Fundamental Policies of the 23 Medium Term Management Plan

Become a corporate group that never stops moving forward.
As part of the social infrastructure industry, contribute to the establishment of a safe and stable society.
Strengthen our earnings foundation and steadily carry out growth investment.

Mission of the Taiheiyo Cement Group

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.

Corporate Governance and Compliance

OUTCOME

Respond to Stakeholder Expectations on Material Aspects

Shareholders

Management stability and growth potential

Customers

Stable supply of products
Supply high value-added products

Employees

Promote work-life balance management
Employee satisfaction

Society

Build social capital and improve infrastructure
Efforts to mitigate and adapt to climate change

Contribute to social sustainability

Contribute to the building of safe and secure social infrastructure

Contribute to the achievement of carbon neutrality

Contribute to the creation of a recycling-based society

Identification of Risks and Opportunities

Summary of the Collection, Evaluation and Identification of Company-wide Risks

We collect, evaluate and identify company-wide risks, including those of group companies, every three years and conduct an annual review of those risks. We carried out a company-wide risk review in FY2020. The purpose of identifying risks is to identify the impact of anticipated changes in social and environmental conditions over the next ten years in relation to uncertainty of group management, and then formulate measures to avoid and reduce that uncertainty.

Step 1
Compile anticipated changes in social and environmental conditions over the next ten years.

Step 2
Evaluate the impact of the identified changes on the group.

Step 3
Review the results of the evaluation of the impact.

Step 4
Review company-wide material risks (Risk Management & Compliance Committee).

Step 5
Determine company-wide material risks (CSR Management Committee)

Risk category	Item
Change	**Environmental aspects** • Climate change: Increasingly extreme weather events and dramatic increase in weather related disasters • Climate change: Stricter regulations • Increase of environmental pollution and developments related to its impact: Regulations • Geological and biological events: E.g. occurrence of massive earthquakes
	Social aspects • Technological innovation: Evolution of digitalization • Changes in economic conditions • Continuity and development related to declining birth rates and aging populations: Declining labor forces
Company-specific	• Waste treatment • Aging facilities
Compliance	• Maintenance and improvement of the governance system • Respect for human rights • Occupational health and safety • Accident prevention (including in relation to products and services) • Prevention of misconduct (including in relation to products and services) • Response to impacts of external accidents • Participating in and respecting local communities

Maximizing the group's corporate value will contribute to the establishment of safe and stable social infrastructure

Business opportunities	Business strategies based on results of the company-wide risk review	Connection with our strengths: Stable supply of cement and mineral resource products	Environmental technologies in cement production	Domestic and global networks
• Increasing demand for environmentally sound products (with low CO_2 emissions) • Acceleration of initiatives to strengthen urban areas and protect them from natural disasters • Reconstruction in disaster stricken areas	Contributing to the achievement of carbon neutrality		●	●
• Provision of technologies and technical guidance to emerging economies	Contributing to the enhancement of national resilience	●		●
• Shift to a recycling-based society (Wide variety of recycled raw materials and fuels)	Contributing to a rrecycling-based society	●	●	●
Refer to The Foundations of Our Growth (pages 40-65) and Collaborating with Society (pages 82-95)				

- Change risks: Arising from changes in the social environment
- Company-specific risks: Arising from the characteristics of our business and capital, including all types of capital such as mining rights and human resources
- Compliance risks: Related to organizational infrastructure

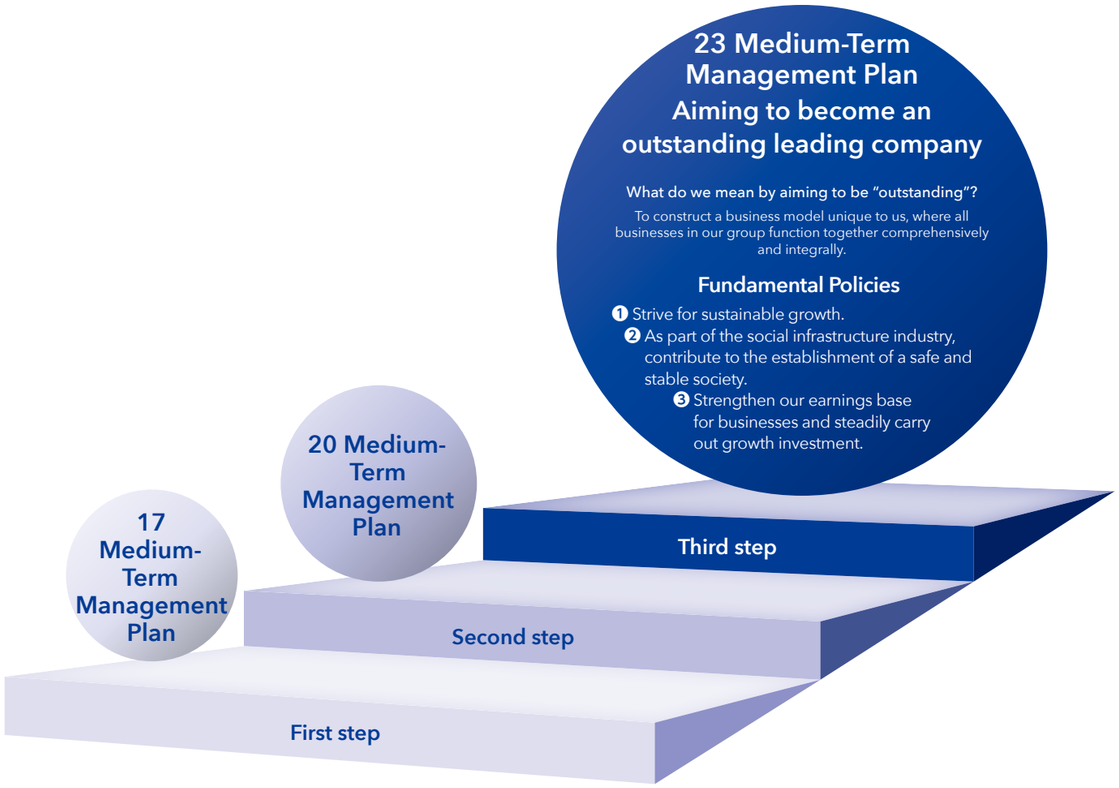
We referred to the following risk information:
- **Global Risk Report (2019)** World Economic Forum
- **Regional Risks for Doing Business (2018)** World Economic Forum
- **Enterprise Risk Management (2018)** COSO/WBCSD
- **Top Risk 2019 (2019)** Eurasia Group
- **10 for 2019: Systemic Risks Loom Large (2019)** Sustainalytics
- **SDGs**

23 Medium-Term Management Plan

We have formulated our 23 Medium-Term Management Plan covering the three years from FY2022 to FY2024 to take the next, or the third, step toward realizing our future vision and direction targeting the mid-2020s.

Our Future Vision and Direction Targeting the Mid-2020s

To become a corporate group that provides a sense of safety and security to societies in the Pacific Rim by demonstrating the group's overall capabilities.



Mission of the Taiheiyo Cement Group

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.

Looking Back at the 17 and 20 Medium-Term Management Plans

First step — 17 Medium-Term Management Plan (FY2016 to FY2018)

The 17 Medium-Term Management Plan covered the three years from FY2016 to FY2018 and is regarded as the first step toward realizing our future vision and direction. It aimed to maximize our corporate value.

Fundamental Policies

❶ To become a corporate group that preempts future changes in the environment and seeks innovations in all fronts, thereby progressing on a growth path.
❷ To contribute to the establishment of a sense of safety and security in society through the provision of materials and technological development, furthering national resilience as a member of the social infrastructure industry.
❸ To vigorously push ahead with further strengthening our earnings base and financial structure aiming at sustainable development by strengthening businesses through exhaustive cost-cutting.

Performance

Profitability

- Operating income on net sales: 7.5%
- Return on assets (ROA): 6.3%
- Growth investments: 100 billion yen
  - Acquisition of the Oro Grande plant (U.S.A.) and construction of its new mill
  - Construction of the Ofunato Power Plant (biomass power plant)
  - DC Co., Ltd. made a wholly owned subsidiary

Financial structure

- Net debt/equity ratio (DER): 0.6 times
  - Net interest-bearing debt: 234.8 billion yen (End of FY2018)

Shareholder Returns

- Increased dividends and purchased treasury shares.
  - Payout ratio: 18% (3-year average)
  - Total return ratio: 26% (3-year average)
  - Treasury shares purchased: 10 billion yen

Second step — 20 Medium-Term Management Plan (FY2019 to FY2021)

We built on the results of the business and financial strategies implemented in the first step, the 17 Medium-Term Management Plan, and continued addressing the remaining issues to open up a path on which we could move on to the next step by ensuring the implementation of new initiatives and establishing a solid business foundation for future sustainable growth.

Fundamental Policies

❶ To become a corporate group that anticipates future changes in the business environment and seeks innovations on all fronts, thereby advancing along a pathway of growth.
❷ To contribute to the establishment of a sense of safety and security in society through the stable provision of high quality products, solutions and advanced technology development, in order to build national resilience as a member of the social infrastructure industry.
❸ To push ahead with the strengthening of our earnings foundation for businesses and further improve our financial structure through cost reductions as well as by actively executing investments in promising fields that will contribute to the group's sustainable growth.

Performance

Profitability

- Operating income on net sales: 7.4%
- Return on assets (ROA): 6.3%
- Growth investments: 100 billion yen
  - Investment in PT Solusi Bangun Indonesia Tbk (SBI)
  - Renovation of production line in the Philippines
  - Construction of new waste heat recovery power generation system (Saitama Plant)

Financial structure

- Net debt/equity ratio (DER): 0.4 times
  - Net interest-bearing debt: 175 billion yen (End of FY2021)

Shareholder Returns

- Steady dividend payments and purchase of treasury shares.
  - Payout ratio: 19% (3-year average)
  - Total return ratio: 30% (3-year average)
  - Treasury shares purchased: 15 billion yen

Review

Achievements

- Although domestic demand for cement is decreasing, operating income stayed in the 60 billions of yen range.
- Maintained shareholder returns (total return ratio) of 30%.
- Achieved our target of a net DER of 0.4 times or less ahead of schedule.
- Growth investments proceeding according to plan.

Challenges

- Sustained growth investment
- Initiatives targeting Carbon Neutrality
- Strengthening our plant facilities, mines and quarries
- Restructuring our businesses in Japan

23 Medium-Term Management Plan

Third step 23 Medium-Term Management Plan (FY2022 to FY2024)

"Aiming to become an outstanding leading company"

We aim to construct a business model unique to us, where all businesses in our group function together comprehensively and integrally. In other words, to become an outstanding leading company.

Fundamental Policies

1. Strive for sustainable growth.
2. As part of the social infrastructure industry, contribute to the establishment of a safe and stable society.
3. Strengthen our earnings base for businesses and steadily carry out growth investment.

Targets for FY2024

- Operating income on net sales: 11% or more
- Return on equity (ROE): 10% or more

Plan for FY2024

- Net sales*1: 750 billion yen or more
- Operating income: 85 billion yen or more
- EBITDA*2: 145 billion yen or more
- Net debt/equity ratio (DER): Around 0.4
- Net interest-bearing debt/EBITDA: 1.5 or less

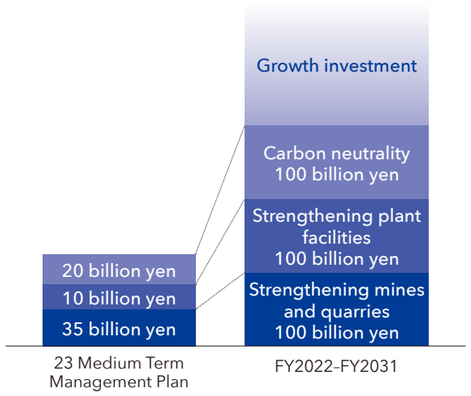
*1 Since we have adopted the Accounting Standard for Revenue Recognition (ASBJ Standard No. 29) etc. from FY2022, the net sales in the FY2024 plan show the amount after adoption of the new standard. (The adoption of the new standard has a negative impact of -210 billion yen.)
*2 EBITDA = Operating income + depreciation (including goodwill amortization)

Investment Strategy and Shareholder Returns

- Cash flow from operating activities and assignment of assets etc. (3-year cumulative total): 330 billion yen
  - New investment aimed at sustainable growth: Capital expenditure, and investment and financing: 280 billion yen (including growth investment : 120 billion yen)
  - Shareholder returns: Total return ratio around 33% (one third of the net profit for the year attributable to parent company shareholders)
  - Maintain and improve financial soundness: Maintain a net DER of around 0.4

Key Strategies

1. Sustained growth investment
2. Initiatives to achieve carbon neutrality
   - Initiatives to achieve carbon neutrality by 2050 (Growth strategy)
3. Strengthening plant facilities
   - In order to establish a production and supply system with long-term stability by 2030, we will renew key machinery, upgrade production and equipment management and deploy AI.
4. Enhancing mines and quarries
   - We will establish a long-term stable supply system for limestone resources by 2030



Aiming to Maximize Our Corporate Value and Become an Outstanding Leading Company

The 23 Medium-Term Management Plan is the third step toward realizing our future vision and direction targeting the mid-2020s. Even though domestic demand for cement fell below 50 million tonnes in FY2010, and since then has hovered in the 40 million tonnes range, the Taiheiyo Cement Group has achieved operating income of more than 60 billion yen for eight consecutive fiscal periods. I believe this is due to the business restructuring we carried out in FY2011, and to the growth investment continued under our medium-term management plans since then. Under the 23 Medium-Term Management Plan our fundamental policy is to construct a business model unique to us, where all businesses in our group function together comprehensively and integrally so that we become an outstanding leading company and achieve further sustainable growth.

Management Targets

Capital productivity is a management challenge. Although we have made the return on assets (ROA) a management target in our medium-term management plans, our ROA at the end of FY2021 was 6.3%, meaning we did not achieve our target of 8% or more. In the 23 Medium-Term Management Plan we have adopted an ROE (return on equity) of 10% or more as a new management target to clarify our target of maximizing corporate value. I believe that it is absolutely essential to achieve operating income of 85 billion yen or more if we are to attain that target. With no end to the COVID-19 pandemic in sight, with the harsh business environment expected to continue and with domestic demand for cement hovering at around 40 million tonnes, we will try once more for the profit targets set in the 20 Medium Term Management Plan and attain them by steadily implementing the strategies of the 23 Medium-Term Management Plan.

Investment Strategy and Shareholder Returns

We expect to generate funds of 330 billion yen (3-year cumulative total) with assignment of assets added to our cash flow from operating activities. Of that, a total of 280 billion yen is scheduled to be allocated to investment aimed at sustainable growth, with 160 billion yen allocated to strengthening our business foundation and 120 billion to growth investments. Meanwhile, we will distribute shareholder returns with a total return ratio of around 33% (one third of the net profit for the year attributable to parent company shareholders) as our benchmark. We will also continue to work on improving our financial soundness and will maintain a net DER of around 0.4 times.

Key Strategies in Medium to Long-term Investment

In order to strengthen the business foundation that supports our sustainable growth, we have set key strategies concerning medium to long-term investment with a focus on the business environment during the decade from FY2022 to FY2031, which also includes the period of the 23 Medium-Term Management Plan.

Tetsuya Ohashi
Director and Senior Executive Officer
Corporate Planning Department

In addition to continuing with growth investment in overseas M&As and domestic development of new products, we plan to invest a total of 300 billion yen (100 billion yen each) in the following three areas: 1) Initiatives to achieve carbon neutrality. 2) Strengthening plant facilities. 3) Strengthening mines and quarries. Shifts in the global attitude towards climate change and in social conditions hold tremendous significance for the cement industry around the world, and it will inevitably have to engage with initiatives to achieve carbon neutrality. As a leading company in the Japanese cement industry we will spearhead the development of technologies to achieve carbon neutrality. At the same time, we are investing considerable funds and manpower in strengthening our plant facilities and limestone quarries with the aim of securing stable long-term production. Such initiatives, undertaken at a time when society and the business environment are undergoing rapid and dramatic changes, show a strong determination to strive for sustainable growth and to become an outstanding leading company with our cement business playing the core role.

Human Resource Development

We will also focus on human resource development since, even if we strengthen our facilities, plants and quarries, how well they function depends on the human resources engaged. In particular, we plan to provide the younger generation with opportunities where they can gain plenty of experience of thinking things through and making their own decisions. Major projects such as the development of an integrated plant and the establishment of logistics facilities will begin in the Philippines and Indonesia during the period of the 23 Medium Term Management Plan. We will be proactive in deploying the younger generation there as I believe that such projects are opportunities for the Taiheiyo Cement Group to transmit our technologies.

Key Business Strategy Themes

We aim to successfully tackle these three business strategy themes while leveraging the strengths of our business divisions and R&D.

1 Contributing to National Resilience

The increase in the number and severity of natural disasters is challenging social structures to formulate measures to prevent disasters and mitigate damage. We will contribute to national resilience by further enhancing the stable supply of cement and other construction materials in order to strengthen infrastructure and support speedy recovery after a disaster.

- Cement Business ➡ P.28
- Mineral Resources Business ➡ P.32
- Construction Materials Business ➡ P.36
- Research and Development ➡ P.38

2 Contributing to the Creation of a Recycling-based Society

In addition to utilizing industrial waste, industrial by-products, municipal waste and incineration ash as raw materials and fuels for cement production, the Taiheiyo Cement Group has recently been expanding initiatives to utilize disaster waste. Going forward, we will apply and develop the expertise and technologies we have cultivated so that we can contribute to the creation of a recycling-based society and the resolution of social issues.

- Cement Business ➡ P.28
- Mineral Resources Business ➡ P.32
- Environmental Business ➡ P.34
- Research and Development ➡ P.38

3 Aiming to Achieve Carbon Neutrality

The Taiheiyo Cement Group views the reduction of CO_2 emissions as an opportunity to boost our corporate value. We will expand our efforts to efficiently replace fossil fuels with alternative energy derived from waste, promote technological progress in such areas as the development of low-CO_2 cement and innovative technologies for CO_2 capture, storage and utilization, and aim to achieve carbon neutrality.

- Cement Business ➡ P.28
- Environmental Business ➡ P.34
- Research and Development ➡ P.38

Cement Business (Japan)

Yukimasa Nakano
Managing Executive Officer
Senior General Manager of
Cement Business Division

Strengthening the Foundations of Our Stable Supply System Is a Top Priority Whilst Promoting Further Efficiency

Our Cement Business in Japan has built a solid foundation for manufacturing, transportation and supply, and has successfully created a stable supply of cement. Currently, it is difficult to assume that public investments such as in national resilience will provide any supporting effect to domestic cement demand and, furthermore, COVID-19 has badly impacted the performance of railway companies and other major infrastructure investors resulting in the postponement of these companies' capital expenditure on infrastructure. Given this business environment we will continue to make strengthening the foundations of our stable supply system a top priority, and will strive for further cost reductions and to optimize our sales system. In addition, the Cement Business Department, Mineral Resources Business Department and Environmental Business Department are creating a sales system where we can link up and share information from the perspectives of boosting customer satisfaction, maximizing orders received, and streamlining sales. We also intend to discuss providing customers with support by proposing appropriate solutions, and suggesting total solutions such as new business development.

23 Medium-Term Management Plan Strategies

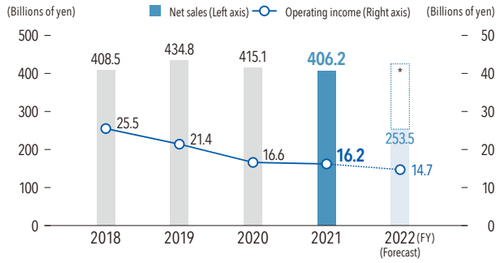
- Strengthen our earnings foundation
  - Mobilize comprehensive group strengths (manufacturing, sales and logistics capabilities), and contribute to national projects etc.
  - Formulate sales strategies suitable for the characteristics of each region
  - Seek efficient transportation
- Enhance plant facilities
  - Maintain a stable supply system by upgrading key equipment
  - Seek to improve labor productivity by making full use of AI and the IoT
- Initiatives aimed at carbon neutrality
  - Develop and expand technologies to reduce environmental loads and cut CO_2 emissions

Net sales*		Operating income	
FY2021 Results	FY2024 Plan	FY2021 Results	FY2024 Plan
406.2 billion yen	267 billion yen	16.2 billion yen	23.5 billion yen

*Since we have adopted the Accounting Standard for Revenue Recognition (ASBJ Standard No. 29) etc. from FY2022, the net sales in the FY2024 plan show the amount after adoption of the new standard. (The adoption of the new standard has a downside impact of -185 billion yen.)

FY2021 Achievements

Net Sales and Operating Income



* The adoption of the Accounting Standard for Revenue Recognition etc. has a downside impact of -171.7 billion yen.

Although the impact of events such as the suspension of construction work due to COVID-19 was only temporary, the continued declarations of a state of emergency led to labor shortages on construction sites, slowing down their progress and causing longer construction periods. In addition, with no prospect of demand from inbound tourism, there is less investment in tourism and transportation. Domestic demand for cement dipped below 40 million tonnes for the first time since FY1967, reaching its lowest point in 54 years at 38.67 million tonnes. Including consignment sales, the Taiheiyo Cement Group sold 13.78 million tonnes of cement in Japan (a 4.8% decrease on the preceding fiscal year). Due to that business environment we recorded net sales of 406.2 billion yen (a 8.9 billion yen decrease on the previous fiscal year) and operating income of 16.2 billion yen (a 400 million yen decrease on the previous fiscal year) since, even though energy costs were lower, the decrease in sales volume had a huge impact.

Under those business circumstances we completed the replacement of the EP (Electrostatic Precipitator) with bag filters at Oita Plant Kiln No. 4, and our group company Myojo Cement Co., Ltd. has expanded its fuel supply equipment for the kiln burner to increase waste plastic utilization.

Key Strategies for FY2022

1. Sales
- Boost our presence in the domestic distribution market
- Improve our system to supply special products to meet the customer's needs

2. Ready-mixed concrete
- Promote substantial action to provide customer support
- Provide solutions that match the local situation

3. Improve technical marketing and quality assurance work
- Respond positively to precasting of concrete products

4. Secure more large-project orders
- Promote the marketing of solutions that leverage the combined capabilities of Taiheiyo Cement and our group companies

5. Develop our soil stabilizers business
- Proactively engage with new applications and methods
- Develop and promote high-performance products

Efforts to Address Social Issues

- Stable provision of cement products
- Efforts to mitigate and adapt to climate change
- Further contributions to a recycling-based society

Relevant SDGs

Risks

- Reduced domestic demand due to declining birth rates and an aging population
- Reinforcement of regulations on GHG emissions

Opportunities

- New demand created by a commitment to national resilience and development of advanced infrastructure
- Development of innovative technology for utilizing CO_2

Some of Our Initiatives

Aiming to Boost Cement Business Resilience

Aiming to become an outstanding leading company

With "Aiming to become an outstanding leading company" as our slogan, we aim to utilize flexible thinking and bold action to reconstruct our cement business in Japan. In addition to carrying out enhancements of our plants, mines and quarries with the next hundred years in view, we will focus our sales strategies on the four pillars of the previous medium-term management plan: sales, ready-mixed concrete, concrete products, and the securing of more large-project orders. Also, in addition to utilizing AI to create an optimal logistics system for land and marine transport, our Sales and Production departments are jointly engaged in finding ways to improve labor productivity using AI and the IoT, and we will also promote the development and expansion of technologies for reducing environmental impact and CO_2. Furthermore, along with enhancing our plant facilities, we plan to strengthen our technical sales activities to expand applications and sales of cement-based soil stabilizer which is positioned as a growth field, with expansion of our lineup of products for specific soils such as peat.

Our coastal cement tanker, Hokuyumaru

Resolutely taking on the challenge of reducing CO_2 and making people and facilities more resilient

The mission of a cement production site is to provide its customers with a stable supply of safe and reliable products. Towards this mission we strive to create robust systems to manage safety, quality and the environment, and to boost customer satisfaction. Meanwhile, the market environment of the cement industry is undergoing huge changes as humanity aims to achieve carbon neutrality, and we will swiftly implement strategies to reduce CO_2 and decrease our environmental impact. Given the aging of facilities, we continuously focus on enhancing facilities with not only including replacement of principal equipment, but also employing AI and IoT for automatic operation and modernization of equipment maintenance. We will build firm and capable "people" simultaneously with solid plant facilities for our sustainable development.

Koshiro Hidaka
Managing Executive Officer
Overseeing Production Department
and Maintenance & Engineering
Department

Cement Business (Overseas)

Yoshifumi Taura
Managing Executive Officer
Senior General Manager of
International Business Division

Developing Markets from a Long-term Perspective, with a Focus on Indonesia and Other Countries in Southeast Asia

Although our overseas cement business is showing steady growth with the USA at its core, we are focusing next on Southeast Asia, and in the Philippines and Indonesia in particular, since growth is expected to continue in this region. I intend to steadily implement the growth investment we have moved forward with under the 20 Medium-Term Management Plan, expand our Southeast Asian business as a new earnings source like we did for our American business, and create a well-balanced system.

In Indonesia, we made a capital and business alliance last year with the Semen Indonesia (SI) Group, the largest cement manufacturer in Indonesia. By combining the Taiheiyo Cement Group's extensive know-how with the SI Group's resources, and deploying not just our Cement Business but also our Mineral Resources, Environmental and Construction Materials businesses, we will open up markets where we can expect to see growth from a long-term perspective. We will continue to respond to expanding growth in the Philippines by steadily moving forward with renovation of the production line and boosting our production capabilities. In the USA, meanwhile, we aim to seize investment opportunities based on regional policy and market characteristics. As initiatives aimed at CO_2 reduction, we will also expand the utilization of natural gas to cement and ready-mixed cement carriers and cement kilns, and promote wider use of blended cement.

23 Medium-Term Management Plan Strategies

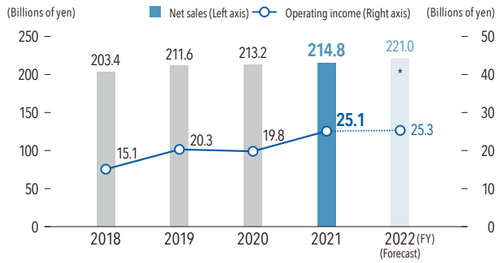
- Sustained growth investment
  - Create business expansion opportunities in Southeast Asia and the US, and construct the optimum logistics network
- Strengthen our earnings foundation
  - Promote our Mineral Resources, Environmental and Construction Materials businesses overseas
  - Implement thorough cost cuts
- Initiatives Aimed at Achieving Carbon Neutrality
  - Implement initiatives aimed at CO_2 reductions

Net sales*		Operating income	
FY2021 Results	FY2024 Plan	FY2021 Results	FY2024 Plan
214.8 billion yen	218 billion yen	25.1 billion yen	28.4 billion yen

*The adoption as of FY2022 of the Accounting Standard for Revenue Recognition (ASBJ Standard No. 29) etc. has had no impact on the net sales in the FY2024 plan.

FY2021 Achievements

Net Sales and Operating Income



* The adoption of the Accounting Standard for Revenue Recognition has had no impact.

In the USA, although the construction industry was impacted by the COVID-19 pandemic, projects that were deemed to be essential were allowed to continue, and there was also strong demand for housing. As a result, the volume of cement sales and cement prices were both higher than in the previous fiscal year. In China sales volume decreased due to the impact of bad weather and the suspension of construction work due to the COVID-19 pandemic, and also to factors such as the transfer of Qinhuangdao Asano Cement Co., Ltd. equity interests. In Vietnam sales volume was up on the previous fiscal year, despite the impact of competition with other companies. In the Philippines sales volume decreased as a result of the suspension of construction work due to the impact of COVID-19 travel restrictions. As a result of all that, we posted net sales of 214.8 billion yen (an increase of 1.5 billion yen on the previous fiscal year) and operating income of 25.1 billion yen (an increase of 5.2 billion yen on the previous fiscal year).

Given those business circumstances, in the Philippines construction of the belt conveyor between the wharf and our plant is almost complete, and we have enhanced our capacity to transport imported raw materials etc. In addition, we decided on a capital and business alliance with the SI Group in Indonesia and work to renovate production lines in the Philippines as growth investment under the 20 Medium-Term Management Plan.

Key Strategies for FY2022

1. Boost earnings capacity of existing businesses

(1) USA
- Meet increased demand by maximizing plant production and securing import sources by leveraging our global network
- Promote optimal leverage and supply systems that leverage our 3 plants

(2) China
- Introduce green products to respond to the tightening of regulations and contribute to waste treatment
- Promote our Environmental Business and seek out new business

(3) Vietnam
- Expand our market share by differentiating ourselves from other companies by expanding our logistics bases and diversifying our products
- Boost our competitiveness by cutting production costs through energy-saving investment, and via waste treatment

(4) The Philippines
- Steadily carry out work to renovate production lines
- Create a 3 million tonne sales system ready for when production capacity has been boosted

2. Expand and increase the sophistication of our trading business

- Boost our bargaining power in the international market
- Expand our bulk materials business

3. Implement initiatives to rebuild our business portfolio

- Further business expansion in Southeast Asian countries such as Indonesia and the Philippines
- Create an optimal logistics network incorporating Indonesia

Efforts to Address Social Issues

- Contribution to infrastructure improvement
- Efforts to mitigate and adapt to climate change
- Contribution to creating a recycling-based society

Relevant SDGs

Risks

- Tightened environmental regulations in host countries
- Climate change in host countries

Opportunities

- Contribution to creating a recycling-based society in our host countries
- Provision of innovative technologies for utilizing CO_2

Some of Our Initiatives

Aiming for Business Expansion in Southeast Asia

Business expansion in Indonesia and the Philippines, countries where growth is forecast

The Indonesian economy is booming, and in FY2021 we made a capital and business alliance with the SI Group, which has a lion's share of the market, and are establishing our business foundation in Indonesia. We will also construct new logistics bases, and work to promote our Mineral Resources, Environmental and Construction Materials businesses.

We have also decided to renovate production lines at Taiheiyo Cement Philippines, Inc. Demand for cement is expected to continue to grow, and we intend to meet that demand, and also to make huge improvements in energy efficiency by utilizing cutting-edge technologies.

We will continue our active commitment to business expansion in Southeast Asia and the reduction of our environmental impact.

Solusi Bangun Indonesia Tuban Plant
(Clinker production capacity 2.48 million t/year)

Aiming to further improve production systems at overseas plants, and to enhance our plant engineer human resources

With overseas plants forming a certain ratio of the Taiheiyo Cement Group's production portfolio, it is becoming increasingly important to stabilize production at our overseas plants and further reduce manufacturing costs and CO_2. We are adopting various technologies to achieve those aims. In particular, going forward we will actively promote global expansion of recycling and processing technologies for which there is a need overseas. Moreover, we plan to install state-of-the-art facilities in the Philippine renovation project, as well as operational and facility management systems that utilize AI and the IoT. The plant will be positioned as our most modernized model, and we plan to use it as a venue for human resource training for Taiheiyo Cement Group plant engineers, including local employees.

Koshiro Hidaka
Managing Executive Officer
Overseeing Production Department
and Maintenance & Engineering
Department

Mineral Resources Business

Kunihiro Ando
Director and Senior Executive Officer
Mineral Resources Business Department

Establishing Our Earnings Foundation via Mine and Quarry Development with the Next 100 Years in View

In addition to selling limestone as a raw material for cement and aggregates for ready-mixed concrete, the Mineral Resources Business sells mineral products to a wide range of industries, including the construction, civil engineering, steel and chemical industries. The natural resources that form our business base are mainly extracted from our own mines and quarries, but factors such as environmental regulations make it harder each year to develop mines and quarries. Given the circumstances, we are developing mines and quarries with a medium- to long-term perspective, for example by devising a plan to invest 100 billion yen in enhancing mines and quarries during the ten-year period that includes the 23 Medium-Term Management Plan. In addition, we aim to make optimal use of those precious natural resources by supplying them for the optimum purpose, depending on the quality and characteristics of each mine or quarry, and by enhancing our transport system. Meanwhile, our geo-solutions business will contribute to the creation of a recycling-based society via the appropriate treatment of construction soil and surplus soil, and we aim to expand sales of heavy metal immobilizer, which makes it possible to treat contaminated soil on construction sites. Furthermore, our mineral expertise is made fully manifest in our functional materials business, where we are developing versatile products that accurately respond to customer needs and which we aim to commercialize before very long.

23 Medium-Term Management Plan Strategies

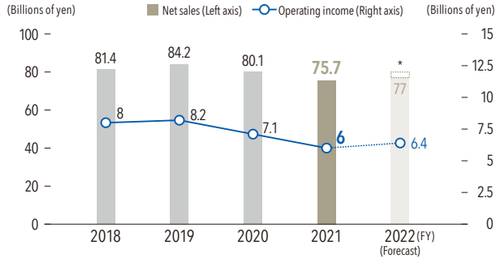
- **Enhance mines and quarries**
  - Enhance mines and quarries to establish infrastructure that will ensure a long-term stable supply of mineral resources
- **Strengthen our earnings foundation**
  - Strengthen and promote limestone aggregate production and distribution facilities
  - Reconstruct our production and sales system targeting steel and paper manufacturing
  - Open up new markets for our heavy metal immobilizer (DENITE)
  - Accelerate commercialization of our functional hollow particles (CellSpheres)
- **Sustained growth investment**
  - Implement growth investment in the Southeast Asia region

Net sales*		Operating income	
FY2021 Results	FY2024 Plan	FY2021 Results	FY2024 Plan
75.7 billion yen	82 billion yen	6 billion yen	9.5 billion yen

*Since we have adopted the Accounting Standard for Revenue Recognition (ASBJ Standard No. 29) etc. from FY2022, the net sales in the FY2024 plan show the amount after adoption of the new standard. (The adoption of the new standard has a downside impact of -4 billion yen.)

FY2021 Achievements

Net Sales and Operating Income



* The adoption of the Accounting Standard for Revenue Recognition has had a downside impact of -3 billion yen.

In our aggregates business, sales of limestone aggregate for ready-mixed concrete for high-rise buildings declined due to redevelopment projects in urban areas being delayed by factors such as the COVID-19 pandemic. Limestone for steel, the mainstay of our mineral products business, saw a decline in sales due to decreased volumes of crude steel in Japan and overseas. Our geo-solutions business ran sales promotions for our heavy metal immobilizer for highway construction projects but, due to factors such as the impact of construction site cave-ins, sales remained at the same level as last year. As a result of all that, we posted net sales of 75.7 billion yen (a decrease of 4.3 billion yen on the previous fiscal year) and operating income of 6 billion yen (a decrease of 1.1 billion yen on the previous fiscal year).

Under those business circumstances, we have finished the development work on Horoshiyama (Sumita Town, Iwate Prefecture), a new mining area for Ofunato Quarry, and completed the environmental assessments for the Yato area of Shin-Tsukumi Quarry (Tsukumi City and Usuki City, Oita Prefecture), which will be the next source of raw materials for the Oita Plant. We also successfully developed Nanolitia, our lithium-ion battery cathode material.

Key Strategies for FY2022

1. Establish the foundations to ensure a long-term stable supply of our mineral resources
- Review, plan and implement mine and quarry redevelopment
- Appropriately utilize our mineral resources

2. Expand the earnings of our existing core businesses that demonstrate the group's overall capabilities

<Aggregates business>
- Establish an aggregate classification plant at Shin-Tsukumi Quarry and carry out sales promotions
- Construct an aggregates yard with the aim of ensuring a stable supply of aggregates in the Kanto region and creating a system to promote sales there

<Mineral products business>
- Develop optimal production systems that match changes in the production systems of our limestone for steelmaking customers

<Geo-solutions business>
- Expand our sales volume by boosting the inclusion of heavy metal immobilizer in the planning for major projects, and securing fixed openings

3. Nurture future key businesses that enable sustainable growth
- Commercialize our functional hollow particles, and create new businesses
- Secure stable income sources for our local subsidiary in Vietnam, and implement growth investment in the Southeast Asia region

Efforts to Address Social Issues

- Stable provision of mineral resource products
- Further contributions to a recycling-based society
- Provision of environmentally sound products

Relevant SDGs

Risks

- Quarries subject to large-scale natural disasters associated with climate change
- Triggering the deterioration of concrete by alkali-aggregate reaction

Opportunities

- Reinforcement of our supply chain, leveraging our abundant mineral resources from mines and quarries
- Development of more sophisticated mining technology

Some of Our Initiatives

Initiatives Aimed at Ensuring a Long-term Supply of Limestone Products, and the Development of New Materials

Development of a new mining area at Shin-Tsukumi Quarry and construction of the Minamisode Yard

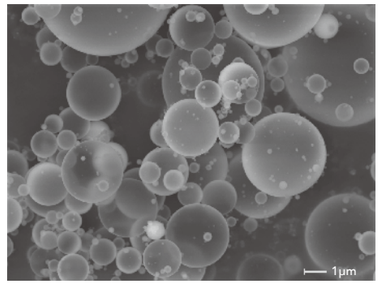
We plan to develop the Yato area, a new site at Shin-Tsukumi Quarry, to ensure a long-term supply of limestone products on into the future. The development will match the characteristics of the mining zone, and we will switch to a production system that is based around limestone products for cement and aggregate. Production and shipment of limestone for steelmaking will be transferred to other quarries in the group and we will take steps to optimize our production structure, for example by installing a new aggregate classification plant at Shin-Tsukumi Quarry. Of the aggregate produced by that plant, we plan to sell the fine aggregate in coastal areas of the Greater Tokyo Area, and to create a stable supply system by constructing a new shipment yard in Sodegaura, Chiba Prefecture.

Panorama of the Gomagara area of Shin-Tsukumi Quarry

Commercialization of our functional hollow particles

Hollow particles have been applied as a material that make things lighter or more adiabatic, due to their balloon-like structure with an internal cavity.

We have developed CellSpheres, which have an average diameter of 5μm or less, which means they are a tenth of the size of conventional hollow particles. They also have a 70% higher hollowness ratio, making them the ideal material to meet the lightness and insulation needs of products such as painting materials, which have shifted to thin film in recent years, and plastic products, which have become increasingly compact. In addition, we will develop products with better dielectric characteristics and heat-resisting properties, while maintaining the high hollowness ratio, and will grow materials that contribute to the development of areas such as 5G and 6G high-speed communication technologies into a future core business.



Magnified photograph of CellSpheres

Environmental Business

Kunihiro Ando
Director and Senior Executive Officer
Environmental Business Department

Aiming to Maximize Our Waste Treatment Business and Establish a New Model for Recycling Resources

Our core business is recycling waste and by-products generated at thermal power stations, steelmakers and chemicals manufacturers, as well as recycling things such as municipal waste, incineration ash and sewage sludge at the request of municipalities. For this, we leverage the diverse environmental technologies the company has cultivated in our cement production. In recent years we have also been focusing on growth in the aquatics business via products such as water purification materials as a way to create and promote a recycling-based society. Meanwhile, global action to reduce greenhouse gases is accelerating. The Environmental Business is working on expanding the use of alternative energies with the aim of achieving our long-term vision and carbon neutrality. We also aim to establish a new resource recycling model with the cement industry at its core, a model that includes measures such as the recycling of lithium-ion batteries, the establishment of low-temperature embrittlement technologies and the recovery of precious metals from municipal waste incineration ash and separation of phosphorus.

23 Medium-Term Management Plan Strategies

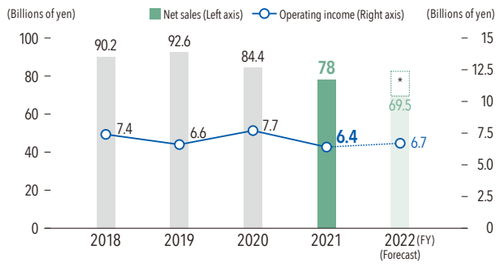
- Initiatives aimed at achieving carbon neutrality
  - Maximize our waste treatment business and develop new businesses
- Strengthen our earnings foundation
  - Establish a new model for recycling resources with the cement industry at its core
  - Implement large-scale initiatives and create new business models

Net sales*		Operating income	
FY2021 Results	FY2024 Plan	FY2021 Results	FY2024 Plan
78 billion yen	82 billion yen	6.4 billion yen	8.5 billion yen

*Since we have adopted the Accounting Standard for Revenue Recognition (ASBJ Standard No. 29) etc. from FY2022, the net sales in the FY2024 plan show the amount after adoption of the new standard. (The adoption of the new standard has a downside impact of -16 billion yen.)

FY2021 Achievements

Net Sales and Operating Income



* The adoption of the Accounting Standard for Revenue Recognition has had a downside impact of -13 billion yen.

Corporate activities in general stagnated due to the impact of COVID-19, which meant that less waste and by-products were generated. This stagnation led to a reduced demand for electricity which, combined with the acceleration of global action to reduce greenhouse gases, led to reduced operation of coal-fired power plants. This meant that, in addition to a drop in the availability of coal ash, sales of calcium carbonate for scrubbing systems at power stations declined, as did the trade in FGD gypsum. As a result of all that, we posted net sales of 78 billion yen (a decrease of 6.3 billion yen on the previous fiscal year) and operating income of 6.4 billion yen (a decrease of 1.2 billion yen on the previous fiscal year).

Under those business circumstances, we installed equipment at group company Tsuruga Cement Co., Ltd. and launched our lithium-ion battery recycling business. In addition to engaging in the regional treatment of disaster waste when group company Myojo Cement Co., Ltd. accepted wood waste generated in the Kuma River drainage basin in Kumamoto prefecture due to the torrential rains of July 2020, we have concluded comprehensive partnership agreements with Hokkaido and Saitama prefectures with regard to the creation of a recycling-based society.

Key Strategies for FY2022

1. Maximize our waste treatment business and develop new businesses
- Increase and expand waste plastic treatment
- Contribute to the creation of a recycling-based society

2. Establish a new model for a recycling-based society with the cement industry at its core
- Secure coal ash substitutes by removal and treatment of harmful elements for cement quality

3. Implement large-scale initiatives and create new business models
- Expand sales of biomass fuel, and discuss strengthening alliances with other companies and M&As

Efforts to Address Social Issues

- Further contributions to a recycling-based society
- Establishment of a new model for recycling resources
- Provision of environmentally sound products and solutions

Relevant SDGs

Risks

- Changes in environmental regulations in countries to which we export waste
- Decline in the volume of coal ash generated due to fewer coal-fired power stations in operation

Opportunities

- Greater use of blended cement in Southeast Asia and other regions
- Development and deployment of technologies to use alternative by-products

Some of Our Initiatives

Creation of New Business Models

Treatment of waste lithium-ion batteries by leveraging cement production processes

Due to their wide use in electric vehicles etc., the amount of waste lithium-ion batteries is expected to increase in the near future. We therefore jointly established a technology that leverages cement production processes to recycle large sized lithium-ion batteries with Matsuda Sangyo Co., Ltd., and installed equipment at group company Tsuruga Cement Co., Ltd. that began treating the waste batteries in April 2020. This technology enables us to make lithium-ion batteries harmless safely and efficiently. Furthermore, total recycling is possible since, in this treatment, the lithium-ion batteries are dismantled, pulverized and sorted through, with useful metals such as rare metals being recycled, and all the residue being reused as raw material for cement production.

Treatment equipment and recovered metals
(Treatment capacity: 10 t/day)

Treatment of waste such as Automobile Shredder Residue using low-temperature embrittlement

Scrapped electrical appliances and the residue after useful metals have been recovered from scrapped cars (ASR, Automobile Shredder Residue) are a kind of waste that is difficult to treat since plastics are entangled with metals that were unable to be separated out. However, in 2021 group company DC launches a business treating waste such as ASR using low-temperature embrittlement technology we have developed.

Low-temperature embrittlement is used to heat the plastics in the ASR and make them more brittle so that it is easy to separate the plastics from the metals. The separated metals are recycled, and the plastics used as fuel for cement production, thereby contributing to the recycling of resources.

Panoramic view of the low-temperature embrittlement equipment

Construction Materials Business

Masaki Takahashi
Managing Executive Officer
Construction Materials Business Department

Strive for an early Recovery for Our Earnings Capacity, and Expand Our Business Domain into Southeast Asia

In addition to making the improvement of the earnings capacity of our existing businesses a top priority theme, we will strive to develop and expand new business domains.

With regard to improving the earnings capacity of our existing businesses, we are striving to not only boost the performance of our products, but also to adopt construction methods that respond to the labor shortage afflicting construction sites. We are also boosting our cost competitiveness and differentiating our products and technologies from those of other companies by measures such as utilizing ICT in ground improvement projects to optimize construction work and make its quality visible.

With regard to developing and expanding new business domains, we will expand into the construction sector of ground improvement projects, and promote the deployment of heavy-duty paving blocks in roadways and harbor yards. Furthermore, now that a capital and business alliance has been concluded with PT Semen Indonesia Group, we plan to promote construction materials business that meets local needs there.

23 Medium-Term Management Plan Strategies

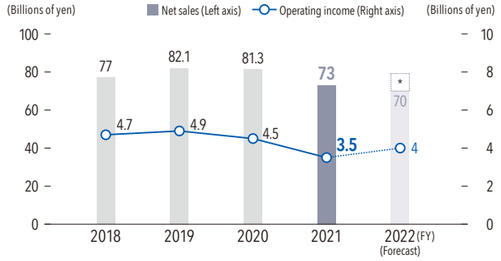
- Strengthen our earnings foundation
  - Improve business profits via product differentiation and greater competitiveness
  - Accelerate the construction of a group structure aimed at business expansion into the Southeast Asian market
- Initiatives Aimed at Achieving Carbon Neutrality
  - Strengthen initiatives to reduce the environmental impact of the entire Construction Materials Business
- Restructuring our businesses in Japan
  - Develop new products and businesses leveraging existing technologies and value chains

Net sales*		Operating income	
FY2021 Results	FY2024 Plan	FY2021 Results	FY2024 Plan
73 billion yen	75 billion yen	3.5 billion yen	6.6 billion yen

*Since we have adopted the Accounting Standard for Revenue Recognition (ASBJ Standard No. 29) etc. from FY2022, the net sales in the FY2024 plan show the amount after adoption of the new standard. (The adoption of the new standard has a downside impact of -10 billion yen.)

FY2021 Achievements

Net Sales and Operating Income



* The adoption of the Accounting Standard for Revenue Recognition has had a downside impact of -9.2 billion yen.

The Construction Materials Business has been impacted by construction work delays and postponements, and sluggish private investment, due to the COVID-19 pandemic, and sales of autoclaved lightweight concrete (ALC) panels and other construction materials have declined. Ground improvement projects have also decreased due to factors such as temporary suspension of construction work under the direct control of the Ministry of Land, Infrastructure, Transport and Tourism. As a result of all that, we posted net sales of 73 billion yen (a decrease of 8.3 billion yen on the previous fiscal year) and operating income of 3.5 billion yen (a decrease of 900 million yen on the previous fiscal year).

Under those business circumstances the group is tackling capital investment and the development of new construction methods to save labor at construction and manufacturing sites as a priority issue. For example, Taiheiyo Materials Corporation has developed Early Cleat, an input system for anti-washout underwater concrete additive that automates the underwater anti-washout additive agitator. This input system has been registered in NETIS (New Technology Information System).

Key Strategies for FY2022

1. Boost the earnings capacity of existing businesses
- Improve product differentiation and competitiveness
- Establish new business methods such as digitalization for the COVID-19 pandemic and the post-COVID world
- Implement capital investment to boost production efficiency

2. Respond to the labor shortage and aging workforce issues affecting construction sites
- Develop labor-saving products and methods
- Secure stable transportation and construction capabilities
- Seek to optimize our supply system by expanding collaborations with OEMs etc.

3. Expand into new business domains
- Open up new business areas that can create synergies
- Develop new products leveraging technologies and value chains possessed by group companies
- Construct a group system with a view to business expansion into the burgeoning Southeast Asian market

Efforts to Address Social Issues

- Provision of environmentally sound products and technical services.
- Provision of labor saving products

Relevant SDGs

Risks

- A shrinking domestic construction market due to a declining population
- Decline in the competitiveness of our existing businesses

Opportunities

- Expand into new business domains such as overseas markets
- Supply competitive, high value-added products and technologies

Some of Our Initiatives

Development of New Labor-saving Materials and Methods, and Creation of New Business Domains

AIR SHOT ONE a dry spraying method that decreases the environmental burden and reduces dust

In April 2021, Taiheiyo Materials Corporation launched AIR SHOT ONE as a new cross-section repair method. In addition to offering basic features of dry spraying such as a thicker sprayed layer, longer feed hoses and no need for mixing equipment, this method utilizes a special nozzle to spray mortar to which an agent to reduce dust has been added, thereby greatly reducing the generation of dust during spraying work that has been a dry spraying issue. All ingredients other than water are contained in the dry mortar powder. Furthermore, the use of polymer powder to enhance the properties of the mortar means that we have no longer any need to measure liquid polymer and no waste container is generated. In addition, this mortar can be applied using the plastering method, so it is possible to use it even in small-scale work.

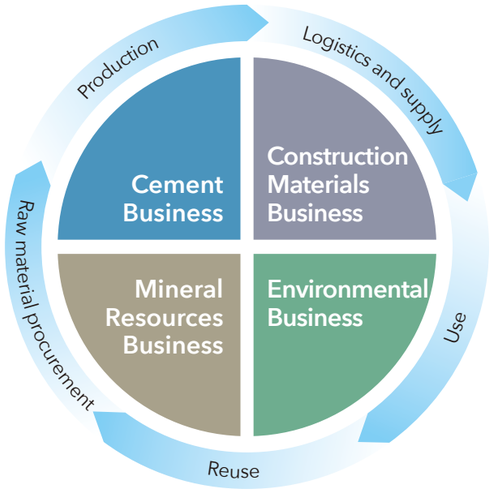
Spraying AIR SHOT ONE

Reducing Life Cycle Costs: the Hyper Road System

TAIHEIYO PRECAST CONCRETE INDUSTRY Co., Ltd. sells the Hyper Road System, which inhibits pavement deterioration such as ruts and reduces the frequency of repair work. Commonly, 80 mm-thick paving blocks are used for pavement for vehicles. This system applies 100 mm-thick blocks and special sand that makes it harder for fine particles to be generated by friction between the joint sand and the paving sand. This has boosted load transfer performance and at the same time inhibited the decline in bearing capacity that is a consequence of sand being washed out by water penetration. This means that a level surface can be maintained over a long period of time, even in areas traveled by special large vehicles. This product has been applied for construction in container yards at a number of ports, including the Port of Osaka, and remains in good condition even after five years.

Container yard construction example (approx. 3,000 m² area)

Research and Development



Research and Development

Developing Outstanding R&D Capabilities to Contribute to Society and Sustainable Growth

- Develop technologies aimed at achieving carbon neutrality
- Refine infrastructure technologies that respond to changes in our external environment and expand overseas
- Develop recycling technologies that contribute to the building of circular economies
- Develop innovative materials, future-oriented technologies and intellectual asset strategies

Key Strategies for FY2022

1 Carbon neutrality

- Maximize use of fossil fuel substitutes and low-carbon cement
- Innovative cement production processes

2 Refine infrastructure technologies and expand overseas

- Cement: Quality, processes and cost reductions
- Stabilizer/Insolubilizing agent: Enhance functionality and expand applications
- Concrete: Enhance functionality and expand applications

3 Evolve recycling technologies

- Evolve combustion and dechlorination technologies
- Coal ash and slag substitutes, alkali reduction
- Resource complex initiatives

4 Innovative materials

- Functional materials
- Resource-recycling calcium carbonate concrete

5 Future-oriented technologies

- Utilization of AI and the IoT to boost productivity and reduce labor needs
- Integrated system to control kilns and estimate quality

Developing Key Technologies for Achieving Carbon Neutrality

Research and Development places an emphasis on contributing to the resolution of various social issues, and on drafting and implementing R&D strategies to contribute to the group's sustainable growth.

In particular, we recognize that society is aiming for carbon neutrality; accepting that demand and aiming to establish innovative technologies that will be implemented in society to achieve that is a top priority challenge that will impact the future of the cement industry. We therefore position it as a very important growth strategy. We will also seek to further refine our infrastructure technologies so that we can maintain and develop "Taiheiyo quality" while responding to the changes in various business environments, and can supply high-quality products and advanced solutions. Contributing to the creation of circular economies is another important role we play, and further enhancing our technologies for utilizing recycled resources is a key challenge. We also position the following as key future-oriented challenges: the enhancement of innovative technologies that will lead to new generation of profits, the boosting of productivity via AI and the IoT, and the development of labor-saving technologies.

We aim to promote those five key strategies and develop outstanding R&D capabilities to contribute to society and sustainable growth. While doing so we will also promote the training of global resources who will play an active role in Japan and overseas, and develop organic collaborations and operations for our organization, so that our technological capabilities can support the group's aim of "becoming an outstanding leading company."

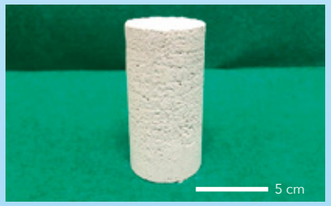
Takayoshi Okamura
Managing Executive Officer
Intellectual Property Department and Central Research Laboratory

Main FY2021 Initiatives and Achievements

1 Carbon neutrality

Calcium carbonate concrete

We have successfully developed basic production technologies for calcium carbonate concrete that is hardened using CO_2, water and used concrete. As a member of the NEDO Moonshot Research & Development Program (project manager: Professor Takafumi Noguchi, The University of Tokyo) we are responsible for the development of materials. Going forward, we aim to promote the establishment of industrial production methods and create innovative carbon-neutral construction materials.

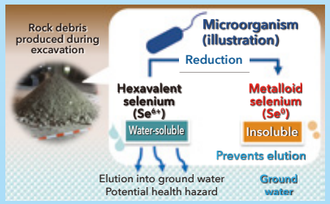


Sample of the calcium carbonate concrete under development

2 Refine infrastructure technologies and expand overseas

Immobilization of Selenium Using Microorganisms

Rock debris generated during tunnel excavation sometimes contains hexavalent selenium (Se^{6+}), which is water-soluble and occasionally harmful. Taiheiyo Cement is moving forward with the development of a new technology to immobilize selenium that will reduce and remove harmfulness of hexavalent selenium (Se^{6+}) using microorganisms that exist in rock debris. If detoxification becomes possible, it is expected to prevent ground water contamination and make the rock debris a recyclable resource that can be used as a material for civil engineering works such as embankments.

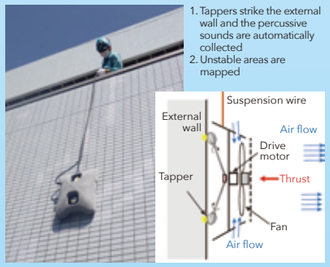


Selenium immobilization mechanism

2 Refine infrastructure technologies and expand overseas

Wall survey system

This is a labor-saving technology for the inspection of external walls. The suspended inspection robot traverses the external wall to carry out a tapping test. This system also helps to cut costs and contribute to operational safety since it does not require the use of suspended work platforms or scaffolding. We will contribute to the creation of a safe and secure society by promoting external wall diagnostic check projects using this system.

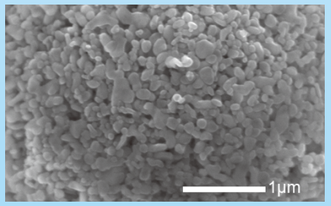


Wall survey system diagram and in action

4 Innovative materials

Nanolitia, cathode material for lithium-ion batteries

Nanolitia is a cathode material for lithium-ion batteries that does not use rare cobalt as a raw material. It is expected to offer better thermostability and reliability than existing cathode materials, which contain nickel and cobalt. A demonstration plant with annual capacity of 100 tonnes is under construction at Central Research Laboratory. It will be completed and commence operation during FY2022, and will move forward with action aimed at commercialization.

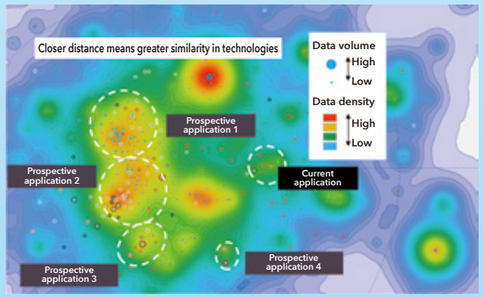


Electron micrograph of Nanolitia

Intellectual property strategy

The three missions of our intellectual property strategy are to create intellectual assets that will underpin our businesses, supply valuable information via intellectual property solution activities based around data analysis, and enhance the intellectual property capabilities of the entire group.

In recent years we have been focusing in particular on activities involving intellectual property solutions, and are working on IP Landscape, which performs panoramic analysis and assessment combining perspectives such as intellectual property data and business information. We collaborate with R&D and business divisions, and supply information that contributes to new R&D developments and new business creation via the analysis of patent information and market data.



IP Landscape example

G Governance

Our Directors and Corporate Auditors

Back row

Yoshio Fujima
Outside Corporate Auditor

Shigeru Matsushima
Corporate Auditor (Standing)

Shinhachiro Emori
Outside Director

Kunihiro Ando
Director and Senior Executive Officer

Masahiro Karino
Director and Senior Executive Officer

Tetsuya Ohashi
Director and Senior Executive Officer

Hideyuki Furikado
Outside Director

Katsuhide Fukuhara
Corporate Auditor (Standing)

Front row

Yoshiko Koizumi
Outside Director

Masafumi Fushihara
President and Representative Director

Shuji Fukuda
Chairman and Director

Yuuichi Kitabayashi
Vice President and Representative Director

Wakako Mitani
Outside Corporate Auditor

Our Directors and Corporate Auditors

Directors

Shuji Fukuda
Chairman and Director

Career Summary

Apr. 1974	Joined Onoda Cement Co., Ltd.
Jun. 1999	General Manager, Accounting & Finance Department of Taiheiyo Cement Corporation
Apr. 2004	General Manager, Accounting & Finance Department and General Manager, Accounting & Finance Business Operation Center
Apr. 2006	General Manager, Hokuriku Branch
Apr. 2008	Executive Officer and General Manager, Human Resources Department General Manager, Personnel Business Operation Center
Oct. 2008	Executive Officer and General Manager, Human Resources Department
Aug. 2010	Director, Managing Executive Officer and General Manager, Human Resources Department
Oct. 2010	Director and Managing Executive Officer
Apr. 2012	President and Representative Director
Apr. 2018	Chairman and Director (to present)

Experience and Knowledge

Since 2010 Mr. Shuji Fukuda has engaged in the management of the company as a director and, after serving as president and representative director, was appointed as chairman and director in April 2018. He possesses a wealth of managerial experience, achievements and knowledge. While striving to enhance the function of the Board of Directors as chairperson, he has also served effectively as a director, striving to continuously increase the corporate value of the group, such as by identifying key management issues and supervising business execution.

Masafumi Fushihara
President and Representative Director

Career Summary

Apr. 1978	Joined Onoda Cement Co., Ltd.
Apr. 2007	General Manager, Business Promotion Department of Environmental Business Company of Taiheiyo Cement Corporation
May 2009	General Manager, Sales Department of Environmental Business Company
Oct. 2010	General Manager, Environmental Business Development Department
Apr. 2012	Executive Officer and General Manager, Environmental Business Development Department
Apr. 2015	Managing Executive Officer
Jun. 2015	Director and Managing Executive Officer
Apr. 2016	Director and Managing Executive Officer Senior General Manager, Cement Business Division
Apr. 2017	Director and Senior Managing Executive Officer Senior General Manager, Cement Business Division
Apr. 2018	President and Representative Director (to present)

Experience and Knowledge

Since 2015 Mr. Masafumi Fushihara has engaged in the management of the company as a director and was appointed as president and representative director in April 2018 after serving as senior general manager of the Cement Business Division. He possesses a wealth of managerial experience, achievements and management insights. He continuously strives to increase the corporate value of the group and significantly contributes to its development, while also identifying key management issues and supervising business execution.

Yuuichi Kitabayashi
Vice President and Representative Director

Career Summary

Apr. 1978	Joined Nihon Cement Co., Ltd.
May 2009	General Manager, Kamiiso Plant of Taiheiyo Cement Corporation
Apr. 2011	Executive Officer and General Manager, Production Department
Apr. 2013	Managing Executive Officer
Jun. 2013	Director and Managing Executive Officer
Apr. 2016	Director and Senior Managing Executive Officer
Apr. 2017	Vice President and Representative Director (to present)

Experience and Knowledge

Since 2013 Mr. Yuuichi Kitabayashi has engaged in the management of the company as a director and was appointed as vice president and representative director in April 2017. He possesses a wealth of managerial experience, achievements and management insights. He continuously strives to increase the corporate value of the group and significantly contributes to its development while also identifying key management issues and supervising business execution.

Masahiro Karino
Director and Senior Executive Officer

Career Summary

Apr. 1980	Joined Nihon Cement Co., Ltd.
Apr. 2004	General Manager, Legal Department of Taiheiyo Cement Corporation
Apr. 2013	Executive Officer and General Manager, Legal Department
Apr. 2016	Managing Executive Officer
Jun. 2016	Director and Managing Executive Officer
Apr. 2019	Director and Senior Executive Officer (to present)

Experience and Knowledge

Since 2016, Mr. Masahiro Karino has engaged in the management of the company as a director and was appointed as a director and senior executive officer in April 2019. As the officer in charge of human resources and legal divisions, he is effective in the role of a director in striving to continuously increase the corporate value of the group as he significantly contributes to its development while also identifying key management issues and supervising business execution.

Kunihiro Ando
Director and Senior Executive Officer

Career Summary

Apr. 1980	Joined Onoda Cement Co., Ltd.
Apr. 2011	General Manager, Ofunato Plant of Taiheiyo Cement Corporation
Apr. 2013	Executive Officer and General Manager, Oita Plant
Apr. 2015	Executive Officer and General Manager, Mineral Resources Business Department
Apr. 2016	Managing Executive Officer
Jun. 2016	Director and Managing Executive Officer
Apr. 2020	Director and Senior Executive Officer (to present)

Experience and Knowledge

Since 2016, Mr. Kunihiro Ando has engaged in the management of the company as director and was appointed as director and senior executive officer in April 2020. As the officer in charge of the mineral resources business and environmental business divisions, he is effective in the role of a director in striving to continuously increase the corporate value of the group as he significantly contributes to its development while also identifying key management issues and supervising business execution.

Tetsuya Ohashi
Director and Senior Executive Officer

Career Summary

Apr. 1982	Joined Onoda Cement Co., Ltd.
Oct. 2010	President of Taiheiyo Cement U.S.A. Co., Ltd.
Apr. 2015	Senior General Manager of International Business Division, Taiheiyo Cement Corporation
Apr. 2016	Executive Officer and Senior General Manager of International Business Division
Apr. 2019	Managing Executive Officer
Jun. 2019	Director and Managing Executive Officer
Jun. 2020	Managing Executive Officer
Apr. 2021	Senior Managing Executive Officer
Jun. 2021	Director and Senior Executive Officer (to present)

Experience and Knowledge

Since 2019, Mr. Tetsuya Ohashi has engaged in the management of the company as a director and was appointed as a director and senior executive officer in June 2021. As the officer in charge of general affairs and corporate planning divisions, he is effective in the role of a director in striving to continuously increase the corporate value of the group as he significantly contributes to its development while also identifying key management issues and supervising business execution.

Yoshiko Koizumi
Outside Director

Career Summary

Apr. 1972	Registered as a lawyer (Daini Tokyo Bar Association)
Jan. 1980	Partner, Masuda and Ejiri Law Office (now Nishimura & Asahi)
Jan. 2008	Counsel, Nishimura & Asahi
Apr. 2009	Partner, City-Yuwa Partners (to present)
Jun. 2015	Director at Taiheiyo Cement Corporation (to present) Outside Director, Dowa Holdings Co., Ltd. (to present)
Jun. 2016	Outside Director, Sumitomo Bakelite Co., Ltd.
Sep. 2017	Outside Corporate Auditor, Nippon Koei Co., Ltd. (to present)

Experience and Knowledge

After working as counsel and partner at law firms, Ms. Yoshiko Koizumi was appointed as a director of the company in June 2015. She has a wealth of corporate law experience, and provides precise recommendations and advice from an objective standpoint, independent of the management team that executes business in the Board of Directors, and also monitors and supervises overall management.

Shinhachiro Emori
Outside Director

Career Summary

Apr. 1975	Joined Toyo Soda Manufacturing Co., Ltd. (currently TOSOH CORPORATION)
Jun. 2010	Director of TOSOH CORPORATION
Jun. 2011	Managing Director of TOSOH CORPORATION
Jun. 2012	Representative Director and Managing Executive Officer of TOSOH CORPORATION
Jun. 2015	President and Representative Director of TAIYO VINYL CORPORATION
Jun. 2020	Director at Taiheiyo Cement Corporation (to present)

Experience and Knowledge

After serving as representative managing director of Tosoh Corporation and president and representative director of Taiyo Vinyl Corporation, Mr. Shinhachiro Emori was appointed as director of the company in June 2020. He possesses a wealth of experience, achievements and insight as a corporate manager. He provides precise recommendations and advice from an objective standpoint, independent of the management team that executes business in the Board of Directors, and also monitors and supervises overall management.

Hideyuki Furikado
Outside Director

Career Summary

Apr. 1977	Joined the Ministry of Finance
Jul. 2004	Deputy Director-General of Financial Services Agency
Jul. 2010	President, Policy Research Institute, Ministry of Finance, Japan
Dec. 2013	Retired from Ministry of Finance
Jun. 2014	Senior Managing Director of Trust Companies Association of Japan
Jun. 2021	Director at Taiheiyo Cement Corporation (to present)

Experience and Knowledge

After serving at the Ministry of Finance and as the managing director of a general incorporated association, Mr. Furikado was appointed as a director of the company in June 2021. He has extensive administrative experience as a government official, and provides precise recommendations and advice from an objective standpoint, independent of the management team that executes business in the Board of Directors, and also monitors and supervises overall management.

Corporate Auditors

Shigeru Matsushima
Corporate Auditor (Standing)

Career Summary

Apr. 1979	Joined Nihon Cement Co., Ltd.
May 2009	General Manager, Hokkaido Branch of Taiheiyo Cement Corporation
Apr. 2011	Executive Officer and General Manager, Hokkaido Branch
Apr. 2012	Executive Officer , Deputy General Manager and Senior General Manager of Cement Business Division
Apr. 2013	Managing Executive Officer
Jun. 2013	Director and Managing Executive Officer
Apr. 2017	Director and Senior Managing Executive Officer
Apr. 2019	Director
Jun. 2019	Corporate Auditor (Standing) (to present)

Experience and Knowledge

After serving as a director and senior executive officer of the company Mr. Shigeru Matsushima was appointed as a corporate auditor in June 2019. As a director of the company he has taken charge of a wide range of operations in general affairs, accounting and environmental business divisions, and has considerable insight as well as the experience of supervising business execution as a director. He effectively audits the execution of duties by directors to continuously improve the corporate value of the group.

Katsuhide Fukuhara
Corporate Auditor (Standing)

Career Summary

Apr. 1981	Joined Onoda Cement Co., Ltd.
Apr. 2013	General Manager, Corporate Planning Department of Taiheiyo Cement Corporation
Apr. 2015	Executive Officer and General Manager, Corporate Planning Department
Apr. 2017	Managing Executive Officer
Jun. 2017	Director and Managing Executive Officer
Jun. 2020	Managing Executive Officer
Jun. 2021	Corporate Auditor (Standing) (to present)

Experience and Knowledge

Mr. Katsuhide Fukuhara possesses a wealth of professional experience and expertise as a director and managing executive officer with extensive responsibilities in construction materials business and group company administrative divisions whose work includes advancing our group management. He effectively audits the execution of duties by directors to continuously improve the corporate value of the group.

Wakako Mitani
Outside Corporate Auditor

Career Summary

Apr. 2000	Registered as a lawyer (Daiichi Tokyo Bar Association)
Jul. 2001	Joined TANABE & PARTNERS
Apr. 2012	Partner, TANABE & PARTNERS (Current position)
Feb. 2018	Corporate Auditor at Taiheiyo Cement Corporation (to present)

Experience and Knowledge

After working as a partner at a law firm Ms. Wakako Mitani was appointed as a corporate auditor of the company in February 2018. As a lawyer she has considerable experience, achievements and insights in the field of corporate legal affairs, and effectively audits the execution of duties by directors from an independent, objective and fair standpoint.

Yoshio Fujima
Outside Corporate Auditor

Career Summary

Nov. 1974	Joined Chuo Audit Corporation (now MISUZU Audit Corporation)
Mar. 1980	Registered as a certified public accountant
Sep. 1990	Employee, Chuo Shinko Audit Corporation (now MISUZU Audit Corporation)
Aug. 1996	Representative Partner, Chuo Audit Corporation (now MISUZU Audit Corporation)
Jul. 2007	Retired from MISUZU Audit Corporation
Jun. 2011	Outside Auditor, JIEC Co., Ltd.
May 2012	Outside Auditor, Prime Works Co., Ltd. (now Neos Corporation)
May 2016	Outside Director (Audit and Supervisory Committee Member), JIEC Co., Ltd.
Jun. 2019	Corporate Auditor at Taiheiyo Cement Corporation (to present)

Experience and Knowledge

After serving as a representative partner of an auditing firm and an outside director and auditor of operating companies, Mr. Yoshio Fujima was appointed as a corporate auditor of the company in June 2019. As a certified public accountant he has abundant experience, achievements and insights, including many years of practical experience in corporate accounting. He effectively audits the execution of duties by directors from an independent, objective and fair standpoint.

Messages from Outside Directors

Expectations of Further Dissemination of Information on Topics Such as Trailblazing Initiatives on Social Issues and Transparent Governance Structures

Outside directors Yoshiko Koizumi, Shinhachiro Emori and Hideyuki Furikado spoke about their recommendations and expectations of our governance system and ESG management based on their respective experience in corporate legal affairs as a lawyer, in business management, and at the Ministry of Finance and the Financial Service Agency.

Business Will Be Driven Over the Next 100 Years by Sustainability Which Has Become Part of the Company's DNA

The Standards of Conduct (Casebook) is distributed to all Taiheiyo Cement employees, and we are working consistently to fulfill the commitment made in the 2015 edition to reduce greenhouse gas emissions by 40-70% by 2050. This fiscal year is the first of the 23 Medium-Term Management Plan, which makes initiatives aimed at carbon neutrality one of its key strategies. The commitment to a strategy of investing 100 billion yen over the next decade, which includes the three years covered by the 23 Medium-Term Management Plan, clearly demonstrates a corporate stance ahead of global trends. The decision to establish a project team under the direct control of the vice president to drive this strategy shows how determined the company is to achieve carbon neutrality. I highly rate Taiheiyo Cement's corporate activities, which are based on a sense of responsibility and awareness of being a leading company in Japan's cement business, and intend to make such excellent initiatives more widely known amongst stakeholders and in society at large. With regard to diversity, the company is moving forward with medium and long-term plans to develop excellent human resources at its overseas bases. In my opinion, slightly more progressive strategies for the utilization of human resources are required for the company to develop globally, such as the promotion to executive positions of personnel from overseas group companies. The group is targeting sustainable growth and is making systematic investments aimed at developing mines and quarries and strengthening plant facilities with the next 100 years in view. I can sense that sustainability has become so firmly rooted in the company that it should be considered part of its DNA. I will do my best to contribute to TCC's strategy for sustainable growth by using my experience as an international lawyer to offer beneficial recommendations with regard to overcoming and providing solutions to any obstacles that may arise in this corporate culture as the company aims for further globalization.

Yoshiko Koizumi Outside Director

Strengthen Governance via Constructive Dialog with Group Companies

The company has maximized the technologies it has cultivated in its cement production, created a recycling-based business model, and established its profitability. I applaud how, in addition to that, the company has committed to a policy of investing a total of 300 billion yen over the next decade, which includes the three years covered by the 23 Medium-Term Management Plan. This will consist of 100 billion yen investments in, respectively, the achievement of carbon neutrality, the strengthening of plant facilities, and the development of mines and quarries. I also applaud how it has made clear to stakeholders its corporate stance of aiming to become an outstanding leading company, and revealed the specifics of the group's sustainable management policies. Governance systems are at the heart of sustainable management, and I can see that robust and detailed structures and organizations have been constructed that are based on expertise amassed over more than a century of corporate activities. However, the Taiheiyo Cement Group is composed of many subsidiaries in Japan and overseas, and I feel that there are more opportunities to improve cooperation between the Internal Auditing Department at Headquarters and each business division overseeing group companies with regard to the governance system within the group and the thorough enforcement of compliance. Although I worked for a chemical manufacturer, where the business structure was different from that of a cement manufacturer and in an industry which expected different functions of group companies, I do have experience as a representative of both the head company and its group companies. Based on that experience, I believe that group unity which leads to further growth can be created not only by regular audits and group round table discussions, but also by opportunities for constructive discussions where the top management at headquarters and group companies can express themselves freely about the management policies and various business challenges of each group company. I will make the most of the experience I have obtained so far to offer recommendations aimed at strengthening governance in the management of the group.

Shinhachiro Emori Outside Director

Improve Information Disclosure to Various Stakeholders

The Taiheiyo Cement Group is the leading company in the Japanese cement industry, with a history stretching back more than 100 years. I can see the strong management determination to boost transparency and governance displayed in such steps as the thorough provision of information in advance of its Board of Directors meetings so that outside directors can fully leverage their individual expertise, and can sense how that determination pervades company-wide activities. It is also a global enterprise which has eight production sites in the Pacific Rim region and where employees of many different nationalities flourish, and I can sense the strong interest it arouses in domestic and overseas investors etc. In recent years, stakeholders such as investors have been paying attention to not just financial data but also non-financial data such as details about initiatives such as ESG and SDGs that are linked with a company's sustainable growth, and about the results of such initiatives. The company is engaged in ambitious corporate activities in this field, such as initiatives aimed at carbon neutrality, and I think it should strive to disclose more information based on those activities.

So far, I have designed and enforced various systems mainly in monetary policy. Recently there has been engagement in constructive dialogue between business enterprises and shareholders based on the Stewardship Code and Corporate Governance Code. I was deeply involved in the policy making aimed at creating such connections and dialogue. Going forward, I hope to make such expertise fully manifest in the business world and make recommendations aimed at more appropriate information disclosure. I intend also to boost the medium and long-term corporate value of the company by leveraging my experience in establishing governance-related legal systems for financial institutions and the like, and strengthening the company's group governance.

Hideyuki Furikado Outside Director

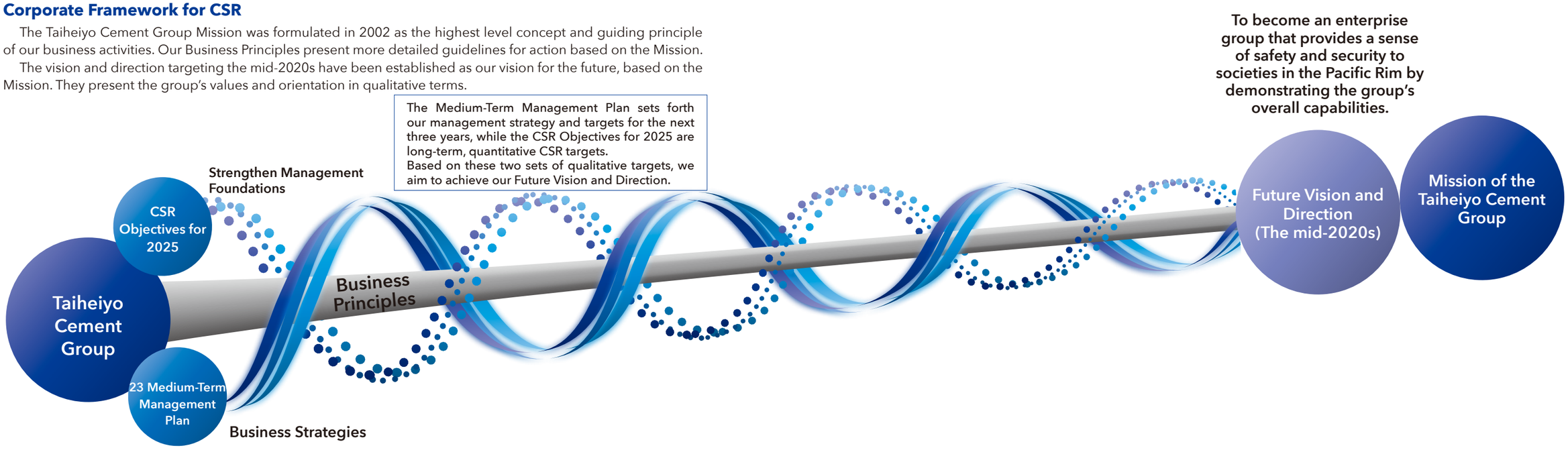
CSR Management

Corporate Framework for CSR

The Taiheiyo Cement Group Mission was formulated in 2002 as the highest level concept and guiding principle of our business activities. Our Business Principles present more detailed guidelines for action based on the Mission.

The vision and direction targeting the mid-2020s have been established as our vision for the future, based on the Mission. They present the group's values and orientation 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.
Based on these two sets of qualitative targets, we aim to achieve our Future Vision and Direction.



CSR Objectives for 2025

I Prevention of accidents
Zero fatalities

II Reduction of greenhouse gas emissions
Reduce specific net CO_2 emissions by at least 10% from fiscal 2021 levels by fiscal 2025.

III Workplace diversity
Ratio of female recruits: At least 30%
Ratio of female employees: At least 10%
Ratio of newly appointed female managers: At least 10%

Basic Policy for Promoting CSR Management

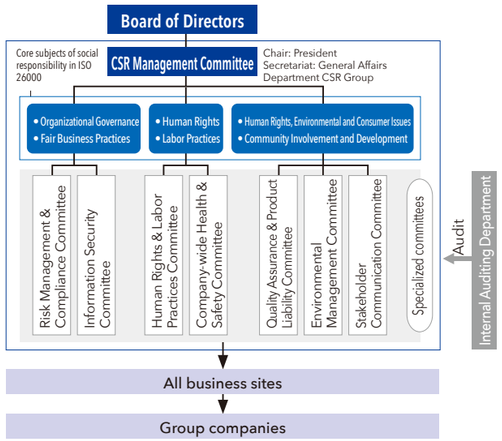
We promote CSR management in accordance with our CSR guidelines, which specify actions that are essential for realizing the Mission of the Taiheiyo Cement Group, and implementing our Business Principles. The guidelines steer the company as we conduct activities in and outside of our businesses that fulfill our social responsibility while pursuing 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

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 autonomous decisions.
3. We will manage the company in the awareness that our social mission includes protecting the environment, defending human rights and contributing to communities.
4. We will proactively engage with 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 state of our CSR management, and build relationships of trust.
6. We will treat the promotion of CSR management as a group-wide activity.

The System to Promote CSR Management

To promote our CSR management we have created a cross-departmental CSR Management Committee, chaired by the president with all board directors and all managing executive officers 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 important matters, 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 Training Programs

We provide CSR education through training programs for each job level, including sessions for newly hired employees, follow-up courses for newly hired employees, career development courses, and training for newly appointed managers. Each specialized committee provides the relevant training programs for education on specific issues, including compliance and human rights. We also conduct executive level CSR training once a year, including for group companies. FY2021 was the first year since our switch from the CSR Report to the Integrated Report, so we explained the main points in our in-house newsletter that goes out to all our employees in order to deepen their understanding of the Integrated Report.

● Executive-level CSR Training (FY2021)

Date	Companies in Attendance	Themes
November 2020	82 Combined with remote attendance	• Anti-power harassment laws, and recent forms of harassment • Topics related to the prevention of irregularities and misconduct

Key CSR Issues (Materiality)

Steps in Their Review

Step 1 Identification of issues

We identified issues while referring to international guidelines and stakeholder feedback in the context of our business.

Step 2 Prioritization

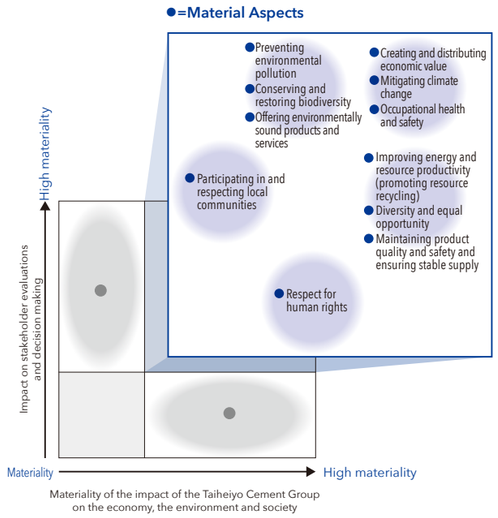
We held internal discussions to review the identified CSR issues and decide which were material aspects for the Taiheiyo Cement Group, and ranked them in order of priority.

Step 3 Verification

We scrutinized whether the selected issues encompassed key issues for the Taiheiyo Cement Group, and whether they reflected the expectations of our stakeholders, before coming to a final decision.

Step 4 Review

We review the issues every fiscal year for a published report.



The Taiheiyo Cement Group's Approaches

Category	Material aspects	Management approach
Economic	Creating and distributing economic value	**Policy** ・Conduct business activities in accordance with our 20 Medium-Term Management Plan (FY2019 to FY2021)
Environmental	Improving energy and resource productivity (promoting resource recycling) Mitigating climate change Preventing environmental pollution Conserving and restoring biodiversity Provision of environmentally sound products and services	**Policy** ・Environmental Management Policy ・WBCSD Charter ・GCCA Sustainability Charter **System** ・Establish the Environmental Management Committee ・All plants and branches, Headquarters and the Central Research Laboratory operate in compliance with ISO 14001 **Evaluation** ・Framework for Our Long-term Vision of Greenhouse Gas Emissions Reduction toward 2050 ・CSR Objectives for 2025 ・Group environmental targets and KPIs based on the WBCSD Charter and the GCCA Sustainability Charter ・Monitoring and review by the Environmental Management Committee
Social	Occupational health and safety	**Policy** ・Occupational Health and Safety Policy **System** ・Company-wide Health & Safety Committee ・OSHMS in operation at all plants and mines **Evaluation** ・CSR Objectives for 2025 ・Monitoring of data on health and safety including information from contractors
	Workplace diversity and equal opportunity	**Policy** ・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 of various kinds of personnel data
	Maintaining product quality and safety, and ensuring stable supply	**Policy** ・Quality Policy **System** ・A unified ISO 9001-based management system for product development, design and production ・Taiheiyo Brand Cement/Concrete (TBC) activities **Evaluation** ・Analysis of suggestions and inquiries related to quality ・Regular disclosure of safety-related data about our products on our website
	Participating in and respecting local communities	**Policy** ・Identification of communication with communities as a material issue in the Mission of the Taiheiyo Cement Group and the Basic Policy of CSR **System** ・Promotion of company-wide activities by the Stakeholder Communication Committee **Evaluation** ・Management of progress and sharing of information under the company-wide action plan
	Respect for human rights	**Policy** ・Basic Policy Concerning Human Rights and Labor Practices **System** ・Promotion of company-wide activities by the Human Rights & Labor Practices Committee ・Contact points for counseling **Evaluation** ・Management of progress and sharing of information under the company-wide action plan, and facilitating negotiations and the exchange of opinions at labor management consultations

Stakeholder Engagement

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 below are Taiheiyo Cement Group's key stakeholders, identified through consideration of our business characteristics and environment.

	Shareholders	Business partners	Employees	Local communities and local governments
Key stakeholders	Shareholders, investors Financial institutions	Cement sales agents Ready-mixed concrete companies Construction companies Orderers Suppliers Waste disposal companies	The Taiheiyo Cement Group Contractors	Local communities in which we do business Local governments NGOs and NPOs
Environmental (E)	• Measures to mitigate climate change, and information disclosure • Enhancement of environmentally sound management • Reduction of greenhouse gas emissions	• Provision of environmental products • Contributions to waste treatment	• Promotion of environmentally sound management • Environmental education	• Reduction of environmental impacts • Measures to mitigate global warming • Conservation of biodiversity
Social (S)	• Timely and appropriate information disclosure • Rejection of antisocial forces • Appropriate allocation of capital	• Stable supply of products • Maintenance of product quality and safety • Greater customer satisfaction	• Respect for human rights and diversity • Health and safety assurance • Skills and career development	• Contributions to the building of social infrastructure • Job creation • Contributions to disaster preparedness, and to restoration work after disaster damage
Governance (G)	• Enhancement of corporate value • Appropriate redistribution of profits • Transparent management	• Compliance • Impartial business transactions • Respect for human rights	• Good work environment • Adherence to laws, ordinances, and systems • Human resource development and fair evaluations	• Compliance • Timely and appropriate information disclosure

Collaboration with External Organizations

Global Cement and Concrete Association (GCCA)

The Global Cement and Concrete Association (GCCA) was established in 2018. As a founding member, Taiheiyo Cement is the sole Japanese cement and concrete manufacturer participating in its activities. The GCCA inherited the activities of the Cement Sustainability Initiative (CSI), a sector project of the World Business Council for Sustainable Development (WBCSD), in January 2019 and collaborates with the WBCSD in initiatives aimed at sustainable development. The GCCA has established six working groups to develop various guidelines on such themes as responses to climate change, a long-term roadmap for CO_2 reduction, low-carbon concrete, biodiversity, and health and safety. We are working to build a sustainable society via such GCAA initiatives, for example by setting and disclosing CO_2 emission reduction targets for each member company.

In addition, the GCCA launched a research network called Innovandi in 2020 and is expanding research worldwide into sustainable concrete and cement, which are characterized by low CO_2, as well as into the separation and recovery of CO_2. We have participated in Innovandi since its establishment. We recognize the challenges that the GCCA and Innovandi are working on as one of our management issues and strive to engage with them.

The World Business Council for Sustainable Development (WBCSD)

As a core member of the WBCSD Cement Sustainability Initiative (CSI) since 2000 we have engaged in international activities for sustainable development. Even after the activities of CSI were taken over by the GCCA, we continue to work as a WBCSD member and exchange the latest information on ESG with member companies from a broader perspective.

In addition, each year we enroll one employee in the WBCSD Leadership Program. We have sent eight employees so far, and this training program is helping us to develop global human resources.

Participation in the Industrial Federation for Human Rights, Tokyo

Taiheiyo Cement is a participant in the Industrial Federation for Human Rights, Tokyo. Established in November 1979, the federation now consists of 123 companies (representing about 1.5 million employees as of July 2020), most of which are headquartered in Tokyo. Under its basic philosophy of voluntary management and full participation, the federation endeavors to resolve the "Dowa issue" (discrimination against a caste-like minority of ethnic Japanese) and other human rights issues from a company perspective.

Corporate Governance

Corporate Governance

In keeping with the group's mission, we established the Basic Policy on Corporate Governance with the aim of meeting the expectations of all our stakeholders, including shareholders, and helping to achieve sustainable growth while maximizing our corporate value over the medium to long term. Under this policy we also work toward further enhancing our corporate governance.

Taiheiyo Cement Group Management Organization

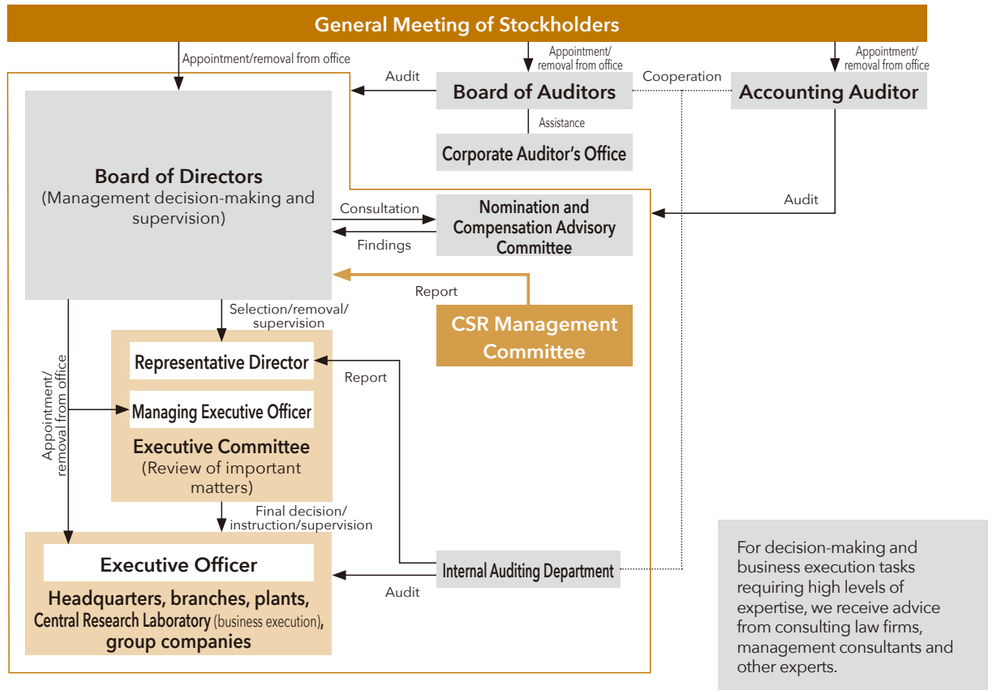
▶ GRI102-18, 19, 22, 23, 24, 28, 29, 30, 33, 35, 36, 37

Corporate Governance System

Our management structure is based upon the Board of Directors and Board of Auditors. However, the Nomination and Compensation Advisory Committee was established on March 31, 2021 as an advisory body of the Board of Directors on decisions regarding the nomination and remuneration of executives. We have also introduced an executive officer system and are endeavoring to separate management decision-making and monitoring/supervisory functions from business execution. Our Corporate Auditor's Office provides comprehensive support for corporate auditors in the performance their duties. We have set up an internal control system in the Internal Auditing Department and, by means of internal audits, strive to ensure that operations are properly executed in the company and group companies.

In addition, the CSR Management Committee was established to strengthen our corporate governance, for example by improving our business activities from the perspective of CSR.

Corporate Governance System



For decision-making and business execution tasks requiring high levels of expertise, we receive advice from consulting law firms, management consultants and other experts.

Overview of Our Directors and Corporate Auditors

Name	Position	Outside officer	Nomination and Compensation Advisory Committee	Expertise and experience: Corporate management	Production Technologies Research	Sales Marketing	Finance Accounting	Legal Risk management	Global business
Shuji Fukuda	Director Chairman		○	●		●	●	●	●
Masafumi Fushihara	Representative Director President			●		●	●	●	●
Yuuichi Kitabayashi	Representative Director Vice President			●	●			●	●
Masahiro Karino	Director Senior Executive Officer			●				●	●
Kunihiro Ando	Director Senior Executive Officer			●	●	●			●
Tetsuya Ohashi	Director Senior Executive Officer			●	●		●		●
Yoshiko Koizumi	Director	○	○ (Chairperson)	●				●	●
Shinhachiro Emori	Director	○	○	●		●	●		
Hideyuki Furikado	Director	○	○				●	●	●
Shigeru Matsushima	Corporate Auditor (Standing)			●		●	●	●	●
Katsuhide Fukuhara	Corporate Auditor (Standing)			●	●		●	●	●
Wakako Mitani	Corporate Auditor	○					●	●	
Yoshio Fujima	Corporate Auditor	○					●	●	

Evaluating the Effectiveness of the Board of Directors

In accordance with the Basic Policy on Corporate Governance, we analyze and evaluate the overall effectiveness of the Board of Directors on an annual basis. We employ a self-evaluation system in which all directors and corporate auditors fill out a questionnaire. The chairman of the board and outside directors analyze and assess the results of the questionnaire and report the details to the Board of Directors. Future challenges and measures are then discussed and confirmed.
We have made improvements to the structure and operations of the Board of Directors on the basis of the results, and the evaluation has deemed that the overall effectiveness of our Board of Directors is being ensured.

● Outline of Our Governance System (As of June 29, 2021)

	No. of people etc.
Organizational structure	Company with a Board of Auditors
Chairman of the board	Chairman
No. of directors (No. of female directors) No. of outside directors included in that figure No. of independent directors included in that figure	9 (1) 3 (1) 3 (1)
Tenure of a director	1 year
Executive officer system	Yes
No. of corporate auditors (No. of female corporate auditors) No. of outside officers included in that figure No. of independent officers included in that figure	4 (1) 2 (1) 2 (1)

● Major Meetings Held

Meeting	No. of times held	Presence of outside officers
Board of Directors	14	100%
Board of Auditors	13	100%
Executive Committee	23	-

Appointment of Board Members

Nomination and Appointment of Prospective Directors

The president proposes prospective directors and outside directors to the Board of Directors, including outside directors, in accordance with the Basic Policy on Corporate Governance. After deliberations and decisions by the Board of Directors, candidates are presented to the General Meeting of Shareholders, whose vote decides their appointment. The deliberations of the Board of Directors respect the results of the discussions and findings of the Nomination and Compensation Advisory Committee.

Nomination and Appointment of Prospective Corporate Auditors

After gaining the approval of the Board of Auditors the president proposes to the Board of Directors prospective corporate auditors endowed with suitable experience and skills, and with adequate expertise in financial affairs, accounting and legal affairs. After deliberations and decisions by the Board of Directors, candidates are presented to the General Meeting of Shareholders, whose vote decides their appointment.

Nomination and Appointment of Prospective Outside Officers

Prospective outside officers must satisfy the company's Independence Criteria for Outside Officers and be capable of supervising our directors and management from an independent, external standpoint, and of providing proper and appropriate advice based on their experience and insights from careers in professions such as lawyer, corporate manager, certified public accountant and government official.

Please see our website for more information about Independence Criteria for Outside Officers
https://taiheiyo-cement.co.jp/english
About Us ▶ Corporate Governance

Board Member Remuneration

Determining Board Member Remuneration

A Nomination and Compensation Advisory Committee is established to determine board member remuneration. The committee is chaired by an outside director and has a majority of outside directors. The committee deliberates and reports its findings to the Board of Directors, which respects those findings. The decision is then entrusted to the representative director, within the scope decided at the General Meeting of Shareholders and determined by our company regulations.

The remuneration system for directors (excluding outside directors) consists of fixed compensation, share-based compensation and performance-based compensation, while the remuneration system for the outside directors consists solely of fixed compensation. The remuneration system for auditors also consists solely of fixed compensation.

- Fixed compensation is set according to position.
- Performance-based compensation is calculated by multiplying profit attributable to owners of parent company shares for the fiscal year under review by 1% (up to 400 million yen) and a coefficient according to position.
- Share-based compensation is calculated according to position and issued yearly in the form of share options with restrictions on transfer. In principle, the restrictions on transfer are rescinded on the day the director retires.

Annual Remuneration of Board Members

Remuneration for directors was decided at the General Meeting of Shareholders on June 29, 2021. After the said meeting, there are nine directors (of whom three are outside directors), for whose annual remuneration there is a maximum of 1.2 billion yen (of which 100 million yen is for outside directors). Included in that is a maximum annual sum of 200 million yen (200 thousand shares) as restricted transfer share-based remuneration.

Remuneration for corporate auditors was decided at the General Meeting of Shareholders on June 29, 2020. After the said meeting, there are four corporate auditors, for whose monthly remuneration there is a maximum of 13 million yen.

● Annual Remuneration of Board Members (FY2021)

Category	No. of board members remunerated	Amount of remuneration paid (Million yen)
Director	15	552
Corporate Auditor	4	72
Sub-total	19	624

The above count of board members and corporate auditors who received remuneration includes eight board directors (including one outside director) who retired or resigned at the conclusion of the 22nd Ordinary General Meeting of Shareholders held on June 26, 2020.

Internal Control System

▶ GRI102-30

We follow the Basic Policy for Building an Internal Control System to ensure suitable and efficient operations at the company and group companies. Our basic approach is to improve and strengthen systems that are currently in operation, and to review and reappraise essential matters. In accordance with this policy, and with the aim of establishing systems that ensure suitable operations at group companies, we are running training and awareness campaigns about Revisions to Our Internal Audit Regulations and Internal Audit Detailed Regulations (November 2020) and our Audit Manual for Auditors Dispatched to Affiliated Companies. Audits were carried out at four Taiheiyo Cement business sites and fifteen domestic group companies in FY2021. Matters in need of improvement were identified, and advice and recommendations are being given.

Compliance with Japan's Corporate Governance Code

The table below show where we disclose information regarding the principles in the Corporate Governance Code that require disclosure.

● The 11 Principles in the Corporate Governance Code Requiring Disclosure (Prior to revisions to the Corporate Governance Code)

Principle		Where disclosed		
		Website *1	Fundamental Policies *2	Reports *3
Principle 1.4	Cross-shareholdings		Article 23	
Principle 1.7	Related party transactions		Article 24	
Principle 2.6	Roles of corporate pension funds as asset owners			●
Principle 3.1 Full disclosure	Company objectives (e.g., our mission), management strategies, management plans	●		
	Basic concepts and policies on corporate governance			●
	Policies and procedures in determining the remuneration of senior management and directors		Article 16	
	Policies and procedures on the appointment of senior management, and nomination of prospective directors and corporate auditors		Article 6 Article 10 Article 13	
Supplementary Principle 4.1.1	Board of Directors' decisions and scope of matters delegated to management		Article 3	
Principle 4.9 *4	Independence criteria for outside directors		Article 4	●
Supplementary Principle 4.11.1	Views on appropriate balance between knowledge, experience and skills of the Board of Directors as well as on diversity and appropriate board size		Article 4	
Supplementary Principle 4.11.2	Status of concurrent positions at other listed companies held by directors and corporate auditors of the Taiheiyo Cement Group		Article 8 Article 15	
Supplementary Principle 4.11.3	Analysis and evaluation of the overall effectiveness of the Board of Directors and summary of results		Article 20	●
Supplementary Principle 4.14.2	Training policy for directors and corporate auditors		Article 19	
Principle 5.1	Policy for constructive dialog with shareholders		Article 25	

*1 Our corporate website
*2 Our Basic Policy on Corporate Governance
*3 Our Corporate Governance Report
*4 In addition to the above three methods of disclosure, we disclose information in our securities reports and materials for our general shareholders' meeting.

Please see our website for the our Basic Policy on Corporate Governance and our Corporate Governance Report.
https://taiheiyo-cement.co.jp/english
About Us ▶ Corporate Governance

Risk Management and Compliance

Relevant SDGs

Basic Risk Management and Compliance Policies

▶ GRI102-16

Basic Risk Management Policy and Regulations

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

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 our Mission, Business Principles and social norms
- Maintaining internal systems and rules and ensuring broad-based awareness of them
- Cooperation with all group companies and promotion of educational and enlightenment activities
- Establishing appropriate responses and policies for when problems occur
- Timely and appropriate disclosure and communication of necessary information
- Compliance with international standards and rules, and respect for local cultures and customs
- Rejection of illegal and unwarranted demands from antisocial forces or organizations

Please see our website for more information about our Standards of Conduct (Casebook).

https://taiheiyo-cement.co.jp/english
CSR-ESG Initiatives ▶ Risk Management and Compliance ▶ Risk Management and Compliance Promotion Activities

Please see our website for more information about risk management and compliance.

https://taiheiyo-cement.co.jp/english
CSR-ESG Initiatives ▶ Risk Management and Compliance

For more information
The Anti-Bribery Policy ▶P.86

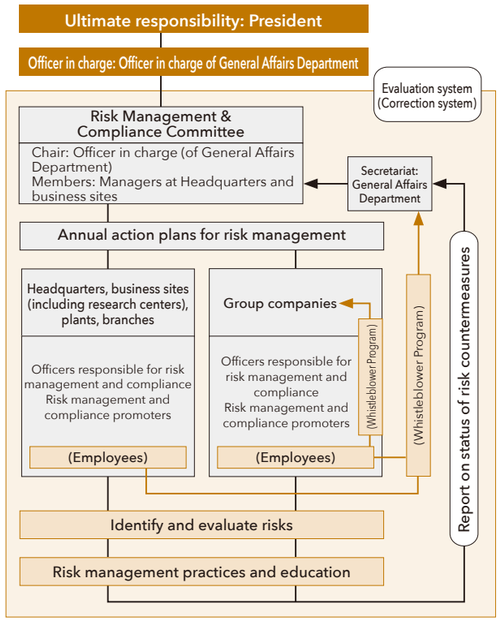
Risk Management and Compliance Promotion System

▶ GRI102-17, 30, 31

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

The committee plays a core role in our risk management and compliance promotion for the entire group. It deploys the policy, identifies, evaluates and specifies company-wide risks, implements risk management activities based on PDCA cycles and promotes compliance. Moreover, it studies and proposes the creation and revision of rules for risk management and compliance, and provides instructions for advancing the awareness and education of employees. Under the guidance of this committee, each business site and group company has an officer responsible for risk management and compliance, and a risk management and compliance promoter, who carry out specific duties. We held four Risk Management & Compliance Committee meetings in FY2021.

● Risk Management and Compliance Promotion System

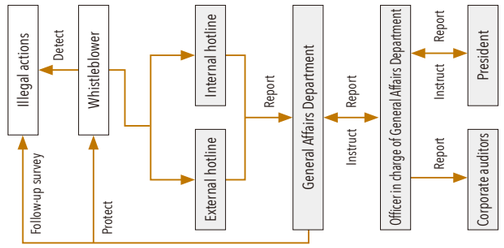


* Subject to risk management: 103 group companies (as of March 31, 2021)

Whistleblower Program

Reports and requests are handled properly in accordance with normal company procedures. We have also set up whistleblower hotlines to receive reports directly without the need for the usual company procedures. Whistleblowers have the option of either disclosing their identity, or reporting anonymously to mitigate any potential psychological constraints. We have whistleblower hotlines both internally (at the CSR Group of our General Affairs Department) and externally (at a law firm). Our internal hotline is in a dedicated, locked room equipped with dedicated phone and fax lines, as well as a computer with a dedicated address, in order to safeguard the privacy of those submitting reports. Our external hotline is also available to all employees of group companies in an effort to strengthen group governance, improve program effectiveness and reduce the burden on individual companies. In addition, we created the Whistleblower Program Regulations so whistleblowers using the program are not subject to unfavorable treatment.

● Whistleblower Program



● Results* of the Whistleblower Program (FY2021)

Hotline	Reports
Internal (CSR Group, General Affairs Department)	7
External (Kajitani Law Offices)	0

* Cases that should be regarded as reports according to the Whistleblower Program Regulations.

Risk Management and Compliance Promotion Activities

▶ GRI102-11, 17, 201-2, 205-2

Identifying, Evaluating and Specifying Company-wide Risks

In FY2020 we decided to identify the impact of anticipated changes in social and environmental conditions over the next ten years on uncertainties in group management, and then formulate measures to avoid and reduce those uncertainties.

We referred to sources such as the World Economic Forum and WBCSD guidance on the integration of sustainability and enterprise risk management for risk data, and identified and evaluated risks. We also consulted risk management experts.

For more information
Identification of Risks and Opportunities ▶P.20

Announcement of Support for the Recommendations of the TCFD, and the Results of Our Scenario Analysis

Please see our website for more information about the TCFD and mitigating climate change.

https://taiheiyo-cement.co.jp/english
CSR-ESG Initiatives ▶ Risk Management and Compliance ▶ Risk Management and Compliance Promotion Activities

Measures to Reduce the Impact of Risks

Based on evaluations of identified company-wide risks, our Risk Management & Compliance Committee takes the lead in specifying those to be addressed every year and implementing activities to reduce risk impact through PDCA cycles. The challenges addressed in FY2021 were (1) the establishment of a system to prevent scandals such as accounting irregularities, and (2) the revision of compliance-related rules.

Examples of Overseas Risk Countermeasures

We have created and regularly revise the Riot/Terrorism Response Manual. In addition, with regard to high-risk countries to which our employees are dispatched, we clearly state the procedure for deciding on local evacuations, have created a tool for evaluating the emergency evacuation level according to changes in local situations, and provide training using the tool. We also list and secure supplies (food, clothes, hygiene supplies, and medicines), as well as cash and other resources needed, in the event of evacuation or an emergency at our overseas business sites.

Emergency Task Force

If an event such as a disaster, accident or misconduct has occurred, the affected business site informs the general manager of the General Affairs Department. The general manager considers the severity of the event and determines if an emergency task force should be established or if the response to the event can be delegated to the site management. Appropriate action is then taken by the emergency task force or local management.

13 such events were reported in FY2021. Important information, including how the situation is handled, is reviewed by the CSR Management Committee.

As preparation for responding to disasters and accidents, we also conducted Shake Out earthquake drills at each business site, and the general manager of the General Affairs Department attended an external course while exploring the question of providing executives with training on how to deal with the mass media. We also provided training for plant staff so they would understand how to appropriately handle complaints if an accident occurs.

Explosion at the Saitama Plant

On April 26, 2021 at 21:58, there was an explosion at the on-site power generation facility located on the north side of the Saitama Plant. We apologize profoundly for the trouble and anxiety we caused to the local residents, our customers, related companies, the authorities concerned, and many others.

It has been confirmed that debris flew beyond the plant perimeter, vehicles caught fire, buildings and vehicles were damaged and dirtied, and flying debris caused damage to farmland. People who were in a nearby parking lot have reported health issues, but there were no injuries to other local residents or other people.

We are dealing in good faith with the damage etc. working on implementing countermeasures to prevent a reccurance of the accident. There was no damage to plant facilities other than the on-site power generator and, after safety checks, cement production and shipments continued as normal, as did the treatment of municipal waste (combustible waste) entrusted to us by Hidaka, the city where the plant is located.

In addition, an accident investigation committee, including external experts, was established on June 1. We are working with the committee to investigate the causes of the accident based on an objective survey, and to formulate measures to prevent a recurrence.

Response to the Spread of the Novel Coronavirus (COVID-19)

We and our group companies prioritized the safety of our customers, business partners, the local community and employees of our business sites as COVID-19 infections spread. The emergency task force, headed by the president, implemented various measures and strove to ensure a stable supply of cement and mineral resources products that are essential for social infrastructure.

The Main Measures to Prevent the Spread of Infections

- Strongly encourage telecommuting by setting workplace attendance targets and publishing the actual attendance figures in-house and outside the company.
- Limit close contact between employees and prevent clusters from developing.
- Limit or completely ban get-togethers and occasions where people eat together.
- Utilize web conferencing and limit or completely ban business trips and meetings.
- Evacuate expatriate employees if so warranted by local conditions such as the spread of infections and the state of the medical care system.
- Provide workplace inoculations for Taiheiyo Cement and group company employees who work at the Headquarters or Central Research Laboratory, and for Taiheiyo Cement employees who work in the vicinity of Tokyo.

Going forward, the pandemic is expected to have a long-term impact on the economy and the business environment. However, Taiheiyo Cement and our group companies will continue to boost production while further promoting flexible work arrangement reforms, and to strive for business continuation even during states of emergency.

Risk Management and Compliance Promotion Training

We provide risk management and compliance training for managers and promoters working at the company's business sites and group companies to ensure effective risk management and compliance. In FY2021, we invited outside lecturers to give talks to the managers at our group companies. Held in November, "Aiming for Harassment-free Workplaces: The Latest Legislation and Corporate Responses" and "Preventing Irregularities and Scandals at Group Companies" were attended by 82 companies, including those who participated remotely. A training program for the promoters was postponed due to the COVID-19 pandemic.

Compliance Training

In order to fulfill our mission and uphold our business principles, we formulated the Standards of Conduct to guide all our officers and employees in the performance of their daily duties. The standards consist of 35 items in 6 categories that draw upon Taiheiyo Cement's policies, regulations and president's messages delivered within and outside the company.

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

We regularly revise the Standards of Conduct (Casebook) to reflect the latest information.

In addition, for all company employees, including those on loan to group companies, we conduct monthly quiz tests as part of e-learning programs to provide education on the Standards of Conduct (Casebook) and other materials so they learn how to act in individual situations. In FY2021, 77.4% of employees participated in the program.

Please see our website for more information about our Standards of Conduct (Casebook).
https://taiheiyo-cement.co.jp/english
CSR-ESG Initiatives ▶ Risk Management and Compliance ▶ Risk Management and Compliance Promotion Activities

Legal Roundtables for Group Companies

Since FY2006 we have been holding roundtable discussions attended by management and legal affairs representatives from our group companies. These provide opportunities to share legal information (mainly responses to revisions of 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.

These roundtables were postponed due to the impact of COVID-19 in FY2021, but the table below shows those held in FY2019 and FY2020. We plan to hold them in an appropriate form in FY2022, based on the COVID-19 situation and other considerations.

● Previous Legal Roundtables for Group Companies

No.	Date	Attendance	Theme
27th	2018 July	8 companies 14 participants	Legal issues concerning labor
28th	2018 November	89 companies 88 participants	Revised points in the Civil Code and their impact on business transactions
			Practical responses to Civil Code revisions
29th	2019 July	11 companies 19 participants	Legal issues concerning labor
30th	2019 November	84 companies 86 participants	Communication with authorities in response to corporate scandals (criminal plea bargains, antimonopoly leniency and commitment procedures)
			Practical responses to Civil Code revisions (contract clause examples)

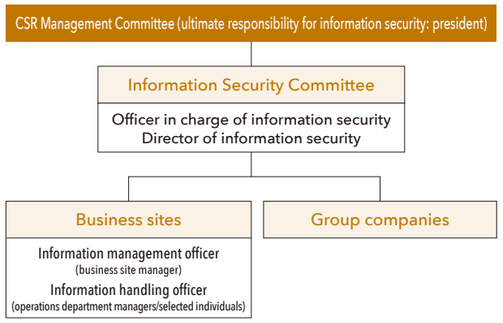
Information Security

System to Promote Information Security

To ensure and maintain the security of information assets we have established the Basic Information Security Policy and the Information Security Management Regulations. Under the management system in accordance with these regulations, we are actively working to maintain information security.

Our president has ultimate responsibility for information security. The president appoints the officer in charge of information security (officer in charge of the Corporate Planning Department), who presides over and runs the Information Security Committee in order to advance systematic, organized activities to promote information security.

● Information Security Structure



Please see our website for more information about our Basic Information Security Policy and Privacy Policy.
https://taiheiyo-cement.co.jp/english
CSR-ESG Initiatives ▶ Risk Management and Compliance ▶ Information Security

Activities to Promote Information Security

In FY2021 we used a portal site on our intranet to remind and educate all employees about information security, and also hired outside experts to carry out a dark web analysis. A number of risks were identified and, after checking the details, we have taken appropriate measures. We also held a gathering for the information departments of group companies at which we promoted information security measures. In addition, we conducted disaster recovery drills based on hypothetical emergencies, and carried out a security level survey of group companies and information security training designed to enhance our security system. No serious incidents related to information security have occurred.

We will continue our efforts to improve the security levels of our domestic and overseas group companies.

Protection and Use of Intellectual Property

Fundamental Intellectual Property Policy

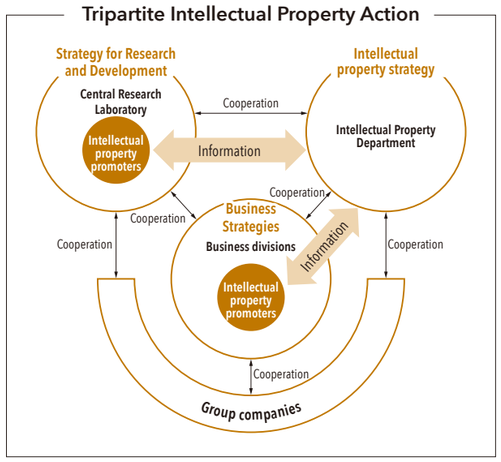
Based on our policy of boosting the outstanding competitiveness and brand value of the Taiheiyo Cement Group via business-oriented intellectual property activities, in addition to strengthening the group's business competitiveness by securing and utilizing intellectual property, we support the creation of an advantageous business environment by sharing information gleaned from totally new perspectives, based on an integrated analysis of information about patents, markets and the like.

System to Promote Intellectual Property Action

We have formulated and apply our Rules for Handling Intellectual Property Rights and the Taiheiyo Cement Group Intellectual Property Management Guidelines to ensure the appropriate management of intellectual property.

Based on our intellectual property promotion system, intellectual property promoters are assigned to our major business divisions and the Central Research Laboratory to stimulate intellectual property action. They promote the effective and efficient creation, protection and use of our intellectual property in collaboration with the Intellectual Property Department. We have also established the Group Intellectual Property Promotion Committee with our main group companies. We are working to promote and stimulate intellectual property activities at our group companies via workshops and exchanges of information with the Intellectual Property Department.

● System to Promote Intellectual Property Action



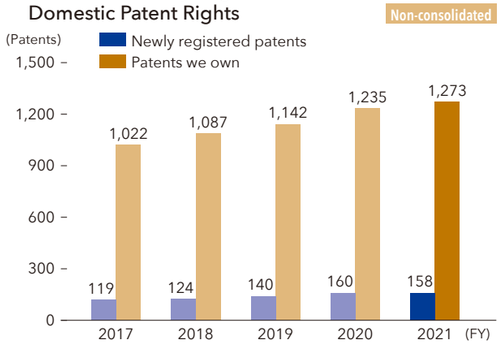
Outline of Our Intellectual Property

As of the end of March 2021, the company owned 1,273 domestic and 238 overseas patents, 267 domestic and 152 overseas trademarks, and 8 domestic design rights.

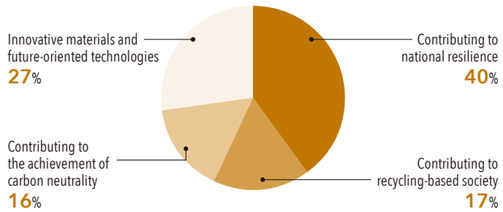
While maintaining and improving our performance in submitting patent applications in the cement and concrete sector that contribute to national resilience, recently there has been a sudden increase in our patent applications concerning technologies that contribute to carbon neutrality.

● Number of Newly Registered and Current Domestic Patent Rights

Non-consolidated



● Patent Application Ratio by Technical Field (FY2021)



In the process to create intellectual property we construct robust patent clusters by establishing rights to peripheral and improved technologies. As well as constructing a wide-ranging, robust intellectual property portfolio, we support business expansion by promoting a strategic mix of intellectual property that also includes assets such as trademarks and design rights.

We also appropriately manage our intellectual property rights, carrying out comprehensive evaluations of their business and technological value, and deciding whether to maintain or renounce them.

Risk Management for Intellectual Property

With regard to preventing the infringement of other companies' rights, we strive to ascertain recent developments in our competitors' rights via measures such as the periodic circulation of patent information, our problematic patent watch system and our intellectual property review service, and engage in thorough risk management based on our own criteria. Moreover, we boost our employees' awareness of intellectual property risks via measures such as holding in-house training and intellectual property strategy promotion meetings with our various divisions. To date, we have never been sued for infringing intellectual property rights, and therefore have not suffered any ensuing business obstacles.

To prevent technology leaks we comprehensively assess such factors as the implementation status of the invention concerned, and the relative difficulty of confidentiality for it, make a decision on know-how concealment, and handle it carefully as a trade secret.

We are also focusing on risk strategies for overseas intellectual property in view of further expansion of our overseas business going forward. The legal systems of emerging Asian nations are different from the system in Japan. We make sure that any differences from Japan are well-known in our group companies, establish support systems that draw upon outside experts well-versed in the situation in specific countries, and carry out risk management for our intellectual property.

Action to Boost Awareness of Intellectual Property

Our steps to make employees aware of intellectual property and boost the group's intellectual property capabilities include holding in-house training, informing employees about external training programs, and encouraging them to take the national Intellectual Property Management Skills Test.

Our in-house training program includes basic training for new recruits who have almost no experience of dealing with intellectual property, periodical courses providing patent description training for young inventors, and patent research skills training. Thanks to the addition of remote training courses, our regional branches, plants and group companies participated actively in our FY2021 in-house training program with the number of participants increasing from 90 in the previous fiscal year to 164 in FY2021.

Furthermore, utilizing classes held by external organizations such as the Japan Intellectual Property Association has made it possible for participants to select training that matches their level and needs, and we are promoting such educational and awareness programs for employees at our group companies.


A patent description workshop (also available remotely)

● In-house Attendance at Intellectual Property Training Sessions (FY2021)

(Unit: People)

Training Content	Taiheiyo Cement Corporation	Group companies	Total
Basic	57	57	114
Patent Descriptions	26	24	50
Total	83	81	164

As part of our action to boost awareness, we also have a reward system for inventors and run the Intellectual Property Award Program for employees who contribute to excellent inventions or intellectual property activities.

Respect for Human Rights and Diversity

Relevant SDGs

Basic Policy Concerning Human Rights and Labor Practices

▶ GRI102-16

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

Basic Policy Concerning Human Rights and Labor Practices

1. Recognizing that respecting human rights is a foundational management concern, we will strive to address human rights issues.
2. We will respect diversity and will not tolerate discrimination or harassment in any form.
3. Applying accepted international principles and laws and labor practices in each country, we will respect the rights of all our workers, provide them with 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 Standards of Conduct (see pages 56-57), which govern the actions of each employee and are clearly expressed in statements such as "We will respect human rights and will not discriminate on the basis of national origin, gender or other factors" and "We will maintain a harassment-free workplace."

Educational Activities on Human Rights

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

In the FY2021 training program for the top management at group companies, we held a lecture called "Harassment-free Workplaces: The Latest Legislation and Corporate Responses" that was based on the revised act to prevent power harassment that was enacted in June 2019. We also held training for all our employees to make them aware of unconscious bias.

Moreover, during Human Rights Week, we promoted human rights awareness by collecting slogans from company employees and their families as well as our partner companies.

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

● In-house Training on Human Rights Issues and Submitted Slogans (FY2021) Non-consolidated

In-house Training and Slogans Submitted	Results
Taiheiyo Cement Group Top Management CSR training	112 participants
Unconscious bias training	3,152 participants (Group companies 775 participants included)
Human rights training at plants and branches	69 participants
Human Rights Week slogans submitted (by employees and their families)	1,637 slogans

Our Human Rights Hotline

Members of the harassment counseling committees and human rights committees located at all our business sites conduct activities to raise awareness of human rights to prevent harassment, and handle any related complaints to create a positive workplace environment.

In FY2021, we received 4 reports via the hotline. We reviewed the details of each report based on requests from the complainants, and responded appropriately.

● Harassment Hotline

Internal	Human rights awareness promotion committee members and harassment consultation members have been assigned at all our business sites (56 in total)
External	Telephone and website consultations have been contracted to the Japan Institute for Women's Empowerment & Diversity Management Harassment Hotline

● Number of Reports to the Harassment Hotline (FY2021) Non-consolidated

(Unit: person)

	Sexual harassment	Power harassment	Other forms of harassment	Total
Internal	1	2	0	3
External	0	1	0	1

Respecting Diversity

▶ GRI404-2, 405-1

Promoting Diversity and the Empowerment of Women

We position promoting diversity and empowering women as a priority issue for creating an innovative labor force, and have set quantitative targets in the CSR Objectives for 2025 (formulated in May 2015) as announced in-house and outside the company. As of the end of March 2021, the ratio of female employees is 9.2%, and we are continuing with initiatives aimed at meeting our target. The ratio of newly appointed female managers in March 2021 was 10.7%, meaning that we have achieved our target.

In addition to the plan actioned in April 2021 and based on the Act for Measures to Support the Development of the Next Generation and the Act for Promotion of Women's Participation and Advancement in the Workplace, we are proactively recruiting female employees and taking measures to support their retention in order to open up more workplaces and career options for female employees. To further promote employee work-life balance management, including childcare management, we have set targets relating to the use of annual paid leave and encourage male employees to take childcare leave.

In terms of our systems, we improved the existing system regarding childcare and caregivers in FY2017, and in FY2018 established a system that made leave available at the time of a life event and a reemployment system. We introduced a telecommuting system in April 2020, and are working on initiatives to improve labor productivity and make diverse workstyles available.

In October 2017 we launched Kirakira Palette, a portal site that provides support for continuous employment and is an integrated source of information about fringe benefits and support available for childcare and caregiving. Kirakira Palette was launched in response to employee feedback stating that they did not know which kind of systems were available in the company and that they would like more details about them.

We are also committed to providing information concerning male participation in childcare. In October 2020 we invited an outside lecturer to talk about gender equality programs throughout Japan and childcare support, and held an in-house diversity forum exploring the idea of male participation in childcare.

We launched a program to train the next generation of leaders (for female employees) in December 2020, and this new initiative is scheduled to run until the end of FY2026. It is held for our younger employees, including new recruits and mid-level employees, and is designed to gradually boost their awareness of their leadership potential.

We will continue to promote initiatives to attract and retain female employees, train human resources capable of managing work-life balance, and improve in-house systems which support them in that. Via such work-life balance management initiatives we aim to become an organization where diverse human resources can make full use of their abilities.

Kirakira Palette portal site established

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

https://taiheiyo-cement.co.jp/english

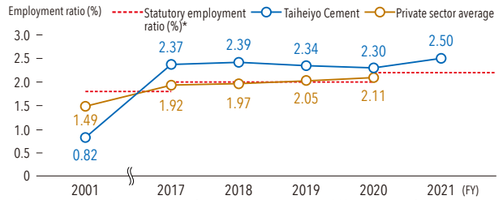
CSR-ESG Initiatives ▶ Collaborating with Society ▶ Human Resource Development and Creating an Energetic Workplace

Promoting Employment Opportunities for Persons with Disabilities

We have been working to improve the working environment for employees with disabilities, including the establishment of three special purpose subsidiaries. As a result, our employment rate of persons with disabilities has steadily improved. The rate was 2.50% as of June 2020 and the annual average employment rate for FY2021 was 2.61%, exceeding the statutory rate for the 14th consecutive year. The statutory employment rate was raised to 2.30% in March 2021. Our employment rate was 2.55% as of June 1, 2021, which also exceeded the statutory rate.

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

● Trends in the Employment Rate for Persons with Disabilities (as of June 1 of each year) Non-consolidated



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

Rehiring System for 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 become 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 are 65. We will continue to make sure there is a workplace for individuals who seek reemployment by expanding opportunities in group companies.

● Number of Employees Rehired Non-consolidated

(Unit: person)

Employer	2020
Rehired by the company	51
Rehired by other companies (including some that are not group companies)	21

Human Resource Development and Creating an Energetic Workplace

Human Resource Development and Evaluation

▶ GRI404-2, 3

We regard our employees as the most important management resources for achieving 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. In principle, human resources will be:

1. Developed through on the job training supplemented by off-the-job training
2. Developed to inherit the roles of their predecessors, playing central roles in the future in each field and at each level
3. Developed to take action in constant consideration of group management
4. Developed to global standards of competence
5. Developed to protect the environment and to serve society by assuming active roles in CSR initiatives
6. 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, all employees are requested to submit annual self-appraisals in which they can detail their future career development aspirations, worksite preferences and family considerations. This helps us improve the working environment so they can fully demonstrate their abilities and we can retain their long-term services.

Characteristics of Ideal Employees

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

Self-confident individuals with a strong sense of purpose who will contribute to the sustainable growth of the group

1. Individuals with innovative ideas, strong leadership and the ability to take bold actions
2. Individuals who can play an active role in the global arena
3. Individuals who can contribute to group management

● Education/Training-Related Expenditure per Employee

Non-consolidated

(Unit: Thousand yen)

FY2019	FY2020	FY2021
74	75	34

*Expenditure was lower in FY2021 since training was postponed or moved online due to the COVID-19 pandemic.

Please see our website for more information about our training system.
https://taiheiyo-cement.co.jp/english
CSR-ESG Initiatives ▶ Integrated Report ▶ Appendix

Human Resource Evaluation System

We have adopted a human resource evaluation system that prioritizes development over compensation. The system assists employees in deepening their understanding of their evaluation results through feedback. It also strongly emphasizes the exchange of opinions between evaluators and employees, who share their thoughts on issues such as identifying areas for future development.

We have been implementing a management (HR evaluation) training program since FY2008 to enhance the evaluation, development and management of skills of evaluators. As of the end of FY2021, 810 people had participated in training under this program.

Employee-friendly Workplaces

▶ GRI401-3, 403-6

Flexible Work Arrangements

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

Support for Childcare and Caregivers

We established a long-term leave system in 2017 for employees who have no choice but to give up their careers due to unavoidable circumstances such as relocating for their spouse's job or childcare. We also operate a reemployment system for employees who leave their jobs due to child or family care. In addition to our childcare/family-care leave, we have instituted measures that support employees who do not want to take leave, such as telecommuting, flextime, 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 FY2006 we have been formulating general business owner action plans based on the Act for Measures to Support the Development of the Next Generation. After gaining our first "Kurumin" certification in 2017, we achieved the targets for promoting the use of annual paid leave and encouraging male employees to take childcare leave set in the general business owner action plan during its fifth term, from April 2017 to March 2019, and its sixth term, from April 2019 to March 2021. We also met multiple certification criteria such as the rate of childcare leave taken and levels of overtime work. In recognition of our efforts we have gained our third "Kurumin" certification. Also, in FY2022 we started implementing various efforts in accordance with our seventh general business owner action plans.

General Business Owner Action Plans

Duration
April 1, 2021 to March 31, 2023 (2 years)

	Target	Measures
1	Encourage employees to take annual paid leave	Systematically provide annual paid leave, set days when employees are encouraged to take annual paid leave
2	Encourage male employees to take childcare leave	Run a portal site in support of the continuation of employment which systematically introduces internal systems, actively encourage employees to take the childcare leave they are entitled to

Main Work Systems that Allow Flexible Work Arrangements

- Telecommuting system
- 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 with region-limited employment option

● Leave Taken and Work Hours

Non-consolidated

Items	2018	2019	2020
Number of employees who took childcare leave (male employees in parentheses)	22 (8)	24 (17)	18 (8)
Childcare leave rate for female employees	100%	100%	100%
Rate of annual paid leave taken	67.6%	78.5%	74.5%
Overtime work (monthly average)	16.7 hours	17.4 hours	17.5 hours

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 44 employees have taken this leave as of FY2021.

Initiatives to Promote Employee Health

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

* Kenkokeiei (Health Management) is a trademark of the NPO Health Management Study Group.

Taiheiyo Cement Group Commitment to Health

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

Mental Healthcare

We provide mental health checkups for all our employees (consultation rate: 96.7% in FY2021). Mental healthcare is a key focus in our initiatives to promote employee health. We also conduct workshops focused on maintaining mental health. In addition, we offer free counseling services on mental health to employees and their families under a contract with the company's healthcare trust for this purpose.

Promoting Hygiene and Good Health

We conduct annual health examinations for all employees in accordance with the Industrial Safety and Health Act. As in FY2019 and FY2020, the attendance rate in FY2021 was 100%. When it is deemed necessary, we encourage the employee to undergo a more thorough examination and provide guidance on how to make lifestyle improvements.

Moreover, as part of the initiative, we hold nutrition seminars at each business site, provide information through our in-house newsletter and distribute pamphlets that boost health awareness.

Employee Awareness Survey

With the aim of boosting our employees' job satisfaction we conducted an employee survey every two years from FY2014 to FY2018. We are discussing details to implement it more effectively in FY2022.

Our Employees

▶ GRI102-7, 8, 401-1

● Employees (as of the end of FY2021)

(Unit: person)

		Male	Female	Total
Non-consolidated	Permanent employees	1,633	205	1,838
	Temporary employees	65	8	73
Consolidated	Permanent employees	10,991	1,595	12,586
	Temporary employees	803	255	1,058

● Average Length of Employment for Employees (as of the end of each fiscal year) Non-consolidated

(Unit: year)

	FY2019	FY2020	FY2021
Male	20.4	20.0	19.2
Female	13.1	12.3	12.3

● Number of Employees in Management Positions (as of the end of each fiscal year) Non-consolidated

(Unit: person)

	FY2019	FY2020	FY2021
Male	767	760	759
Female	3	5	8

● Number of Newly Graduated Employees Non-consolidated

(Unit: person)

	FY2019	FY2020	FY2021
Male	68	91	91
Female	24	18	18

● Number of Newly Hired Mid-career Employees Non-consolidated

(Unit: person)

	FY2019	FY2020	FY2021
Male	6	9	11
Female	7	0	0

Sound Labor-Management Relations

▶ GRI102-41, 403-4

All employees who have entered into a labor agreement with the company are union members. As and when required we hold labor-management consultation and briefing sessions that provide opportunities for labor and management to exchange opinions and negotiate issues on the basis of mutual trust and understanding. These sessions encompass not only labor contract negotiations but also explanations of corporate performance, revisions to wages and bonuses, and amendments to systems and rules. We aim to improve communication between labor and management via these sessions. In addition, four specialized committees have been set up for labor-management consultations and provide opportunities for active negotiation and exchanging views between labor and management.

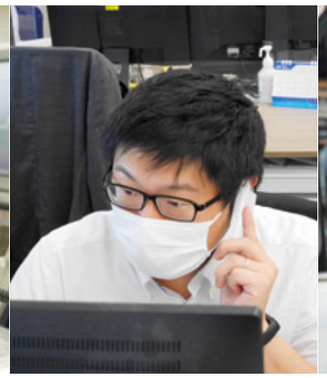
● Aims of Specialized Committees

Committee	Aims
Committee on human resources and the 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 in the context of diversifying employment and employment formats
Committee on work hours	Examine problems concerning work hours and work hour management, and the response to laws related to work hours
Committee to promote workplace diversity	Examine the measures necessary to promote diversity in the workplace

Direct Communication between Executive Officers and Employees

In FY2021, the Stakeholder Communication Committee hosted a roundtable discussion for female executives and female employees as part of its action to stimulate communication.

As one of our initiatives to achieve the workplace diversity targets in our CSR Objectives for 2025 (a ratio of at least 30% female employees hired with no area restrictions on their work, a ratio of female to male employees of at least 10%, and a 10% ratio of newly appointed female managers), we provided a forum for Ms. Koizumi (one of our directors), Ms. Mitani (one of our corporate auditors) and 12 female employees to engage in frank exchanges of ideas on topics such as career advice and how to balance work and life events.


E

Environment

Environmental Management

Relevant SDGs

Environmental Management Policy

Our environmental management policy declares an active commitment to environmental issues facing society, including not only preventing environmental 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 formulated an Environmental Management Policy, reflecting the fact that we consider an active commitment to the environmental issues facing society to be key management challenges. In addition to initiatives emphasizing these six items in all business operations, we strive to communicate with a wide range of stakeholders, from international society to local communities, and to seek the ideal form for a sustainable cement industry as a member of the WBCSD and GCCA (Global Cement and Concrete Association).

Formulated in January 2006
Revised in April 2019

1. **Pursuing Environmentally Conscious Business Activities**
   In pursuit of reducing environmental impacts, we properly assess the impacts of our business activities and promote the introduction of eco-efficient technologies into our business and the development of eco-conscious products. Also, we pursue environmental conservation activities as a member of the regional community.
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 waste as raw materials and fuels for cement production.
4. **Proactively Addressing the Issue of Climate Change**
   We promote greater energy reduction throughout the whole of our business activities and strive to develop technology to help reduce society's total greenhouse gas emissions.
5. **Promoting Global Technology Transfer**
   Through the worldwide transfer and deployment of our technology, we aid the development of greater energy conservation, environmental preservation and utilization of waste materials.
6. **Ecosystem Conservation**
   We strive to protect the ecosystem, including biodiversity, by providing products and technologies that contribute to harmonious coexistence with nature.

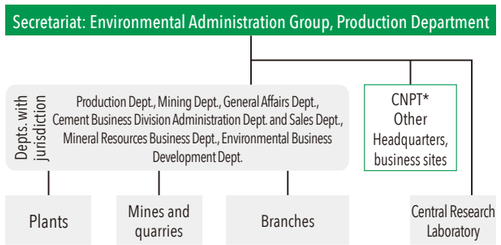
Company-wide Environmental Management System (EMS)

In June 1997 we initiated ISO 14001 certification of each of our plants and attained certification of all six of our directly operated plants by 1999. Recognizing, however, that plant level management systems alone are insufficient to ensure comprehensive environmental protection through environmental management projects, we built a company-wide environmental management system (EMS) and extended it beyond plants to cover our headquarters, branches and Central Research Laboratory. In April 2009 our EMS was ISO 14001 certified by the Japan Testing Center for Construction Materials, an independent third-party testing, standardization and certification authority. As part of the continuing certification, the company-wide system underwent a renewal audit for the fourth time in March 2021.

EMS Readiness

Top management (the 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, quarries and branches using an "umbrella" system.

● Company-wide EMS Readiness



*The Carbon Neutral Technology Development Project Team

● Taiheiyo Cement Group Environmental Targets GCCA

CO_2 Emission Reduction Targets
Cement production-related CO_2 emissions from Taiheiyo Cement and group companies

Reduce specific net CO_2 emissions by 10% or more from FY2001 levels by FY2026. CSR Objectives for 2025

Reduction Target for Main Air Pollutants
Emissions of NOx, SOx and dust from the main stacks of kilns at the cement production sites of Taiheiyo Cement and group companies

Limit NOx, SOx and dust levels per tonne of clinker (g/t-clinker) to the target levels achieved in FY2011

All of our cement plants in Japan, including those of group companies, have obtained ISO 14001 certification. Furthermore, all of our overseas cement plants in countries that adopt ISO have obtained ISO 14001 certification and are actively committed to environmental conservation. Cement plants in countries where ISO is not adopted as the mainstream standard operate their own EMS.

Internal Environmental Audits

We conducted internal environmental audits at all our sites in FY2021.

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

The audit identified 34 findings, including 3 for which improvements were requested. Corrective actions were taken for all 3 findings for which improvements were requested.

Environmental Education

During Environment Month each June we deliver a message from the president and provide educational materials on the environment page of our portal site to increase awareness and encourage learning about the environment, and about environmental preservation activities throughout the group. Each workplace also engages in a number of different activities, such as conducting training sessions related to accident response, viewing environment-related videos, holding lectures and taking part in local cleanup activities. In FY2021, more than 400 activities took place, including group companies' activities.

Training to respond to environmental accidents (Kumagaya Plant)

Compliance with Environmental Laws

▶ GRI307-1

Environmental Accidents

In FY2021, we had no legal or regulatory violations related to the environment that were subject to fines or penalties, or any significant accidents that affected the environment or ecosystems. However, we had three minor accidents and took measures to prevent their recurrence.

Response to Environmental Accidents

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

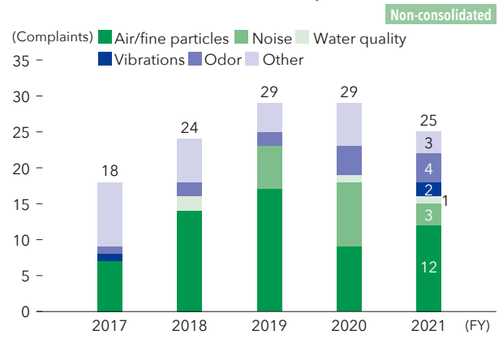
Environmental Complaints

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

In FY2021, our cement plants received 109 environmental complaints, including those from outside sources. We responded to 25 of these, which were associated with our operations. The number of complaints has remained roughly the same since FY2018.

● Number of Environmental Complaints Received

Non-consolidated



Mitigating Climate Change

Relevant SDGs

Greenhouse Gas Emissions and Achievement of Our CSR Objectives for 2025

▶ GRI102-11, 302-3, 305-1, 2, 4, 5

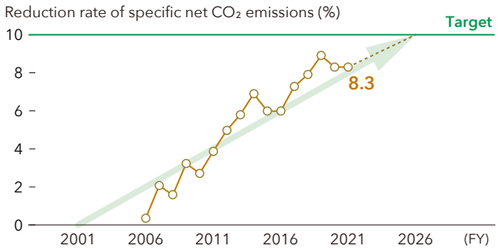
Among the total greenhouse gas emissions generated by our domestic group companies (excluding power generation companies) that are reporting their greenhouse gas emissions by business segment in accordance with the Act on Promotion of Global Warming Countermeasures, about 95% of greenhouse gas emissions were generated from cement production companies in FY2017.* Roughly 5% of our Scope 1 and 2 emissions were associated with our service stations, headquarters, branches and shipping, as well as electricity purchased by the group. Our Scope 3 emissions, calculated according to categories 1, 3, 4, 6 and 7 of the WBCSD/CSI Scope 3 guidelines, were roughly 4% of our Scope 1 and 2 emissions.

The bulk of greenhouse gas emissions associated with the operations of our group companies are directly associated with cement production. We have therefore set in the CSR Objectives for 2025 a medium to long-term quantitative target of reducing specific net CO_2 emissions by 10% or more from FY2001 levels.

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, and 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 and GCCA.

* Most of our overseas group companies are cement production companies, so the ratio of cement production companies in our overall CO_2 emissions fromproduction is higher than it would be for domestic companies alone.

● Progress in Meeting the CO_2 Reduction Targets in CSR Objectives for 2025



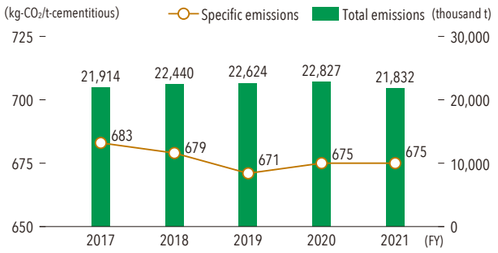
Efforts Related to the Cement Production Process

▶ GRI302-1, 3, 4, 305-4, 5

A significant amount of CO_2 is generated during cement production. This is because the production process requires a high temperature of 1,450°C and limestone, used as a raw material, is decarbonated through a chemical reaction during the calcination process ($CaCO_3 \rightarrow CaO + CO_2$). About 35% of CO_2 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. In order to reduce CO_2 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 expanded use of waste- and biomass-derived energy sources to decrease our rate of use of fossil fuels. We are also moving toward using recycled resources with less carbonate content to lower CO_2 emissions from the calcination of limestone. We are moving forward with the adoption of waste heat power generation to reduce CO_2 from electric power.

Our specific net CO_2 emissions for FY2021 were 675 kg of CO_2 per tonne of cementitious product, the same as in FY2020.

● Specific Net CO_2 Emissions GCCA

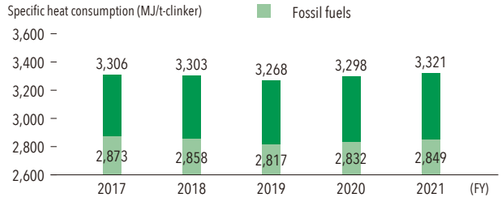


Reference guidelines: "GCCA Sustainability Guidelines for the monitoring and reporting of CO_2 emissions from cement manufacturing Ver. 0.1" GCCA

Efforts to Save Energy

Specific heat consumption of clinker production by the group's cement plants in FY2021 was 3,321 MJ/t-clinker, a 23 MJ/t-clinker increase on the previous year's level.

● Specific Heat Consumption of Clinker Production GCCA

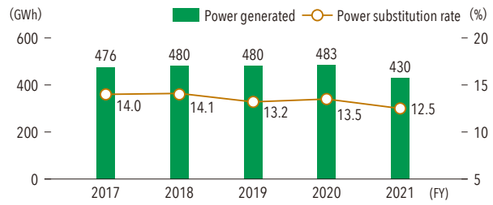


Reference guidelines: "GCCA Sustainability Guidelines for the monitoring and reporting of CO_2 emissions from cement manufacturing Ver. 0.1" GCCA

Waste Heat Power Generation

Waste heat power generation associated with the group's cement production was 430 GWh in FY2021, a roughly 53GWh decrease on FY2020. Its ratio to all electricity consumed at our cement plants was about 12.5%. Assuming an emission factor of 0.69 t-CO_2/MWh if we were to purchase electric power from an external source, this works out as a reduction in CO_2 emissions of approximately 297 thousand tonnes.

● Electricity Generated by Waste Heat GCCA

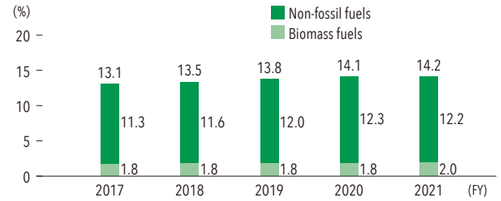


Reference guidelines: "GCCA Sustainability Guidelines for the monitoring and reporting of CO_2 emissions from cement manufacturing Ver. 0.1" GCCA

Alternative Energy Resources and Alternative Raw Materials

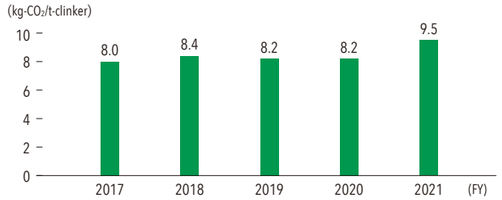
In FY2021, non-fossil energy and biomass energy accounted for about 14.2% of all energy used for group kilns. A decrease in CO_2 emissions of about 9.5kg-CO_2/t-clinker was also achieved by using alternative raw materials instead of limestone. Assuming an emission factor of 0.096 kg-CO_2/MJ for coal, our use of alternative energy resources alternative raw materials works out as a reduction in CO_2 emissions of approximately 1.47 million tonnes.

● Ratio of Alternative Fuels and Biomass Fuels GCCA



Reference guidelines: "GCCA Sustainability Guidelines for the monitoring and reporting of CO_2 emissions from cement manufacturing Ver. 0.1" GCCA

● Reduction of Specific CO_2 Emissions by Replacing Limestone with Alternative Raw Materials GCCA



Reference guidelines: "GCCA Sustainability Guidelines for the monitoring and reporting of CO_2 emissions from cement manufacturing Ver. 0.1" GCCA

Reducing CO_2 Emissions during Transportation

▶ GRI305-3

We contract the delivery of our raw materials and products to transportation companies and are striving to reduce CO_2 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 various energy-saving features. We are also supporting energy-saving operations for conventionally powered ships.

Our FY2021 CO_2 emissions were roughly 8% lower than in FY2020 thanks to energy efficiency initiatives and a decrease in shipping volume.

●CO_2 Emissions by Mode of Transportation (FY2021)

Non-consolidated

Mode of transportation	Tonnage transported (thousand t)	Average Distance Transported (km)	Transported tonne-kilometers (thousand tkm)	CO_2 emissions (thousand t)
Ship	16,147	469	7,576,805	105
Truck	14,150	55	781,305	46
Railway	5,001	26	127,890	3
Total	35,298	240	8,486,000	154

Recycling Waste and Other Materials

Relevant SDGs

Resource Recycling with Industries

Electric Power Utilities

We accept 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 effectively. We also supply the power plants with limestone powder which is used to scrub the harmful sulfur oxides from the exhaust produced by the burning of coal. The reaction of the limestone powder with sulfur oxides forms by-product gypsum, which we make effective use of as a raw material for cement.

*Ash centers are distribution sites that combine 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 also supplying diverse products that meet user needs.

Steelmakers

In the iron and steelmaking process, impurities are removed from iron ore to make iron.

We supply the limestone and quicklime used in the refining process. We also use blast furnace slag and steel slag, by-products that remain after the refining process, as raw materials for cement and as cement admixture.

Construction Soil

Traditionally this soil had been dumped into landfills. By making effective use of it as a cement raw material, we contribute to the conservation of natural resources and also help to prolong the life of landfills. We have also set up intermediary facilities that organically link sites where construction soil is produced to our nationwide plants, and strive to make them effective resources.

Resource Recycling with Local Communities

Most municipal waste is incinerated and the incinerator residue is buried in landfills, but it has become very difficult to find new landfill sites. Waste treatment has become a source of concern for Japan's major city governments in particular, 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.

- Incineration Residues Recycling System

A system for recycling municipal waste incineration ash (bottom ash and fly ash) as a raw material for ordinary Portland cement.

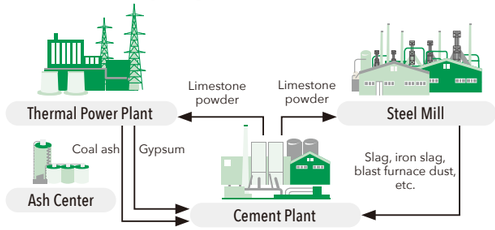
- AK System

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

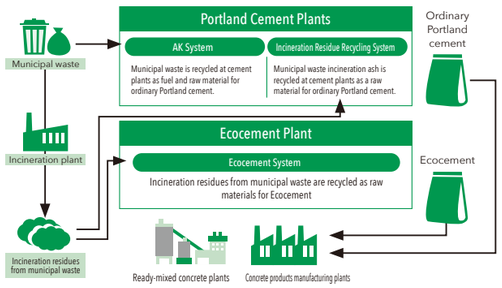
- Ecocement System

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

● Resource Recycling with Industries



● Resource Recycling with Local Communities



Performance of Recycled-Waste-to-Cement System

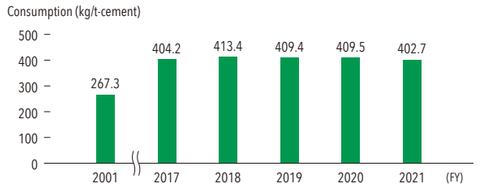
▶ GRI301-1, 2

All of our directly operated cement plants in Japan recycle waste and byproducts into alternative raw materials and fuels for cement. This helps to prolong the life of landfills, prevent the depletion of natural mineral resources, limit greenhouse gas emissions and reduce emissions of pollutants into the atmosphere.

In FY2021 we accepted a greater volume of wood chips, waste plastic, water treatment plant sewage sludge and ash, and municipal waste incineration ash. However, due to a decrease in the amounts of coal ash, blast furnace slag, by-product gypsum, unburned ash, dust, dust construction soil, and waste oil we accepted, the input of recycled waste and by-products was 6,108 thousand tonnes, a decrease of about 279 thousand tonnes on the previous fiscal year. This means we recycled 402.7 kg of waste and by-products per tonne of cement produced.

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

Non-consolidated

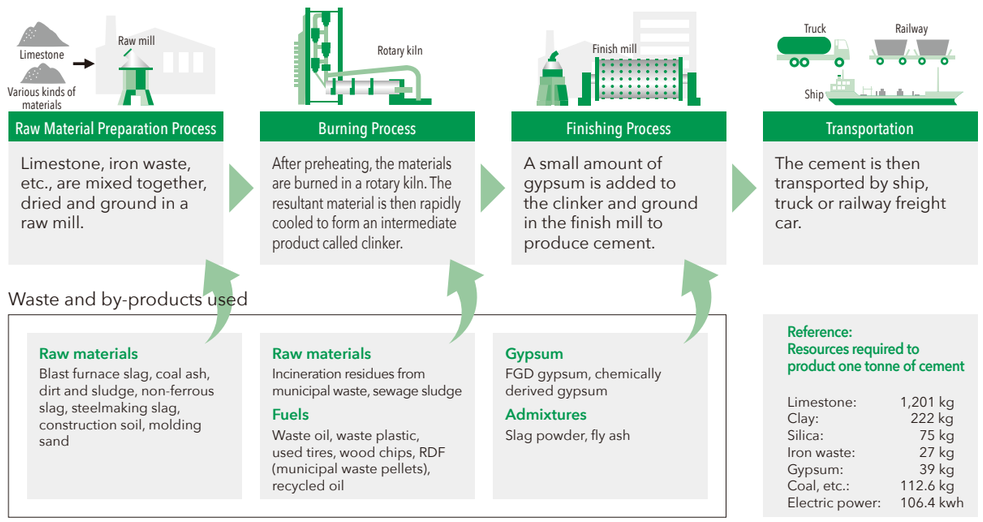


● Main Waste and By-products Used in Cement Plants (FY2021)

Non-consolidated

Waste and By-products	Total Amount (t)	Rate (kg/t-cement)
Coal ash	1,905,365	125.6
Blast furnace slag	1,090,049	71.9
By-product gypsum	500,474	33.0
Unburned ash, dust	509,304	33.6
Dirt and sludge	373,487	24.6
Construction soil	164,597	10.9
Waste oil	101,827	6.7
Wood chips	74,343	4.9
Waste plastic	181,953	12.0
Other	659,987	43.5
Water treatment plant sewage sludge and ash	373,217	24.6
Incineration residues from municipal waste	144,810	9.5
Municipal waste, etc.	28,617	1.9
Total	6,108,031	402.7
Raw material-related	5,516,164	363.7
Fuel-related	591,867	39.0
Total	6,108,031	402.7

● Waste and By-products Used in Cement Manufacturing Processes



Conserving Biodiversity

Relevant SDGs

Environmental Impact of Our Operations

▶ GRI304-1, 2, MM1, MM2

Environmental Impact of Our Operations

Cement production starts with quarrying limestone, the primary raw material for cement. We also quarry many mineral resource products used as aggregates and industrial raw materials.

Since quarrying involves the removal of topsoil to expose the required ore, it inevitably impacts the environment and biodiversity of the area being developed. However, the limestone, rocks and sand we quarry only require crushing for particle size adjustment and sorting, and do not require any refining processes. Consequently, our operations are unlikely to cause chemical contamination to surrounding areas. In addition, we minimize the amount of waste stones generated during our limestone quarrying by using them as construction materials.

Limestone Quarries of the Group

The group operates 17 major limestone quarries around the world, which are located near to our integrated cement plants. The total site area* of the quarries is 4,269 ha (Japan: 2,608 ha; USA: 1,281 ha; other regions: 380 ha).

* Site area: The extent of the area where we conduct quarrying operations ,as measured by our in-house criteria

● Limestone Quarries of the Group

Region	Quarries	Site area (ha)	No. of quarries that require special care*
Japan	11	2,608	1
USA	3	1,281	0
Other	3	380	0

* "Require special care" refers to quarries that fall under Category IV or higher in terms of IUCN Protected Areas

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

All these quarries have obtained the necessary licenses from their local governments and conduct environmentally sound quarrying operations. They have no pending litigations concerning biodiversity or other environmental issues.

● Outline of IUCN Protected Area Categories

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

Activities to Reduce Environmental Impact

▶ GRI103-2, 3, 304-1, 2, 3, 4, MM1

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

Environmental Impact Assessment

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

For instance, in the new development of a quarry in the Ofunato Quarry, Iwate Prefecture, we conducted environmental assessment for approximately ten years. We focused on preserving rare wildlife species in cooperation with external experts and local residents. Furthermore, we minimized noise and vibration during the development work and also limited the traffic hours for trucks used in construction work. In addition, even after development work begins, we carry out regular assessments and implement environmental protection measures.

Raptors survey (Ofunato Quarry)

Biodiversity Protection

When environmental impact assessments determine that protection is required, we protect rare species and the like via measures such as installing protective equipment, transplanting and restricting development work.

Since 1972, at the Minowa Quarry of Chichibu Taiheiyo Cement Corporation, we have been protecting and nurturing rare species of native plants on Mt. Buko, which is located in Chichibu City and Yokoze Town in Saitama Prefecture. We created a botanical garden at the quarry and, together with local experts and other people, we preserve 68 native plant species there while increasing the plant population. Additionally, our Central Research Laboratory continues to research and develop ways to protect and propagate plants, and to verify the genetic diversity of wild specimens using biotechnology. Since 2016, in the course of developing the Ofunato Quarry, we have been working with experts to protect and propagate various rare plant species in their native biospheres by creating a botanical garden on the side of the office of Ryushin Mining Co., Ltd.

Protecting the natural habitat of rare plants (Ofunato Quarry)

Greening Quarries

Rocks and soil are exposed in working quarry areas, and no vegetation is left. However, if no quarrying work is expected for some time we strive to green such areas as soon as possible. We also plant vegetation in excavated topsoil stockyards and in places where the contours of the soil will remain unchanged for a while. At some quarries, at the request of the local community, we restore greenery if operations have been suspended for several months.

We basically plant vegetation that is native to the region. In our greening of quarries in Japan in FY2021, we scattered seeds over a total area of 26,294m² and planted 3,944 saplings.

Other efforts include participating in an annual tree planting campaign with contractors and local residents to improve awareness of quarry development and greening activities.

Greening quarry slopes (Buko Quarry)

Water Resource Conservation

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

Use of Old Quarry Sites

We reuse old quarry sites where operations have completely ended after consultation with the local community. When greening a site we strive to restore the original vegetation.

Reducing Environmental Impact

Relevant SDGs

Preventing Environmental Pollution

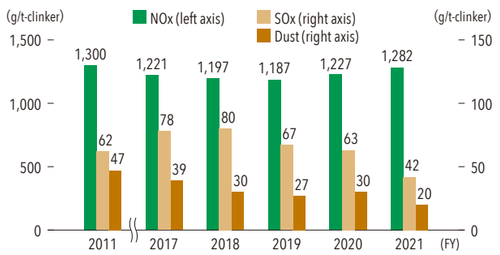
▶ GRI305-7

Air Pollution

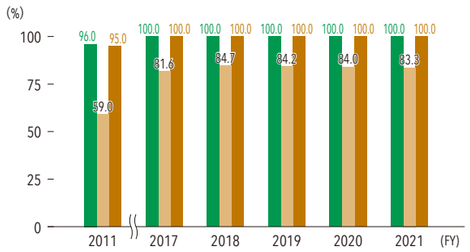
Air pollutants generated from cement production are primarily NO_x, SO_x and dust in combustion gases emitted from cement kilns. To ensure the proper management of these substances we strive to reduce air pollutant emissions through measures such as installing equipment to continuously monitor emission concentrations, improving NO_x reduction systems and installing bag filter equipment to capture dust emissions. Our target in this is to maintain our FY2011 emissions levels.

In FY2021, emissions of NO_x, SO_x and dust were all lower than the figures for FY2011, our benchmark year. Furthermore, the level of SO_x emissions was very low compared to the limit set under the Air Pollution Control Act.

● Specific Emissions of Clinker for Selected Pollutants GCCA



● Monitoring Rate GCCA



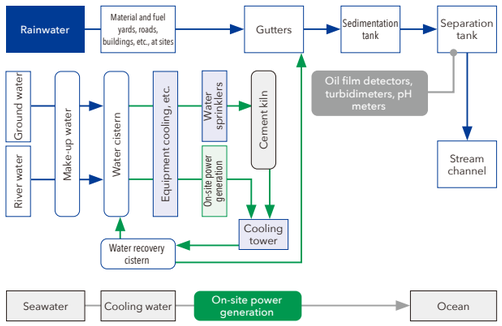
■ Percentage of clinker volume manufactured in a kiln equipped with continuous NO_x measurement
■ Percentage of clinker volume manufactured in a kiln equipped with continuous SO_x measurement
■ Percentage of clinker volume manufactured in a kiln equipped with continuous dust measurement

Reference guidelines: "GCCA Sustainability Guidelines for the monitoring and reporting of CO_2 emissions from cement manufacturing Ver. 0.1" GCCA

Water Contamination

Most of the water discharged from our plants to public waters is cooling water and not polluted as defined in the Water Pollution Control Act. At our cement plants all water resources are reused as circulation water to minimize the impact of water discharge into public waters. Moreover, we are installing sedimentation tanks, water-oil separation tanks, oil film detectors, pH meters and suspended solid sensors on water discharge routes that connect to public waters.

● Example of Water Circulation Flow at a Cement Plant



Soil Contamination

In FY2001 Taiheiyo Cement evaluated the risks associated with cement plants that may be sited on contaminated ground by appointing an expert consultant to undertake a soil history survey. We are continuing to conduct drilling surveys, starting with the higher-risk locations, to verify whether or not the soil is contaminated. Actions have been taken as necessary based on the findings.

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

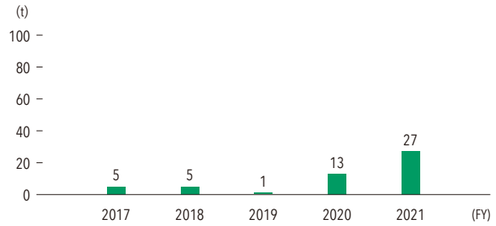
Reducing Waste

▶ GRI306-2

Initiatives at Plants and Quarries

Our cement plants and quarries reduce the amount of waste handled by disposal contractors by reusing waste from operations as material for cement production. We also endeavor to reduce waste that ultimately ends up in a landfill via measures such as the use of chromium-free kiln bricks.

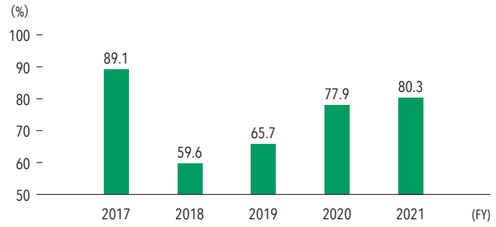
● Volume of Waste to Landfill



Initiatives at Service Stations

Service stations (SS) reduce the waste handled by waste disposal contractors by returning any residual cement that remains in silos after switching the cement products. Returned cement is recycled as raw material. In FY2021, the recycling rate was 80.3%, up 2.4% from the previous fiscal year.

● Recycling ratio



Initiatives at Offices

Our special purpose subsidiary, Taiheiyo Service Corporation, recycles the company's used copy paper for efficient use in-house. Approximately 340,000 sheets of A4 size paper were recycled in FY2021.

Appropriate Management of Chemical Substances

▶ GRI306-2

Pollutant Release and Transfer Register (PRTR)

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

● Reported Levels of Dioxins and Ferric Chloride Emissions Non-consolidated

Emissions	Reported Levels		
	FY2019	FY2020	FY2021
Dioxins (mg-TEQ)	0.0	0.0	0.0
Ferric chloride (kg)	170	152	170

Management of PCB Waste

We properly store and dispose of high and low concentrations of PCB waste in accordance with the Amendment to the Law concerning Special Measures for Promotion of Proper Treatment of PCB Wastes (revised in 2016), hereinafter referred to as the PCB Special Measures Law.

For high-concentration PCB waste with an early disposal deadline as stipulated by the PCB Special Measures Law, we signed a processing contract with the Japan Environmental Safety Corporation (JESCO) in 2006 and have prioritized processing.

Pollutants such as electrical ballasts stored at the Ofunato Plant, Fujiwara Plant and the former Kawara, Tosa and Osaka plants, as well as at the Chichibu quarry and branch office service stations, were processed in FY2021. Transformers and capacitors containing high-concentration PCB in the Kyushu, Chugoku and Shikoku area were processed before March 31, 2018. However, we have confirmed that two unprocessed capacitors still remain in that area. We have submitted a report to the prefectural governor about the two capacitors, and they are being stored appropriately until the local government decides on the disposal method for equipment that has passed its deadline for processing.

Pollutants such as electrical ballasts stored at the Ofunato Plant, Kumagaya Plant, Saitama Plant and Chubu Hokuriku Branch service stations are scheduled for processing in FY2022.

● Treatment of High-concentration PCB Waste Non-consolidated

(No. of machines)

Waste	Stored in FY2020(as of March 31, 2020)	New Target for FY2021	Treated in FY2021	Stored in FY2021(as of March 31, 2021)	Treatment Scheduled for FY2022
Capacitors	0	2	0	2	0
Transformers	0	0	0	0	0
Electrical ballasts	1,750	355	1,169	936	627
Total	1,750	357	1,169	938	627

Appropriate Use of Water Resources

Relevant SDGs

Water Risk Analysis

▶ GRI303-1

According to the results of the water risk analysis conducted using the Water Risk Filter*, the average score for the total basin risk for all our plants (weighted average taking into account the cement production volume) was 2.6. The highest total basin risk score was 3.5, and the average score was 0.2 lower than that of the previous year. The volume of cement produced at the plant in question accounted for about 13% of the production volume of all the plants. However, when we analyzed conditions at that plant, no urgent issues were identified.

* A water risk mapping tool developed by the World Wide Fund for Nature (WWF). It is used to evaluate business impacts related to water scarcity, flooding, drought, seasonal variation, physical water quality risks, regulatory risks, etc. The maximum score is 5.0, and the higher the score, the greater the risk.

Water Consumption

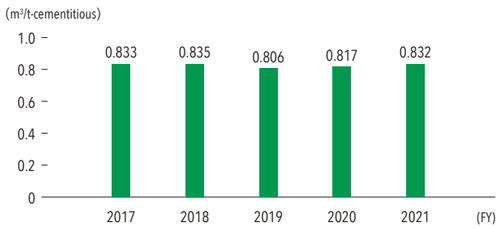
▶ GRI303-1, 2, 3, 4, 306-1

Most of the water used at our cement plants is for the cooling of production equipment, exhaust gas and in-house power generators. Therefore, the water discharged from the plants is mostly cooling water, which is not polluted as defined in the Water Pollution Control Act. Our plants near the ocean use seawater to cool in-house power generation equipment. All the fresh water used at the plants is circulated and reused, except for the household wastewater, as we strive to reduce our water withdrawal and lessen the impact of wastewater on bodies of water.

Our total withdrawal of fresh water in FY2021 was about 27.19 million m³ and our total withdrawal of seawater about 150 million m³. The seawater was used to cool in-house power generation equipment at our plants near the ocean and then released back into the sea after use. The amount of fresh water discharged was approximately 13.45 million m³, meaning that about 13.75 million m³ of fresh water was used at the plants. However, most of this water is not used as a raw material and evaporates after being used to cool equipment or gas.

In FY2021 our fresh water withdrawal to produce 1 tonne of cement was 0.832 m³ (withdrawal per unit of production). There was no great change in our water consumption efficiency.

● Fresh Water Withdrawal per Unit of Production GCCA



● Water Consumption GCCA

(Unit: thousand m³)

	FY2017	FY2018	FY2019	FY2020	FY2021
Surface water	7,505	8,130	6,521	5,626	5,355
Ground water	16,232	16,370	16,884	18,656	18,759
Industrial water	2,983	3,095	3,251	3,325	3,078
Total fresh water withdrawal (I)	26,719	27,596	26,656	27,607	27,192
Total seawater withdrawal	146,097	149,056	149,776	147,372	146,232
Total water withdrawal	172,816	176,652	176,432	174,979	173,424
Total fresh water discharge (O)	12,964	12,294	12,167	13,674	13,447
Total seawater discharge	146,097	149,056	149,781	147,377	146,368
Total water discharge	159,061	161,350	161,948	161,051	159,815
Total fresh water used (I-O)	13,755	15,302	14,489	13,933	13,745

Reference guidelines: "GCCA Sustainability Guidelines for the monitoring and reporting of water in cement manufacturing Ver. 0.1" GCCA

Appropriate Use of Water Resources

▶ GRI203-1, 303-1, 2, 3, 4, 5, 306-1, 413-1

At present there are no specific concerns regarding water resources that may be raised by local communities. However, we are striving to reduce water withdrawal with a view to conserving water resources. In addition, we maintain close communication with local communities and contribute to the appropriate use of local water resources.

Taiheiyo Cement Philippines, Inc. supplies clean water to local communities in the Philippines from wells drilled by the company for water to use in its plants.

CalPortland Company has constructed a system for the sustainable use of water at its Rocky Canyon Aggregate Plant in California, USA. This system has improved the collection and storage of rainwater and spring water at the site. Developing these water resources has made it possible to secure a supply of the water it needs in its work, without having to build new wells or increase the volume of ground water it extracts, and also to keep the amount of water that drains out of the site to a bare minimum. (There are strict regulations with regard to water that drains out of a site.)

System for the sustainable use of water (California)

Environmental Accounting

Relevant SDGs

● Environmental Conservation Expenditure (Non-consolidated) (Unit: million yen)

Category		Main Activities	Investment FY2019	Investment FY2020	Investment FY2021	Cost FY2019	Cost FY2020	Cost FY2021
Business area costs			2,161	3,624	3,964	10,632	10,834	9,456
Details	Pollution prevention	Water pollution prevention etc.	1,537	2,128	1,904	3,996	3,996	3,980
	Global environmental conservation	WHR power generation systems etc.	381	1,352	1,667	6,197	6,197	4,907
	Resource recycling	Waste treatment etc.	243	144	393	439	439	569
Upstream and downstream costs		Recycling waste and by-products as alternative raw materials and fuels for cement	3,933	3,020	1,255	4,955	4,955	6,189
Administrative costs		Environmental management etc.	65	113	78	141	141	151
R&D costs		Innovative cement manufacturing processes etc.	556	539	537	812	812	867
Social activity costs		Plant tours etc.	2	0	0	28	28	43
Environmental remediation costs		Emission levies etc.	0	97	172	87	87	87
Total			6,717	7,393	6,006	16,655	16,655	16,793

(Unit: million yen)

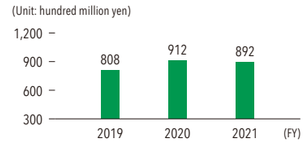
	FY2019	FY2020	FY2021
Total investment	20,020	20,975	23,057
Total R&D expenditure	1,192	1,195	1,246

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

We use the external economic benefit (EEB) evaluation method to express, in monetary terms, our evaluation of socioeconomic benefits from environmental impact reduction due to increased recycling of waste accepted from outside the company. We calculate that we created a social benefit of 89.2 billion yen in FY2021. The total amount of waste and by-products used in FY2021 was less than in the previous fiscal year, leading to an approximate 2% decrease in economic benefit on FY2020.

● External Economic Benefits (FY2021) (Non-consolidated)

Impact	Inventory	Reduction (t)	Inventory Market Price (Yen/t)	External Economic Benefit (Hundred million yen)
Climate change mitigation	CO_2	1,779,704	3,000	53
Depletion of energy resources	Crude oil	105,344	18,400	19
Depletion of mineral resources	Natural resources	4,671,056	1,000	47
Shortage of landfills	Waste	5,152,393	15,000	773
Total				892



Taiheiyo Cement's External Economic Benefit Evaluation

- We have 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 GCCA Cement CO_2 Protocol, to calculate the reduction in consumption of fossil energy and natural resources associated with the use of waste and by-products.
- Economic benefits are calculated by multiplying reductions in consumption (effects of environmental conservation) by set market prices.
  The market values of the inventory items are set at FY2001 levels, and are estimated on the basis of the following considerations.
  CO_2: 3,000 yen/t (a hypothetical CO_2 emission tax rate). Crude oil: import price. Natural resources: estimated price. Waste: controlled landfill costs in the Tokyo area.
- A portion of the EEB is accounted for in our profit and loss statement.

Environmental Accounting for One of Our Projects

Installation of a Hydrated Raw Material Mixing System at the Fujiwara Plant No. 5 Kiln

▶ GRI201-2

In order to boost the rotary kiln firing efficiency, standard raw materials for cement are dried, pulverized and homogenized in a raw mill. In recent years the amount of substitutes used for natural resources is increasing, and some of those recycled resources have a strong odor like hydrated sludge and cannot be processed in a raw mill. This makes it necessary to feed them directly into a rotary kiln to decompose any malodorous components.

The hydrated raw material mixing system installed at the Fujiwara Plant No. 5 Kiln in FY2021 was jointly developed by Taiheiyo Cement and Taiheiyo Engineering Corporation. It is a new type of mixing system that separates high-temperature raw materials inside the preheater and premixes them before they are fed into the rotary kiln, thereby dramatically boosting drying and firing efficiency. The new mixing system will lead to less thermal energy being required for clinker burning, and is intended to further reduce CO_2 emissions and environmental impact.

Hydrated raw material mixing system

Investment: Approx. 340 million yen

Reduction in CO_2 emissions: 2,388 tonnes/year

Material Balance of the Cement Production Process

Scope of data: The data aggregated are for our four business segments (cement, mineral resources, environment and power generation) collected at our (non-consolidated) quarries and plants, at the quarries shown below of subsidiaries that supply us with materials (nine quarries of eight companies) and at affiliated companies engaged in the power generation business (3 companies).

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

INPUT

Water withdrawal

Total water withdrawal (thousand m³)	191,429
Tap water	1,497
Industrial water	4,173
River water	5,306
Ground water	12,350
Rainwater	300
Seawater	167,803

Energy

Coal	2,225,888t
Petroleum coke	250,883t
Heavy oil	24,262kl
Diesel oil	20,544kl
Other	53,805t
Recycled fuels	1,042,776t
Purchased electricity	551,542MWh

Materials

Additives, etc.	7,735t
Explosives	3,818t
Refractory materials	9,017t
Grinding media/Steel casing	2,453t
Lubricants/Chemicals	3,567kl
Other	34,010t

Raw materials

Natural Resources	
Limestone	34,940,122t
Silica	1,616,798t
Gypsum	77,888t
Other	11,967t
Waste and By-products	
Iron waste	195,727t
By-product gypsum	470,110t
Fly ash, coal ash	2,125,467t
Blast furnace slag	780,452t
Other clay substitutes	1,696,968t

Raw material procurement

Limestone 100% sourced in Japan

Limestone is the only mineral resource in which Japan is self-sufficient. Japanese limestone contains high-quality calcium carbonate and has become the source of a stable cement supply.

Ratios of Japan's self-sufficiency in other mineral resources

- Liquefied natural gas: 2.4%
- Crude oil: 0.3%
- Iron ore: 0%

Production

Utilization of Waste and By-products

In our cement production we make efficient use of blast furnace slag from steel mills and thermal power plants, coal ash, industrial waste such as plastic and oil from various industries, ash from incinerated municipal waste, and disaster waste generated by natural disasters as recycled materials for cement. We utilize 402.7 kg of waste and by-products to produce one tonne of cement.

Zero Waste from Cement Production

Basically, secondary waste is not generated since we use flammable waste as a substitute for fossil energy, and combustion waste is utilized as a raw material for cement.
Since cement is fired at a temperature of 1,450°C, hazardous chemicals generated during the production process, such such as dioxins and fluorocarbons are decomposed and detoxified.

Transportation

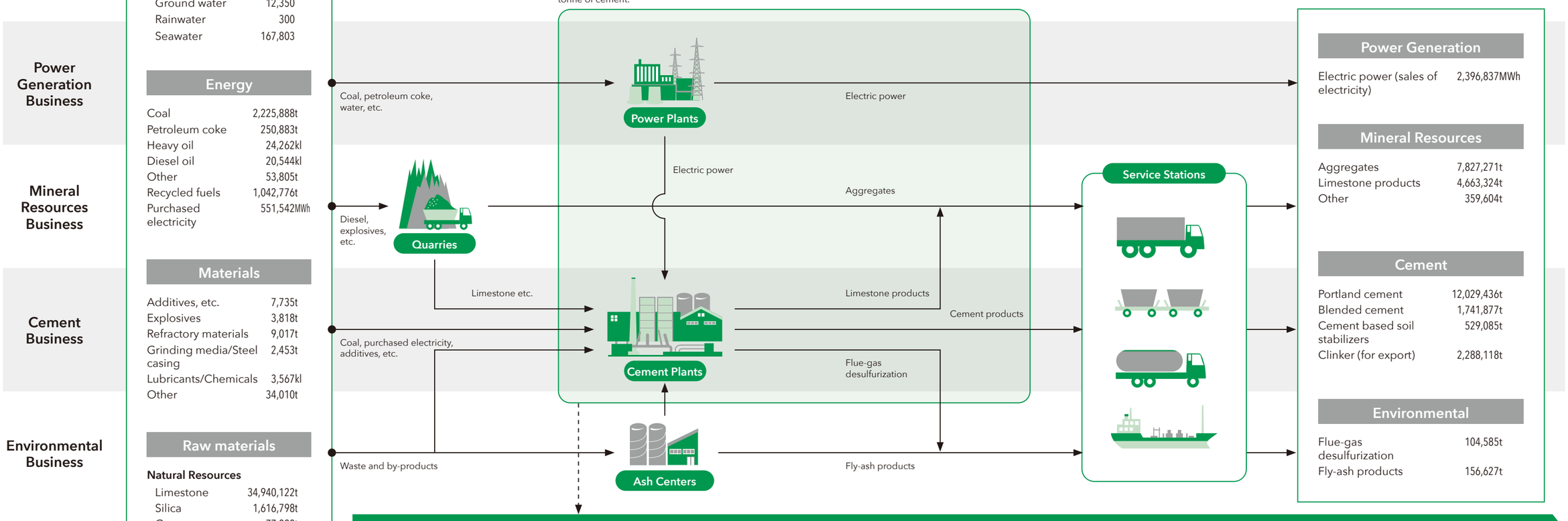
Comprehensive Transportation Network

We possess 9 cement plants, over 100 service stations, and 36 cement tankers in Japan, and provide a stable supply of our products via our robust manufacturing, transportation and supply chain infrastructure.

Utilization

Contributions to infrastructure

As stated in The Value of Cement on pages 10 and 11, cement is used for various purposes to create safe and stable infrastructure that improves people's daily lives, makes economic activities more convenient, and protects communities from natural disasters.



Products by Business

Power Generation

Electric power (sales of electricity)	2,396,837MWh

Mineral Resources

Aggregates	7,827,271t
Limestone products	4,663,324t
Other	359,604t

Cement

Portland cement	12,029,436t
Blended cement	1,741,877t
Cement based soil stabilizers	529,085t
Clinker (for export)	2,288,118t

Environmental

Flue-gas desulfurization	104,585t
Fly-ash products	156,627t

OUTPUT

CO_2 Emissions

CO_2	14,269,840 t
From purchased electricity	189,608 t

NO_x Emissions

NO_x*	24,020 t

SO_x Emissions

SO_x*	1,538 t

* Cement and power generation businesses only (excluding purchased electricity)

Dust Emissions

Dust *	283 t

Dioxin Emissions

Dioxins*	0.24 g-TEQ

Waste Emissions

Waste externally consigned for treatment	632 t
Waste sent to landfills	27 t
Valuables such as scrap metals	6,701 t

Water Discharge

Wastewater	181,846 thousand m³
Seawater	167,934 thousand m³
Fresh water	13,621 thousand m³
Household wastewater	292 thousand m³

S Social

Quality Assurance

▶ GRI103-2, 3

Relevant SDGs

Quality Policy

In 1998, the year of Taiheiyo Cement's inception, we established a quality policy based on our management policy. We revised the policy by incorporating a visual description of the code of conduct. Through those efforts we have since continually raised awareness of the policy across the organization. It represents our aspiration to continue to be a company that customers trust and rely on by sharing a sense of achievement through each employee's actions and by providing high-quality products and services, leveraging our high technological capabilities and quality assurance system.

Quality Policy

All of our employees adopt a global perspective, striving to boost customer satisfaction and contribute to society by providing environmentally-friendly products and quality that matches our customers' needs.

In order to achieve the aims of our policy

1. We develop specific product quality targets based on our Quality Policy, and disseminate them within the company.
2. We focus our efforts and work positively to achieve the quality targets.
3. We carefully review the levels of customer satisfaction and product quality that have been achieved.
4. We implement a quality management system and continually improve our products.

Quality Assurance Initiatives and Quality Management System

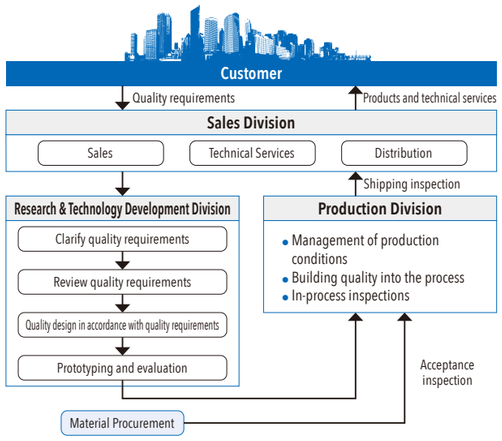
▶ GRI416-1

We focus on stabilizing and improving product quality while capitalizing on the production and quality control technologies we have developed over the years. We are further enhancing product quality control by capitalizing on advanced technologies to ensure improved stability such as an online analysis system for raw materials, clinker and cement, the measurement of clinker minerals by X-ray diffraction and our proprietary Taiheiyo Cement Quality Predictive System (TQPS). Via measures such as making effective use of industrial waste, we aim for cement production that pays due attention to the conservation of the global environment.

All of our Portland cement plants in Japan, including those of group companies, have obtained ISO 9001 certification, the international standard for quality management systems. Furthermore, all of our overseas cement plants in countries that adopt ISO have obtained ISO 9001 certification. To ensure product quality and improve business operations, we obtained ISO 9001 (JIS Q9001) certification 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.

We will continue to fully apply the ISO 9001 approach in addition to our own quality management system (QMS) and enhance initiatives to strengthen our ability to continually provide ISO 9001-compliant products and deliver greater customer satisfaction.

● Quality Management System



Safe Cement and Cement Products

▶ GRI416-1

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

We have already established fixed standards for the management of heavy metals contained in natural resources, and are constantly enhancing the control of minor components as the volume of waste we receive increases. When we receive new types of waste or waste from new sources we strictly apply rules under which we conduct three kinds of inspection related to the source of the waste, its chemical composition and the results of trial use to identify any potentially negative impact on product quality or the surrounding environment. We will then make a final decision on whether to receive the waste. These measures help us ensure product safety.

Ensuring Product Safety Following a Nuclear Accident

▶ GRI416-1, 417-1

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

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

Please see our website for more information about radioactive concentrations in our products.

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

Provision of Information Using SDS and Labeling

▶ GRI417-1

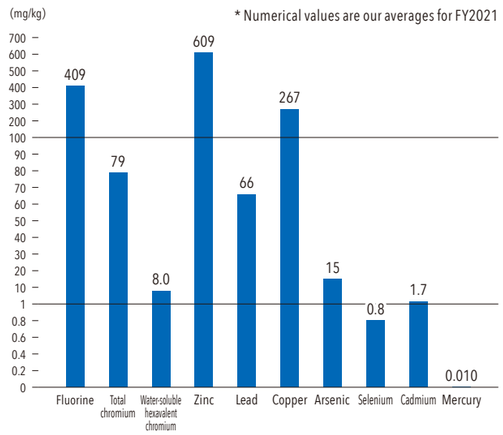
To ensure the safety of cement users we prepare Safety Data Sheets which contain hazard identification details and make these sheets available on our website. GHS labels are also attached to bags and flexible containers.

● Minor Components of Ordinary Portland Cement

(Unit: mg/kg)

		FY1988	FY2017	FY2018	FY2019	FY2020	FY2021
Fluorine	Average	-	382	448	427	435	409
	Max.	-	485	543	504	578	512
	Min.	-	313	339	355	337	326
Total chromium	Average	-	81	79	77	84	79
	Max.	-	91	88	95	95	85
	Min.	-	74	69	64	75	73
Water-soluble hexavalent chromium	Average	17.4	8.3	7.4	8.6	7.9	8.0
	Max.	32.3	9.8	9.3	11.4	9.8	11.1
	Min.	5.3	7.1	6.0	5.4	6.6	5.5
Zinc	Average	556	627	530	600	554	609
	Max.	1,059	741	659	772	677	734
	Min.	137	496	390	449	493	464
Lead	Average	221	65	57	62	63	66
	Max.	668	89	84	84	77	88
	Min.	18	53	41	38	43	39
Copper	Average	122	259	223	274	263	267
	Max.	233	355	319	415	359	442
	Min.	17	154	162	163	181	168
Arsenic	Average	17	14	12	18	13	15
	Max.	39	39	43	47	28	47
	Min.	2	4	2	6	7	6
Selenium	Average	-	0.5>	0.7	0.5>	0.8	0.8
	Max.	-	0.5>	1.2	0.5>	0.9	0.9
	Min.	-	0.5>	0.5>	0.5>	0.6	0.5>
Cadmium	Average	1.5	1.5	1.3	1.3	2.0	1.7
	Max.	2.6	2.0	2.0	2.0	3.0	2.0
	Min.	0.6	1.0>	1.0>	1.0>	1.0>	1.0>
Mercury	Average	-	0.005>	0.008	0.005>	0.007	0.010
	Max.	-	0.005>	0.015	0.005>	0.011	0.020
	Min.	-	0.005>	0.005>	0.005>	0.005>	0.005>

● Minor Components of Ordinary Portland Cement



Supply Chain Management

Relevant SDGs

Fundamental Policy

▶ GRI-102-16

We believe that we grow along with our business partners. In order that we may build relationships of mutual trust and work in tandem with our business partners, our dealings with them are based on fair contracts and we strictly adhere to our agreements. We formulated our Business Principles to clearly establish our stance towards fair trade. They state "We will act in an ethical manner and abide by the laws and regulations of those countries in which we operate." Accordingly, we affirm the following commitments in the "Dealing outside the company in good faith" section of our Standards of Conduct.

1. We will conduct fair marketing and bidding, and not engage in unfair practices such as collusion and cartels.
2. We will maintain appropriate and transparent relationships with our contractors.
3. We will select business partners in a fair and equitable manner.
4. We will not offer entertainment or gifts to customers that go beyond what is legally and socially acceptable.
5. Our advertising, displays and briefing sessions will be honest and sincere.
6. We will respond appropriately to customer feedback.
7. We will maintain transparent relationships with governments and local authorities.
8. We will respect the cultures and customs of the places where we operate.

Our supply chain management is in accordance with those commitments.

In addition, we established the Basic Policy Concerning Procurement in October 2017 to consolidate commitments 2 ("We will maintain appropriate and transparent relationships with our contractors") and 3 ("We will select business partners in a fair and equitable manner"), and request ethical conduct from our contractors.

Please see our website for more information about the Taiheiyo Cement Basic Policy Concerning Procurement.
https://taiheiyo-cement.co.jp/english
CSR-ESG Initiatives ▶ Collaborating with Society ▶ Supply Chain Management

In response to the strengthening of international regulations against acts of bribery, and to strengthen our initiatives against corruption as stated in commitments 4 (We will not offer entertainment or gifts to customers that go beyond what is legally and socially acceptable) and 7 (We will maintain transparent relationships with governments and local authorities), we established our Anti-Bribery Policy in January 2017, and concurrently released a statement by our president proclaiming the group's stance against bribery.

Please see our website for more information about the Taiheiyo Cement Basic Policy Concerning Procurement.
https://taiheiyo-cement.co.jp/english
CSR-ESG Initiatives ▶ Risk Management and Compliance ▶ Compliance Guidelines

Our Business Partners

▶ GRI102-9

Our main business activities are involved with cement and concrete. Limestone is the main raw material used and group companies are largely in charge of such aspects as the operation and management of the quarries. Coal, however, which is a source of thermal energy and also part of the raw materials we use, is sourced from companies outside the group. Moreover, the waste and by-products that we recycle in our cement production process come from many different industries and a variety of locations.

Most of our production divisions are mechanized, and there are almost no labor-intensive processes. Tasks such as production equipment maintenance are outsourced to partner companies and contractors as and when necessary.

Our cement products are mainly marketed to building materials companies. Raw materials and products are transported by group companies and also companies outside the group.

In our business activities we strive to communicate closely with the local governments of the countries and regions where our business sites are located. We deem it essential that our supply chain respects human rights, in particular the banning of forced labor and child labor, complies with laws and responds to demands.

Safety of Business Partners Working at Our Production Sites

▶ GRI-403-1, 3

Operations at our cement production sites and quarries are increasingly being mechanized. Since some tasks are performed in elevated places or at high temperatures, ensuring worker safety at our production sites is essential for stable operations. We do our best to ensure that employees of contractors working at our sites avoid any accidents. They receive various types of training when they start work at the site, are required to submit a work plan that includes a safety plan, and are given guidance with regard to that plan.

Strengthening Our Relationship with Our Customers

We place the highest priority on achieving greater customer satisfaction. Business units periodically exchange information and link up to strengthen production focused on quality that meets customer expectations.

We gather information about customer demands concerning product quality and services such as delivery from our sales and technical staff at branches and sales offices. We then analyze that information, make improvements, and provide feedback. To encourage overseas customers to adopt our high-quality products we have started to incorporate local needs into product quality, just as we do for domestic customers, and we are fine-tuning our products to meet the requirements of each overseas market. We respond sincerely to every quality issue raised by our customers, and strive to improve product quality and customer satisfaction. We actively identify potential quality risks, investigate their causes and implement stringent cross-divisional countermeasures with the aim of establishing an even more reliable quality assurance system.

In addition, we are expanding our quality assurance system to include the products of our group companies as well as Taiheiyo Cement Corporation products. We systematically strive to identify and address material issues via cross-divisional initiatives, and aim to boost the reliability of the Taiheiyo brand as well as customer satisfaction.

User Societies and Industry Associations

▶ GRI417-1

We have founded and manage various cement user societies and industry associations that support them in vitalizing their business operations and developing technological competitiveness. The National Taiheiyo Cement Ready-mixed Concrete Society, the largest of these user societies, is made up of ten Taiheiyo Cement Ready-mixed Concrete Societies, in locations ranging from Hokkaido to Kyushu, and engages in various activities. We hold technical sessions and presentations, as well as conduct activities under specific themes suited to local conditions. We also focus on providing support for 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 have established other associations such as the Taiheiyo Cement Association for the Paving Block Industry and SPLITTON Association Japan to proactively deliver technical support for the mutual development of concrete product companies. We will continue to support activities that benefit cement users.

Initiatives of the Taiheiyo Cement Association for the Paving Block Industry

Labor shortages are becoming more severe in various industries over the past few years, and the paving block industry also needs to take swift measures to boost productivity and save labor. Accordingly, this association is engaged in initiatives focusing on construction, a field where there seems to be a particularly large number of issues.

In other countries it is the norm for blocks to be constructed using specialized machinery, but in Japan there are still companies where such equipment has yet to be adopted and individual blocks are made manually by skilled workers. The Taiheiyo Cement Association for the Paving Block Industry therefore held a virtual tour on the internet to show the construction process using a German-made machine, and shared information with association members nationwide with the aim of encouraging the adoption of such equipment in Japan.

The association is already engaged in initiatives aimed at enhancing the performance of interlocking roadway blocks, and is now moving forward with the reappraisal of performance costs, trial construction and durability tests with the aim of establishing performance regulations.

The Taiheiyo Cement Association for the Paving Block Industry will continue to aim for sustainable growth, and will contribute to environmentally-friendly and pleasing urban development by promoting the use of paving blocks via its nationwide membership network.

Activities of the National Taiheiyo Cement Ready-mixed Concrete Society

Region	Details
Hokkaido	A survey of fixed-term certification maintenance reviews
Tohoku	Published "Examples of Responses to Complaints Seeking Compensation & Preventive Measures, Plus a Compilation of the Forms Used by Each Company"
Tokyo	Technical presentations given online and distributed in DVD format
Kanto	Technical reviews at plants belonging to association members in each prefecture, publication of collected papers
Hokuriku	Discussion of technical challenges and countermeasures at plants belonging to association members
Chubu	Lecture in response to the JIS revision to "How to Create Samples for a Concrete Strength Test"
Kansai	Survey regarding training drills
Shikoku	"Ingenuity Contest" for examples of improvements to daily tasks at plants belonging to association members
Chugoku	Published "100 Questions It's a Bit Late to Ask about In-house Regulations"
Kyushu	Published Q&A compilation "Exploring the Mysteries of Concrete!" (2nd Edition)

Creating a Healthy and Safe Workplace

Relevant SDGs

Health & Safety Policy

Our Health & Safety Policy is shown below. Under this policy our headquarters and business sites review and revise health and safety management regulations each fiscal year.

Taiheiyo Cement Health & Safety Policy

Taiheiyo Cement Corporation recognizes that ensuring the health and safety of our employees is a cornerstone of our company. We invest appropriate management resources to the prevention of work-related accidents and diseases in accordance with the Industrial Safety and Health Act and the Mine Safety Act, and efficiently implement the fundamental policies shown below.

Fundamental Policies

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 contractors by complying with health and safety-related laws and regulations, the 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 health and safety by actively promoting the implementation and operation of our Occupational Safety and Health Management System, and by continually ensuring the fundamental safety of our work and equipment, providing education and training, and raising awareness of health and safety.
4. Constantly improve workplace environments and work procedures by applying improved technologies and new health and safety information via the company-wide, business site and group affiliate health and safety committees.
5. Ensure health and safety throughout the Taiheiyo Cement Group by promoting action to eliminate work-related accidents under the leadership of the company-wide, business site, and group affiliate health and safety committees.

Health & Safety System

Under the Taiheiyo Cement Health & Safety Policy we establish health and safety management regulations that cover the basic principles of the group's health and safety management, and promote health and safety activities. The aim is to create comfortable working environments while also ensuring the health and safety of our employees and those of our contractors at the group's business sites and other locations.

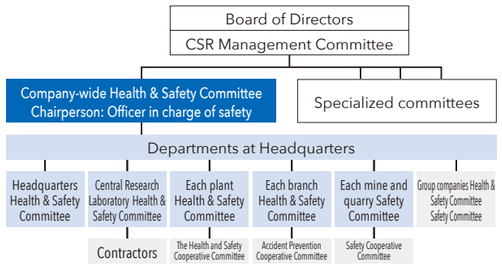
We established the Company-wide Health & Safety Committee, chaired by the officer in charge of safety, as a Specialized Committee under the CSR Management Committee, which is itself under the direct oversight of the Board of Directors. The Company-wide Health & Safety Committee supervises health and safety activities held by our various business locations. It also collects safety-related data from not only the company itself but also our group companies and provides guidance.

All plants, quarries and branches under the jurisdiction of our divisions at Headquarters, and all group companies, have a health and safety committee consisting of representatives from both management and labor, as well as a cooperative committee promoting the health and safety-related activities of each business site.

Health and safety management at cement plants, mines and quarries in Japan is carried out by our OSHMS*.

*OSHMS (Occupational Safety and Health Management System): Guidelines issued by the Ministry of Health, Labour and Welfare in 1999. A framework for reducing potential dangers at workplaces and promoting comfortable work sites by autonomously practicing continuous, uninterrupted health and safety management.

Health & Safety System



Safety Operation Officer Certification System

Since FY2008, we have been using the Safety Operation Officer System which emphasizes the importance of improving leadership capabilities to reduce work-related accidents. This system provides the certification as a safety operation officer that is required for leaders of work groups. To further improve the capabilities of those leaders, as of FY2016 we require participants in the certification seminars held at the plants to have completed the foreman training course stipulated in the Industrial Safety and Health Act.

Health and Safety Training

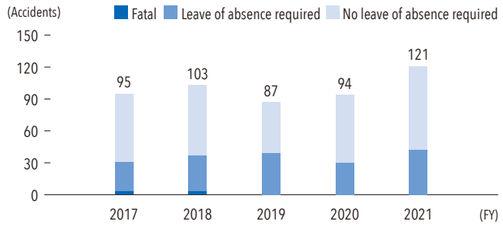
We have established procedures for the implementation of health and safety training, and are committed to providing such training so that work can be carried out safely. Training is provided at all our business sites. It can be categorized into training for newly-hired employees, training for newly-hired employees with professional experience at another company, specialized courses, training for newly-appointed managers, skills training, and training for contractors when they start work at a site.

Work-related Accident Reports and Database

Any work-related accident is reported to the Company-wide Occupational Health & Safety Committee immediately, regardless of how insignificant it may seem. We promptly post the details of any accident on the group bulletin board as a step towards avoiding any recurrence.

We have maintained a work-related accident database since FY2009. It covers accidents involving employees of the company and group companies as well as the employees of all our contractors, including temporary workers. It categorizes accidents according to the "4 Ms" (men, machines, methods and management), analyzes the causes of unsafe behavior and situations, and systematically stores work-related accident review reports that include details of the countermeasures taken. The database is also translated into English and Chinese so that it can be widely used at our overseas business sites.

Work-related Accidents Registered in the Database



Health and Safety Promotion Activities

▶ GRI403-2, 3, 4, 5, 6, 7, 9, 10

The Company-wide Health & Safety Committee set the following objectives for FY2021: zero fatalities, limit lost-time injuries to 30 or less and the total number of work-related accidents to 80 or less, while also setting the absence rate in the 0.5% range. We therefore engaged in health and safety promotion activities with a focus on: (1) improving the level of safety management at group companies in order to achieve our CSR Objectives for 2025, (2) eliminating accidents caused by breaking the rules, (3) eliminating heatstroke-related accidents, (4) preventing the recurrence of similar accidents, (5) complying with safety-related legislation, and (6) preventing the spread of COVID-19 infections (preventing employees from becoming infected or infecting others).

As a result, we had zero fatalities for the third year in a row, and achieved an absence rate of 0.337%, thus attaining those objectives. However, there were 42 lost-time injuries and the total number of work-related accidents was 121, so we did not attain those objectives. Although we had identified accidents caused by breaking the rules and heatstroke-related accidents as key issues for FY2021, they represented 36% of the total number of work-related accidents. In response to that fact, we will add periodic patrols accompanied by guidance to our measures against accidents caused by breaking the rules, and will analyze the rule-breaking behavior and improve areas such as our training, equipment and codes of practice. We will measure WBGT values (heat indices) at each work site and take measures against heatstroke such as establishing a set frequency for breaks.

When we reviewed accidents according to type, we found a big decrease in those involving being trapped by or dragged into equipment. However there are still many cases of falls that lead to serious accidents so we are taking measures to prevent recurrence. We also reviewed work-related accidents according to years of experience, and found that 41% of the accidents involved workers with three years of experience or less. In recognition of this issue we are taking steps to improve safety guidance for less experienced workers.

Absence Rate

Non-consolidated

(Unit: %)

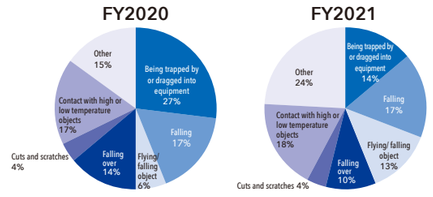
	FY2017	FY2018	FY2019	FY2020	FY2021
Absence rate	0.448	0.458	0.647	0.580	0.337

Work-related Accidents

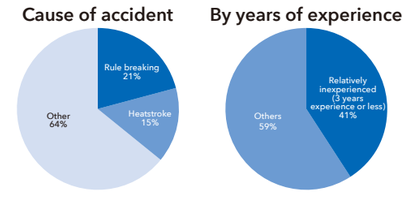
(Unit: occurrences)

		FY2017	FY2018	FY2019	FY2020	FY2021
By region	Japan	84	98	81	92	117
	Overseas	11	5	6	2	4
By gender	Male	90	99	83	89	120
	Female	5	4	4	5	1
Injury or sickness	Injury	88	98	83	79	103
	Sickness	7	5	4	15	18
Our employees or contractors	Our employees	42	41	45	40	52
	Contractors	53	62	42	54	69

Breakdown of Accidents by Type



Characteristics of FY2021 Accidents



Creating a Healthy and Safe Workplace

Improving Equipment to Prevent the Recurrence of Accidents

When we classify accidents by type, every year a high proportion of them are due to falls. Since a high proportion of such accidents in FY2021 were due to falls from concrete mixer trucks, representatives from the Company-wide Health & Safety Committee visited Asano Concrete Corporation, a company that is making progress in initiatives to tackle this issue. We are disseminating information about their excellent initiatives laterally throughout the group.

Measures to prevent falls (Asano Concrete Corporation)

Expanding Safety Activities to Group Companies

The Company-wide Health & Safety Committee provides support for safety activities at group companies. It started conducting safety surveys in FY2019, and carried out surveys of the group's ten business sites in Japan and five sites overseas in FY2020. As a result of measures introduced to prevent the spread of COVID-19, surveys were only conducted at two business sites in Japan in FY2021. We are carrying out safety surveys at the business sites that could not be surveyed in FY2021, and will move forward with action to improve safety.

Safety patrol (Maruse K.K.)

Experiential Safety Training

In order to boost the safety awareness of our employees we hold safety training where they experience risks inherent in familiar operations. In FY2019 we introduced experiential safety training equipment such as VR (virtual reality) devices at all our cement plants for employees to experience simulated dangers related to safety harnesses, rotating equipment, electricity and heavy objects hanging from a crane. We also set up a system that can provide effective training for younger or less experienced employees. We also make this equipment available to contractors and group companies upon request.

Experiential safety training using VR

Safety Training DVD

We made a DVD in Japanese, English and Chinese called The Promise of the Seven Safety Principles about prohibited actions that could lead to serious accidents. Its visual format makes it easy to understand and it is used in training for people who have just stared working at a plant, for example.

The Promise of the Seven Safety Principles

Preventing Heatstroke

As a measure to prevent heatstroke we made prototype workwear that is more sweat-absorbent and dries faster, and we confirmed its effectiveness. We made further improvements and assessments in FY2022, and plan to bring it into use in FY2023.

Prototype workwear (Taiheiyo Cement Corporation)

Stakeholder Engagement

Relevant SDGs

Main Activities (FY2021)

Theme	No. of times held	No. of participants	Examples of activities
Conservation of the global environment	703	1,470	● Explanatory meetings for local residents ● Environmental briefings ● Environmental monitoring system ● Cleanups ● Activities to protect forests and the local natural environment
Promotion of local culture and communication	760	23,462	● Guided tours of plants, mines and quarries ● Opening facilities to the public ● Sponsoring, participating in and cooperating in local events
Regional development	194	3,406	● Provision of materials and lending of heavy machinery ● Support for community medical services ● Support for the development of local industries ● Disaster prevention activities
Education and human resource development	51	321	● Scholarships ● Engineer training ● Internships and work experience programs
Support for areas affected by disasters	13	22	● Assistance for disaster-stricken areas

Conservation of the global environment

● Elimination of yellow rocketcress, an invasive foreign species on Mt. Fujiwaradake

(Fujiwara Plant)

As one of our business activities based on environmental assessments for the development of quarry sites, we participated in action to protect the rare plant species of Mt. Fujiwaradake. We participated in the pulling out of an invasive foreign species (yellow watercress) as well as using quarry roads to transport the removed plants and helping to supply equipment required for their removal such as sacks and protective gloves.

● Expansion of a project to convert a former mining site to farmland

(CalPortland Company, USA)

CalPortland Company is expanding a project at its Garey Aggregate Plant to refill a former mining site and convert it into farmland. Mud that has accumulated at the bottom of a sedimentation basin is being dredged and used as soil for farming. So far approximately 120 ha have been converted to farmland.

Promotion of local culture and communication

Explanatory meeting about the company held as part of an interaction between high school students and local companies (Fujiwara Plant)

The commercial and industrial associations of Inabe, Toincho, Asake, Kuwanasansen, and the Federation of Mie Prefecture Commercial and Industrial Associations sponsored an interaction between approximately 320 first year students at Inabe Sogo Gakuen High School and around 20 commercial and industrial enterprises with business premises in the area under their jurisdiction. The enterprises that applied to participate sent representatives to go into the classrooms and explain about their company.

Inspection tour by Roy Cimatu, Secretary of Environment and Natural Resources (Taiheiyo Cement Philippines, Inc. and Solid Earth Development Corporation)

On August 21 2020, Roy Cimatu, Secretary of Environment and Natural Resources, who had been invited to visit the Province of Cebu, paid a visit to Taiheiyo Cement Philippines, Inc. and Solid Earth Development Corporation after an inspection tour of mines and quarries in the province. Both companies have continued operations despite the COVID-19 pandemic, and he inspected their management methods, and CSR initiatives to protect the environment and ensure employee health and safety. He was full of praise for both companies.

Regional development

Donation of cement for maintaining residential roads in Nghệ An Province (Nghi Son Cement Corporation, Vietnam)

Between 2020 and 2021 Nghi Son Cement Corporation has donated 5,000 tonnes of cement to the village of Quỳnh Lộc where its quarry is located.
The local people have expressed their gratitude for the cement which is being used to build residential roads and drainage facilities.

Food aid for local residents (CalPortland Company, USA)

Ever since 2012, the Mojave Plant of CalPortland Company has made an annual donation to a food bank in Mojave, California where the plant is located. The donation goes toward Thanksgiving Dinner baskets for low-income households in the city. Volunteers deliver the baskets individually, and many recipients express their gratitude each year.

Education and human resource development

An outreach class about our cement business held at an elementary school (Mining Department, Headquarters)

In February 2021, an employee in our Mining Department held an optional outreach class about cement for sixth-graders at the elementary school attended by their son. The outreach class explained in simple terms about the role played by cement in our daily lives, and raw materials such as limestone.

Scholarships for local elementary and middle school pupils (Nghi Son Cement Corporation, Vietnam)

As an expression of gratitude to local residents who cooperate with its plant and quarry operations, since 2004 Nghi Son Cement Corporation has endowed the Nghi Son Cement Scholarship for children who have lost a parent through an accident or ill-health.

Support for areas affected by disasters

Setting up a sandbag station and contributing to local disaster prevention (Chugoku Branch, Maruse K.K)

The Maruse K.K. Satou Plant is located in a residential area and in the vicinity of a preschool. The plant aims to coexist harmoniously with the local community, and set up a sandbag station in the plant car park as a measure to protect houses in the event of localized flooding. The station has been in operation since March 2021 and local residents can make free use of the sandbags to protect their homes.

Donations of food and hygiene products to local residents (Taiheiyo Cement Philippines, Inc. and Solid Earth Development Corporation)

Taiheiyo Cement Philippines, Inc. and Solid Earth Development Corporation donated food aid such as rice and canned products to people suffering from the impact of the COVID-19 pandemic in Cebu Province. They also donated 1,000 masks and 20 thermographic devices sent by Taiheiyo Cement Headquarters.

GCCA Key Performance Indicators

▶ GRI301-2, 302-1, 3, 303-1, 305-4, 5, 7, 403-2, 9, MM2

The Taiheiyo Cement Group's performance with regard to CO_2 and climate protection, emissions monitoring and reporting, health and safety, and water has been subjected to an independent limited assurance review by KPMG AZSA Sustainability Co., Ltd.

CO_2 Emission Reduction Target

Cement production-related CO_2 emissions from Taiheiyo Cement and our group companies

Reduce specific net CO_2 emissions by 10% or more from FY2001 levels by FY2026. CSR Objectives for 2025

Target for the Reduction of Main Air Pollutants

Emissions 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 FY2011

● FY2021 Key Performance Indicators (KPI)*1

CO_2 and Climate Protection (CO_2 emissions, energy consumption)		FY2019	FY2020	FY2021
Number of facilities using the GCCA "The Cement CO_2 and Energy Protocol" guidelines for emissions inventory		18	18	17
Ratio of facilities using the GCCA "The Cement CO_2 and Energy Protocol" guidelines for emissions inventory (%)		100	100	100
Total CO_2 emissions (million tonnes/year)	Scope 1 emissions*2	24.8	25.0	24.0
	Gross emissions*3	23.5	23.7	22.7
	Net emissions*4	22.6	22.8	21.8
CO_2 emissions per tonne of cementitious product*5 (kg-CO_2/t-cementitious)	Gross emissions	696	701	701
	Specific net emissions	671	675	675
Emissions from electricity purchased (million tonnes/year) (Scope 2 emissions)		0.963	0.896	0.855
Specific heat consumption of clinker production (MJ/t-clinker)		3,268	3,298	3,321
Alternative fuel rate: Ratio of alternative fuels used by kilns (% of thermal energy consumption)		12.0	12.3	12.2
Biomass fuel rate: Ratio of biomass fuel used by kilns (% of thermal energy consumption)		1.8	1.8	2.0
Clinker/cement (equivalent) factor: Ratio of the total clinker consumption and cement produced, calculated according to the GCCA Cement CO_2 and Energy Protocol guidelines		82.8	82.8	82.4

Use of Alternative Raw Materials	FY2019	FY2020	FY2021
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 weight basis)	16.0	15.5	15.8

Health and Safety*6	FY2019	FY2020	FY2021
Fatalities			
Number of fatalities for directly employed personnel	0	0	0
Fatality rate per 10,000 directly employed personnel	0	0	0
Number of fatalities for indirectly employed personnel (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 personnel	8	9	15
Injury frequency rate of directly employed personnel (per million working hours)	1.01	1.16	1.27
Number of lost-time injuries for indirectly employed personnel (contractors and subcontractors)	8	7	18

Emission Monitoring and Reporting		FY2019	FY2020	FY2021
Percentage of clinker produced by kilns covered by a monitoring system, either continuous or discontinuous, for the main and other pollutants		100	100	100
Percentage of clinker produced by kilns which have adopted continuous measurement for the main pollutants	NO_x	100	100	100
	SO_x	84.2	84.0	83.3
	Dust	100	100	100
Total emissions (tonnes/year)	NO_x	33,183	34,565	34,758
	SO_x	1,881	1,778	1,139
	Dust	768	839	544
Specific emissions (g/t-clinker)	NO_x	1,187	1,227	1,282
	SO_x	67	63	42
	Dust	27	30	20

Impact on Local Communities	FY2019	FY2020	FY2021
Percentage of sites with community engagement plans in place	100	100	100
Percentage of active sites with appropriate quarry rehabilitation plans in place	100	100	100
Number of active sites where biodiversity issues are addressed	3	3	3

Water		FY2019	FY2020	FY2021
Withdrawal (thousand m^3)	Fresh water	26,656	27,607	27,192
	Seawater	149,776	147,372	146,232
Discharge (thousand m^3)	Fresh water	12,167	13,674	13,447
	Seawater	149,781	147,377	146,368

*1 The KPI report for FY2021 is in accordance with "GCCA Sustainability Guidelines for the monitoring and reporting of CO_2 emissions from cement manufacturing Ver. 0.1," "GCCA Sustainability Guidelines for the monitoring and reporting of safety in cement manufacturing Ver. 1.0," "GCCA Sustainability Guidelines for the monitoring and reporting of emissions from cement manufacturing Ver. 0.1," and " GCCA Sustainability Guidelines for the monitoring and reporting of water in cement manufacturing Ver. 0.1." With regard to CO_2 and climate protection, emissions monitoring and reporting, and water, we have aggregated data from cement plants and quarries belonging to Taiheiyo Cement and our subsidiaries. With regard to health and safety, we have aggregated data from Taiheiyo Cement, the cement businesses of our 55 subsidiaries and affiliated companies, and the construction materials, aggregates, and ready-mixed concrete businesses of those amongst our 55 subsidiaries and affiliated companies that are considered to be business sites required to submit accident reports under our health and safety management regulations. *2 CO_2 emissions that are not included in the items for disclosure mandated by the GCCA but are derived from raw materials and fuels in the cement manufacturing process (including from in-house power generation) and fall under Scope 1. *3 CO_2 emissions derived from raw materials and fuels in the cement manufacturing process (excluding CO_2 emissions generated from in-house power generation). *4 CO_2 emissions derived from raw materials and fuels in the cement manufacturing process (excluding CO_2 emissions generated from alternative fuels and in-house power generation). *5 Cementitious product: Sum total of clinker and admixtures *6 Since the aggregation range of "GCCA Sustainability Guidelines for the monitoring and reporting of safety in cement manufacturing Ver.1.0" has been expanded to include companies that manufacture cement-related products, as of FY2021 the Taiheiyo Cement Group includes in our aggregation subsidiaries and subsidiaries and affiliated companies that are also considered to be business sites required to submit accident reports under our health and safety management regulations.

Independent Assurance Report on GCCA Key Performance Indicators

▶ GRI102-56

KPMG

Independent Assurance Report

To the President and Representative Director of Taiheiyo Cement Corporation

We were engaged by Taiheiyo Cement Corporation (the "Company") to undertake a limited assurance engagement of the Key Performance Indicators (the "KPIs") of the Global Cement and Concrete Association (the "GCCA") under the following areas included in its TAIHEIYO CEMENT REPORT 2021 (English version) (the "Report") for the fiscal year ended March 31, 2021.

- CO_2 and climate protection [1]
- Health and safety [2]
- Emission monitoring and reporting [1]
- Water [1]

1 Periodic accounting is based on the fiscal year 2020 for domestic plants and the calendar year 2020 for overseas plants.
2 Periodic accounting is based on the calendar year 2020 for domestic and overseas plants.

The Company's Responsibility

The Company is responsible for the preparation of the KPIs in accordance with the following guidelines (the "Criteria") issued by the GCCA:

- GCCA Sustainability Guidelines for the monitoring and reporting of CO_2 emissions from cement manufacturing Ver. 0.1
- GCCA Sustainability Guidelines for the monitoring and reporting of safety in cement manufacturing Ver. 1.0
- GCCA Sustainability Guidelines for the monitoring and reporting of emissions from cement manufacturing Ver. 0.1
- GCCA Sustainability Guidelines for the monitoring and reporting of water in cement manufacturing Ver. 0.1

Our Responsibility

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

- Interviewing the Company's responsible personnel to obtain an understanding of its policy for preparing the Report and reviewing the Company's reporting criteria.
- Inquiring about the design of the systems and methods used to collect and process the KPIs.
- Performing analytical procedures on the KPIs.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the KPIs in conformity with the Company's reporting criteria, and recalculating the KPIs.
- Visiting three of the following four plants *1 and making inquiries and reviewing materials including documented evidence as alternative procedures to site visit to one of the four plants *2, out of a total of 17 plants of the Taiheiyo Cement Group, selected on the basis of a risk analysis. (CO_2 emissions covered by these four plants correspond to 27% [3] of the combined total of the Group's CO_2 emissions.)

  3 Based on the amount of absolute gross CO_2 for the fiscal year 2020 for domestic plants and the calendar year 2020 for overseas plants.

  Overseas plants
  - Taiheiyo Cement Philippines, Inc. *2

  Domestic plants
  - Taiheiyo Cement Corporation: Kamiiso Plant, Ofunato Plant and Fujiwara Plant *1

- Evaluating the overall presentation of the KPIs.

Conclusion

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

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.

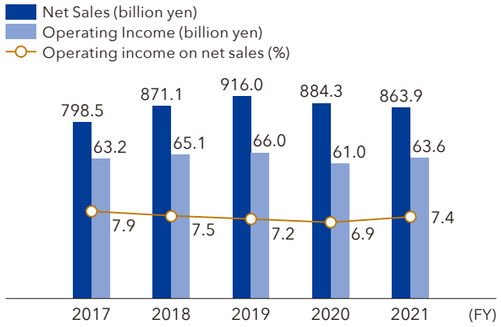
KPMG AZSA Sustainability Co., Ltd.

KPMG AZSA Sustainability Co., Ltd.
Tokyo, Japan
November 26, 2021

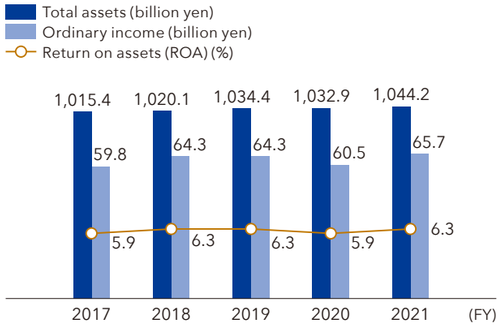
Financial and Non-financial Highlights

Financial Data

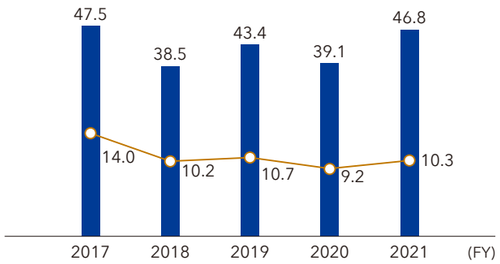
Net Sales, Operating Income, and Operating Income on Net Sales



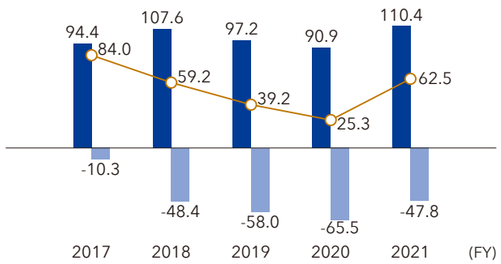
Total Assets, Ordinary Income, and Return on Assets (ROA)



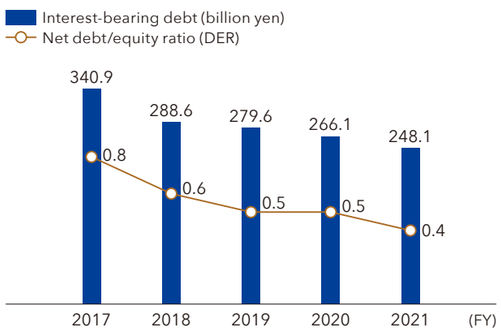
Profit Attributable to Owners of Parent and Return on Equity (ROE)



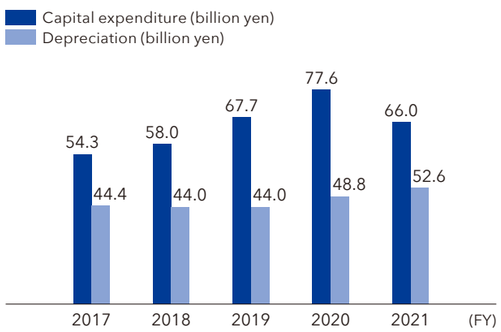
Cash Flow



Interest-bearing Debt and Net Debt/Equity Ratio (DER)



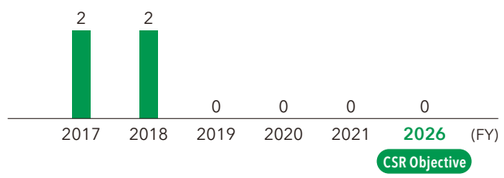
Capital Expenditure and Depreciation



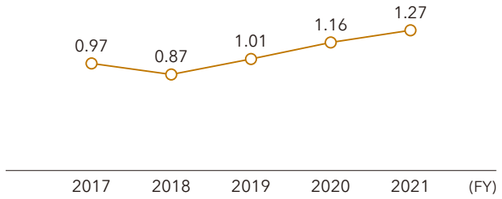
Non-financial Data

Prevention of Accidents

No. of Fatal Accidents



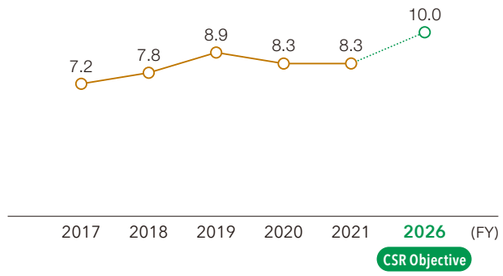
Lost-time Injury Frequency Rate (Per million working hours)



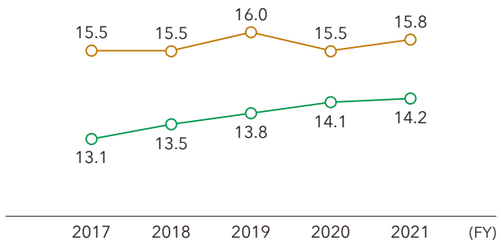
Please see notes 1 and 6 on P94 for the scope of the aggregation.

Reduction of Greenhouse Gas Emissions

Reduction Rate of Specific Net CO_2 Emissions (%)

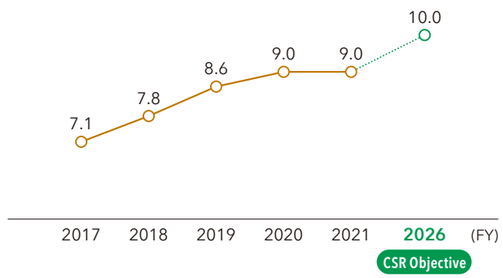


Ratio of Alternative Raw Materials and Fuels

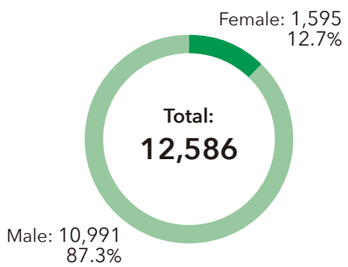


Workplace Diversity

Ratio of Female to Male Employees (%) (Non-consolidated, as of March 31, 2021)



Number of Employees by Gender (Consolidated, as of March 31, 2021)



Primary Consolidated Financial Data (11-Year)

	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021
Statement of Income (million yen)											
Net sales	726,475	727,849	747,616	840,288	842,848	835,359	798,588	871,113	916,071	884,350	**863,903**
Operating income	16,433	29,185	40,659	70,434	65,406	60,433	63,235	65,129	66,012	61,008	**63,610**
Ordinary income	7,412	18,496	32,667	69,590	67,890	60,225	59,802	64,366	64,306	60,541	**65,744**
Profit attributable to owners of parent	4,450	7,845	11,329	35,223	44,114	36,404	47,597	38,525	43,452	39,151	**46,800**
Financial Condition (million yen)											
Net assets	166,819	196,144	219,826	273,312	347,490	357,073	400,034	432,326	450,645	473,241	**506,821**
Total assets	998,741	982,231	982,473	1,015,564	1,040,602	1,014,075	1,015,415	1,020,111	1,034,428	1,032,923	**1,044,227**
Interest-bearing debt	566,171	510,184	473,959	435,118	399,138	394,497	340,930	288,606	279,615	266,115	**248,102**
Per Share Data* (yen)											
Book-value per share	1,492.8	1,380.9	1,558.5	1,955.7	2,463.1	2,591.1	2,930.2	3,193.7	3,388.4	3,567.6	**3,971.3**
Earnings per share	47.3	71.6	92.2	286.7	359.1	296.3	383.9	311.4	351.7	319.9	**387.8**
Cash Flow (million yen)											
Cash flows from operating activities	36,995	36,624	61,505	88,558	77,000	75,627	94,433	107,683	97,283	90,902	**110,403**
Cash flows from investing activities	14,177	(17,252)	(16,441)	(27,926)	(31,377)	(71,099)	(10,394)	(48,460)	(58,025)	(65,534)	**(47,809)**
Cash flows from financing activities	(100,480)	(19,227)	(51,792)	(62,269)	(52,713)	(4,027)	(81,855)	(65,818)	(33,753)	(29,436)	**(43,952)**
Cash and cash equivalents at end of fiscal year	61,265	59,785	54,408	55,604	50,645	50,072	51,974	44,976	50,084	45,748	**63,819**
Financial Indicators (%)											
Operating income on net sales	2.3	4.0	5.4	8.4	7.8	7.2	7.9	7.5	7.2	6.9	**7.4**
Return on assets (ROA)(ordinary income)	0.7	1.9	3.3	7.0	6.6	5.9	5.9	6.3	6.3	5.9	**6.3**
Return on equity (ROE)	3.0	5.1	6.3	16.3	16.3	11.7	14.0	10.2	10.7	9.2	**10.3**
Equity ratio	14.1	17.3	19.5	23.7	29.1	31.4	35.6	38.7	40.1	42.3	**45.1**
Other (million yen)											
Capital expenditure	32,429	35,785	32,524	39,094	42,160	44,076	54,384	58,087	67,796	77,677	**66,003**
Depreciation	43,097	41,624	39,422	40,553	42,401	43,957	44,459	44,003	44,008	48,863	**52,683**
R&D expenses	4,022	3,684	3,846	4,052	4,422	4,228	4,538	4,452	4,311	4,431	**4,606**

* The Company, effective October 1, 2017, conducted a reverse stock split for its common stock at a ratio of one for 10. Per share information are calculated assuming the share consolidation took place at the year to March 2011.

10 Medium-Term Management Plan ▶ Business Restructuring

Business Restructuring in Light of the Abandonment of Quantitative Targets Listed in the 10 Medium-Term Management Plan

Faced with a harsh business environment due to a far sharper decline in domestic cement demand than had been anticipated, we decided to abandon the quantitative target for the final year of the 10 Medium-Term Management Plan (which ended in FY2011) and to implement business structural reforms aimed at creating a "new Taiheiyo Cement."

Main business restructuring measures, and consequent improvement in income

- Review and restructuring of our production system in Japan
- Review of our organizational and personnel systems
- Review of our domestic cement sales structure and streamlining of logistics

16 billion yen/year Improvement

14 Medium-Term Management Plan
FY2013-FY2015

Business Strategies

Fulfill our social mission
(Make maximum contributions to projects related to recovery from the Great East Japan Earthquake)

Pursue our main businesses
(Establish sustainability in the domestic cement business and fulfill our responsibilities as part of a social infrastructure industry)

Expand our growth fields
(Promote our materials business, and further advance our overseas business expansion)

FY2015 Results

- Operating income on net sales: 7.8%
- ROA (ordinary income): 6.6%
- Net DER: 1.1

17 Medium-Term Management Plan
FY2016-FY2018

Business Strategies

Enhance existing businesses, and formulate and implement growth strategies
Strengthen management foundations
Provide support for national projects
Enhance research and development

FY2018 Results

- Operating income on net sales: 7.5%
- ROA (ordinary income): 6.3%
- Net DER: 0.6

20 Medium-Term Management Plan
FY2019-FY2021

Business Strategies

Strengthen the earnings capacity of existing businesses
Formulate and implement growth strategies
Provide support for national projects

FY2021 Results

- Operating income on net sales: 7.4%
- ROA (ordinary income): 6.3%
- Net DER: 0.4

Consolidated Balance Sheets

(Unit: million yen)

Item	End of FY2020 (As of March 31, 2020)	End of FY2021 (As of March 31, 2021)
Assets		
Current assets		
Cash and deposits	51,641	**73,074**
Notes and accounts receivable - trade	159,048	**142,515**
Electronically recorded monetary claims - operating	13,507	**19,234**
Merchandise and finished goods	30,897	**29,421**
Work in process	2,310	**2,079**
Raw materials and supplies	45,075	**43,873**
Short-term loans receivable	3,289	**2,557**
Other	14,035	**15,373**
Allowance for doubtful accounts	(1,302)	**(795)**
Total current assets	318,502	**327,333**
Non-current assets		
Property, plants and equipment		
Buildings and structures	490,824	**491,247**
Accumulated depreciation	(351,877)	**(352,836)**
Buildings and structures (net)	138,947	**138,410**
Machinery, equipment and vehicles	919,556	**913,284**
Accumulated depreciation	(756,611)	**(759,076)**
Machinery, equipment and vehicles (net)	162,944	**154,207**
Land	164,869	**164,193**
Leased assets	53,175	**51,601**
Accumulated depreciation	(31,234)	**(31,201)**
Leased assets (net)	21,941	**20,400**
Construction in progress	30,665	**37,186**
Other	66,706	**68,239**
Accumulated depreciation	(41,521)	**(42,294)**
Other (net)	25,184	**25,944**
Total property, plants and equipment	544,553	**540,342**
Intangible assets		
Goodwill	179	**159**
Other	29,634	**28,033**
Total intangible assets	29,814	**28,192**
Investments and other assets		
Investment securities	82,931	**91,926**
Long-term loans receivable	1,880	**1,538**
Retirement benefit assets	11,090	**23,099**
Deferred tax assets	21,118	**9,635**
Other	29,359	**28,296**
Allowance for doubtful accounts	(6,327)	**(6,137)**
Total investments and other assets	140,053	**148,358**
Total non-current assets	714,420	**716,893**
Total assets	1,032,923	**1,044,227**

(Unit: million yen)

Item	End of FY2020 (As of March 31, 2020)	End of FY2021 (As of March 31, 2021)
Liabilities		
Current liabilities		
Notes and accounts payable - trade	83,430	**73,596**
Electronically recorded obligations - operating	5,330	**7,744**
Short-term borrowings	120,783	**103,538**
Commercial papers	12,000	**-**
Current portion of bonds	-	**10,000**
Income taxes payable	6,024	**4,590**
Provision for bonuses	6,158	**6,265**
Other provisions	139	**404**
Other	79,906	**98,691**
Total current liabilities	313,771	**304,831**
Non-current liabilities		
Bonds payable	30,000	**50,000**
Long-term borrowings	103,332	**84,563**
Deferred tax liabilities	7,491	**8,130**
Retirement benefit liabilities	24,999	**24,703**
Provision for retirement benefits for directors	521	**503**
Provision for special repairs	128	**180**
Other provisions	828	**511**
Lease obligations	17,996	**14,352**
Asset retirement obligations	7,341	**7,821**
Other	53,270	**41,807**
Total non-current liabilities	245,910	**232,574**
Total liabilities	559,682	**537,405**
Net assets		
Shareholders' equity		
Share capital	86,174	**86,174**
Capital surplus	60,233	**60,292**
Retained earnings	326,086	**365,593**
Treasury shares	(16,098)	**(26,113)**
Total shareholders' equity	456,395	**485,946**
Accumulated other comprehensive income		
Valuation difference on available-for-sale securities	6,723	**12,429**
Deferred gains or losses on hedges	(0)	**1**
Revaluation reserve for land	4,968	**4,898**
Foreign currency translation adjustment	(21,413)	**(29,917)**
Remeasurements of defined benefit plans	(9,995)	**(2,438)**
Total accumulated other comprehensive income	(19,716)	**(15,025)**
Non-controlling interests	36,563	**35,899**
Total net assets	473,241	**506,821**
Total liabilities and net assets	1,032,923	**1,044,227**

Consolidated Statements of Income and Consolidated Statements of Comprehensive Income

(Unit: million yen)

Item	FY2020 (From April 1, 2019 to March 31, 2020)	FY2021 (From April 1, 2020 to March 31, 2021)
Net Sales	884,350	**863,903**
Cost of sales	689,321	**672,631**
Gross profit	195,029	**191,272**
Selling, general and administrative expenses		
Amortization of goodwill	89	**53**
Other	133,930	**127,608**
Total selling, general and administrative expenses	134,020	**127,661**
Operating income	61,008	**63,610**
Non-operating income		
Interest income	540	**601**
Dividend income	1,267	**1,273**
Rental income from real estate	141	**107**
Share of profit of entities accounted for using equity method	2,427	**1,879**
Foreign exchange gains	1,035	**1,042**
Other	2,661	**3,524**
Total non-operating income	8,075	**8,428**
Non-operating expenses		
Interest expenses	3,876	**3,498**
Other	4,665	**2,797**
Total non-operating expenses	8,541	**6,295**
Ordinary income	60,541	**65,744**
Extraordinary income		
Gain on disposal of non-current assets	754	**3,247**
Gain on sales of investment securities	205	**3,567**
Compensation income	2,730	**-**
Other	147	**411**
Total extraordinary income	3,838	**7,226**
Extraordinary losses		
Loss on disposal of non-current assets	5,580	**5,494**
Loss on sales of investment securities	36	**61**
Loss on valuation of investment securities	222	**47**
Impairment loss	5,451	**969**
Loss on temporary suspension of operations	-	**547**
Other	1,311	**744**
Total extraordinary losses	12,602	**7,865**
Profit before income taxes	51,777	**65,105**
Income taxes - current	11,223	**9,170**
Income taxes - deferred	(300)	**6,285**
Total income taxes	10,923	**15,455**
Profit	40,854	**49,649**
Profit attributable to non-controlling interests	1,703	**2,848**
Profit attributable to owners of parent	39,151	**46,800**
Profit	40,854	**49,649**
Other comprehensive income		
Valuation difference on available-for-sale securities	(1,720)	**5,516**
Deferred gains or losses on hedges	3	**1**
Foreign currency translation adjustment	(1,494)	**(9,345)**
Remeasurements of defined benefit plans	(6,193)	**7,463**
Share of other comprehensive income of entities accounted for using equity method	(302)	**201**
Total other comprehensive income	(9,708)	**3,837**
Comprehensive income	31,145	**53,487**
Comprehensive income attributable to		
Comprehensive income attributable to owners of parent	29,542	**51,561**
Comprehensive income attributable to non-controlling interests	1,602	**1,925**

Consolidated Statements of Cash Flows

(Unit: million yen)

Item	FY2020 (From April 1, 2019 to March 31, 2020)	FY2021 (From April 1, 2020 to March 31, 2021)
Cash flows from operating activities		
Profit before income taxes	51,777	**65,105**
Depreciation	48,863	**52,683**
Amortization of goodwill	89	**53**
Share of loss (profit) of entities accounted for using equity method	(2,427)	**(1,879)**
Loss (gain) on valuation of investment securities	222	**47**
Decrease (increase) in net retirement benefit asset and liability	(1,172)	**(905)**
Increase (decrease) in provision for retirement benefits for directors	(14)	**(17)**
Increase (decrease) in provision for bonuses	109	**107**
Increase (decrease) in allowance for doubtful accounts	91	**(74)**
Increase (decrease) in other provisions	42	**0**
Interest and dividend income	(1,808)	**(1,874)**
Interest expenses	3,876	**3,498**
Loss (gain) on sales of investment securities	(169)	**(3,505)**
Loss (gain) on disposal of non-current assets	4,825	**2,246**
Impairment loss	5,451	**969**
Decrease (increase) in trade receivables	20,800	**8,418**
Decrease (increase) in inventories	(1,661)	**(122)**
Increase (decrease) in trade payables	(16,151)	**(6,568)**
Other, net	(6,674)	**3,866**
Subtotal	106,069	**122,048**
Interest and dividends received	2,321	**2,455**
Interest paid	(3,890)	**(3,521)**
Income taxes paid	(13,597)	**(10,579)**
Cash flows from operating activities	90,902	**110,403**
Cash flows from investing activities		
Decrease (increase) in time deposits	515	**(3,675)**
Purchase of non-current assets	(66,378)	**(58,656)**
Proceeds from sales of non-current assets	1,367	**4,187**
Purchase of other depreciated assets	(240)	**(167)**
Proceeds from sales of other depreciated assets	0	**38**
Purchase of investment securities	(539)	**(117)**
Proceeds from sales and redemption of investment securities	393	**709**
Proceeds from sales of shares of subsidiaries resulting in change in scope of consolidation	-	**6,318**
Loan advances	(3,240)	**(2,723)**
Collection of loans receivable	2,782	**3,302**
Other, net	(193)	**2,974**
Cash flows from investment activities	(65,534)	**(47,809)**
Cash flows from financing activities		
Net increase (decrease) in short-term borrowings	200	**(19,596)**
Increase (decrease) in commercial papers	8,000	**(12,000)**
Proceeds from long-term borrowings	44,663	**21,179**
Repayments of long-term borrowings	(56,077)	**(36,573)**
Proceeds from issuance of bonds	-	**30,000**
Redemption of bonds	(10,000)	**-**
Proceeds from sales of treasury shares	94	**0**
Purchase of treasury shares	(22)	**(10,064)**
Dividends paid	(7,350)	**(7,292)**
Dividends paid to non-controlling interests	(681)	**(873)**
Other, net	(8,262)	**(8,732)**
Cash flows from financing activities	(29,436)	**(43,952)**
Effect of exchange rate change on cash and cash equivalents	(301)	**(569)**
Net increase (decrease) in cash and cash equivalents	(4,369)	**18,071**
Cash and cash equivalents at beginning of period	50,084	**45,748**
Increase in cash and cash equivalents resulting from merger	33	**-**
Cash and cash equivalents at end of period	45,748	**63,819**

Corporate Information

Company Outline (as of March 31, 2021)

Company name	TAIHEIYO CEMENT CORPORATION	
Established	May 3, 1881	
Capital	86,174,248,572 yen	
Headquarters	BUNKYO GARDEN GATE TOWER, 1-1-1, Koishikawa, Bunkyo-ku, Tokyo 112-8503, Japan	
Number of employees	Consolidated: Non-consolidated:	12,586 1,838 (excluding employees on loan to group companies)
Net Sales	Consolidated: Non-consolidated:	863.9 billion yen 295.2 billion yen

Website Information

Home page
https://www.taiheiyo-cement.co.jp/english/index.html

Organizational and Business Information
About Us
https://www.taiheiyo-cement.co.jp/english/company/index.html

Products and Services
https://www.taiheiyo-cement.co.jp/english/service_product/index.html

Research and Development
https://www.taiheiyo-cement.co.jp/english/rd/index.html

IR Information
Investor Relations
https://www.taiheiyo-cement.co.jp/english/ir/index.html

CSR Information
CSR Initiatives
https://www.taiheiyo-cement.co.jp/english/csr/index.html

List of Internationally Registered Trademark of Taiheiyo Cement Corporation Appearing in this Report

Ceraclean
DENITE
Nanolitia
TQPS

Stock Overview

Stock Overview (as of March 31, 2021)

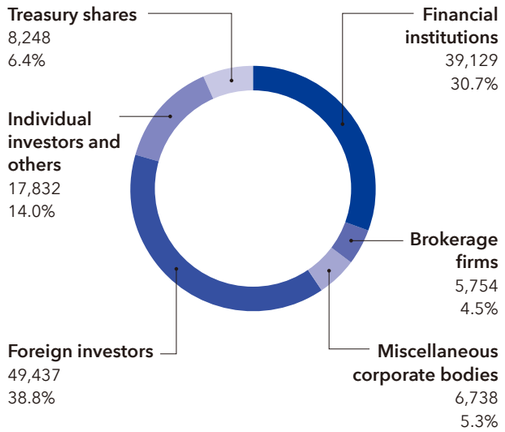
Fiscal year	April 1 to March 31	
Annual stockholders meeting	Late June	
Common stock	Authorized	197,730,800
	Outstanding	127,140,278 (including 8,248,450 treasury shares)
	Number of shareholders	51,601
Registrar of shareholders	Sumitomo Mitsui Trust Bank, Ltd.	

Major Shareholders (as of March 31, 2021)

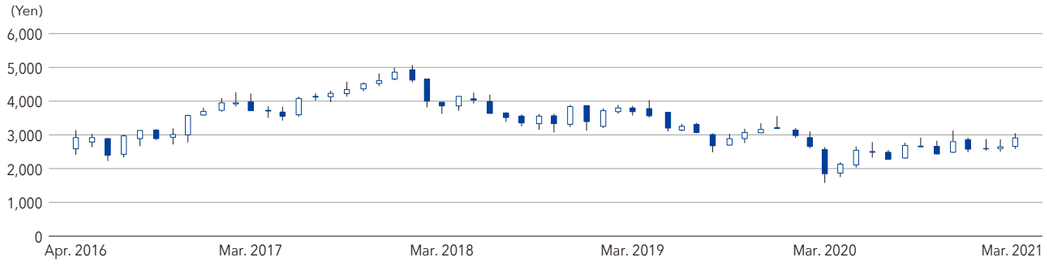
Shareholder	Shares owned (in thousands)	Holding (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	11,746	9.8
Custody Bank of Japan, Ltd. (Trust Account)	6,031	5.0
STATE STREET BANK AND TRUST COMPANY 505001	3,505	2.9
THE BANK OF NEW YORK MELLON 140044	2,267	1.9
Mizuho Bank, Ltd.	2,000	1.6
NORTHERN TRUST CO. (AVFC) RE U.S. TAX EXEMPTED PENSION FUNDS	1,908	1.6
Custody Bank of Japan, Ltd. (Trust Account 5)	1,815	1.5
STATE STREET BANK WEST CLIENT - TREATY 505234	1,741	1.4
Custody Bank of Japan, Ltd. (Trust Account 6)	1,609	1.3
Meiji Yasuda Life Insurance Company	1,527	1.2

(1) The Company owns 8,248,450 treasury shares.
(2) The shareholding ratio has been calculated after subtracting our treasury shares.

The Distribution of Shares (in Thousands) by Owner Category (as of March 31, 2021)



Stock Price Transitions



* The Company, effective October 1, 2017, conducted a reverse stock split for its common stock at a ratio of one for 10. Prices prior to September 2017 have been calculated taking the reverse stock split into account.

Total Shareholder Return (TSR) Transitions

	Mar. 2017	Mar. 2018	Mar. 2019	Mar. 2020	Mar. 2021
Total Shareholder Return (%)	145.95	153.86	150.19	81.47	124.75
Comparison index: Dividend included TOPIX (%)	114.69	132.89	126.20	114.20	162.32

* TSR (Total Shareholder Return): This represents the total amount reaped from an equity investment and is expressed as a percentage calculated by dividing the revenue gained from the stock investment (principally dividend and capital gain) by the stock price (investment expenditure). In this example the investment was made at the closing price at the end of March 2016 and the closing price calculated at the end of each fiscal year (March 31).

TAIHEIYO CEMENT

TAIHEIYO CEMENT CORPORATION
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Printed in Japan