# Taiheiyo Cement's DNA

# Taiheiyo Cement is continuing to support economic development and social infrastructure while being environmentally conscious.

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Social Conditions  Rapid economic growth  Surge in demand  Oil crisis  Increase in demand  Events  Surge in demand  Oil crisis  Increase and production  Increase in demand  Events  Events  Events  Events  Surge in demand  Events		1960	1970	1980	1990	2000	2010	2020
Tailelyo Cement's Major Indicated production Increase in demand in the Great East Japan Chings Conference (Conspiration of Pand RSP edit content of the Conspiration of the Conspiration of Pand RSP edit content of the Conspiration of the Conspirat	Social Conditions	Rapid economic growth	Soaring oil prices	construction investment	•	Rapid economic recession		reduction targets
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Trends in demand, exports, amount of waste, etc. utilized, and consolidated net sales    Domestic cement demand (1961-)   Cement demand (1991-)		through development of and		in production and strengthening			Improve earnings through structural reforms and cooperation in disaster recovery	a ala i acca a a ula a us us accetura litera
Trends in demand, exports, amount of waste, etc. utilized, and consolidated net sales  (millient)		converted to dry SP and NSP kilns with high thermal efficiency and	turning point in our efforts to reduce energy costs by converting from heavy oil to coal for cement	use of NSP kilns to meet rapidly increasing public and private sector demand, we progressed our energy conservation by introducing waste	processing using cement kilns as a measure to improve profitability. In 1998, the industry went through reorganization and Taiheiyo Cement	U.S. and China, we accelerated investment in Southeast Asia to build our cement business in the	restructuring and improved profitability. We received disaster waste and assisted in the early recovery of	Neutral Strategy 2050" and are working on the development of innovative technologies that are positioned as a new growth
- Domestic cement demand (1961-) - Cement exports (1961-) - Amount of waste, etc. utilized (1991-)  - BO - Data provided by: The Japan Cement Association  - Boo - Data provided by: The Japan Cement Association  - Boo - Domestic cement - 1,200  - Boo - Consolidated net sales - Domestic cement - 1,200  - 1,200  - 800 - 600 - 400 - 200			<b>♦ ••</b>					
	Trends in demand, expo and consolidated net sa	orts, amount of waste, et ales	tc. utilized,					
80 - 60 - 40 - 20 - 0		Cement exports (1961-)	)				Domestic cement Overseas cement	(billion yen) — 1,200
60 - 40 - 20 - 0	80 —	Data provided by: The Japan Cement Association	on			1111.	- alle	- 1,000
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0 1961 1971 1981 1991 2001 2011 2021 2023 (FY)	20 —							- 200
	0 ———	961 19	971 19	981	1991 20	001 20	011 20	0 021 2023 (FY)

<sup>\*</sup> The figures for the volume of waste, etc. used are from when the Japan Cement Association started collecting statistics, and consolidated net sales are from when the disclosure of information on overseas business was started.

<sup>\*</sup> Changes to segments, etc. were made in FY2005.

\* The "Accounting Standard for Revenue Recognition" (ASBJ Standard No. 29), etc. was applied from FY2022.

# **Five Cultivated Strengths**

The Taiheiyo Cement Group will fulfill its mission to build safe and secure social infrastructure and living environment through the effective utilization of waste and by-products, with cement production and supply as the cornerstone.

# A leading supplier of cement that supports the living environment and infrastructure

The Taiheiyo Cement Group has a total of 16 cement plants in Japan and overseas, with an annual clinker production capacity of approximately 30 million tonnes. In Japan, we are investing 100 billion yen by 2030 to strengthen our production system by upgrading our main facilities and building a solid supply system. Meanwhile, a new production line at Taiheiyo Cement Philippines, Inc. will start operation in May 2024.



# Cement production process that boasts world-leading use of alternative raw materials and fuels

In addition to waste and by-products, municipal waste and incineration residues, in recent years we have been contributing to the formation of a circular economy by also using waste and debris from natural disasters as raw materials and fuels for cement. Furthermore, based on the recognition that carbon neutrality is the most important issue for the cement industry, we have published our "Carbon Neutral Strategy 2050" and are accelerating our efforts towards achieving carbon neutrality.



# Highly diverse human capital

Based on the idea that people are a company's greatest asset, we are creating a workplace that gives highest priority to the safety and health of our employees. In addition, we consider diversity and inclusion to be initiatives that integrate our human resources and are linked to the creation of new value, and are promoting human resource development that enables each employee to play an active role through various measures, including the promotion of the active participation of women.

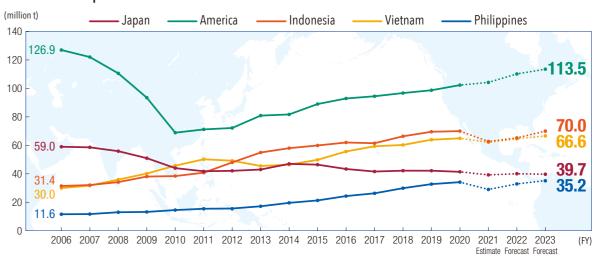


# Business portfolio that incorporates the Pacific Rim's growth markets

We continue to support infrastructure and the living environment by supplying high quality cement and construction materials, and applying advanced technologies at our nine cement plants in Japan and seven in the United States and Asia-Pacific region. Going forward, we aim to enhance our networks by building a new business portfolio that incorporates growth markets and expanding our trading business.



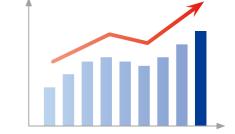
#### **Cement Consumption**



Data source: The Global Cement Report 2020, 14th Edition

# Stable financial footing that enables continued growth investments

Although the group had a weak financial structure at the time of the merger in 1998, we have improved our profitability to the extent of recording operating income of 60 billion yen or more for eight consecutive years from FY2014 to FY2021. In addition, we have maintained a net debt/equity ratio (DER) of 0.7 times or lower and the issuer credit rating of A that we acquired in 2018.



# Materiality

The Taiheiyo Cement Group has worked to solve social issues through cement production for more than 140 years. We recognize that these initiatives themselves are both our social mission and material to our business.

#### **Identifying Risks and Opportunities**

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

The Taiheiyo Cement Group conducts "collection, evaluation and identification of company-wide risks" every three years. This time (FY2023) the initiative was conducted with the purpose of identifying company-wide risks that could have a significant impact on uncertainty of Group management in light of the significantly changed business environment and risks.

#### Process of Collection, Evaluation and Identification of Company-wide Risks



Conduct a comprehensive inventory of risks at our 38 business sites and identify risks that could hinder the achievement of the goals of the 23 Medium-Term Management Plan and key sustainability issues that were reviewed in FY2023.



Gather and analyze information related to the situation of and concerns about the identified risks, and identify companywide risks that could have a significant impact on uncertainty of Group management



Review company-wide risks (Risk Management & Compliance Committee)



Determine company-wide risks (Sustainability Management Committee)

#### Identified "company-wide risks," business opportunities and business strategies

Company-wide risks	Business opportunities	Business Strategies
Risk of increase in the number and severity of natural disasters and aging facilities and equipment	<ul> <li>Increasing demand for environmentally sound products (with low CO₂ emissions)</li> <li>Measures to strengthen urban areas and prevent and mitigate natural disasters</li> </ul>	<ul> <li>Steady transition to carbon neutrality</li> <li>Supply critical materials for national resilience</li> </ul>
Risk of business fluctuations in the supply chain	<ul> <li>Transition to a circular economy</li> <li>Reorganization of supply chain, succession of businesses from other companies</li> </ul>	<ul> <li>Key player in the formation of a circular economy</li> </ul>
Human resource-related risks	<ul> <li>Acceleration of DX and digitalization</li> <li>Acquisition of human resources as a leading sustainability company</li> </ul>	

### **Third-party opinion**

Your materiality selection process is orthodox and the KPIs and timeline, as well as the associated guidelines, are sensible. "Carbon neutrality" and "circular economy" are your two most important themes, and a "circular economy" will lead to  $CO_2$  emission reductions while bringing growth and profitability at the same time. This is truly a business that has proven its strategic characteristics in the era of SX (Sustainability Transformation). On the other hand, the new business model of expanding  $CO_2$  capture and utilization under the  $CO_2$  recovery kiln commercialization concept with mechanical plant companies and gas companies is a step up to a European-style circular economy. I am confident that your company's historic corporate mission to "build the nation using cement" will continue with its unifying force and brilliance in the future.



#### Toshio Arima Chairman of the Board

Chairman of the Board Global Compact Network Japan

#### **Materiality**

For more than 140 years the Taiheiyo Cement Group has supported the development of infrastructure and living environments by supplying society with high quality cement and construction materials, while conducting our business in consideration of the global environment. Based on these experiences, we have identified the materiality of sustainability issues in order to organize the form and direction we should aim for when addressing the various environmental and social challenges we face, beginning with climate change.

#### **Materiality Identification Process**

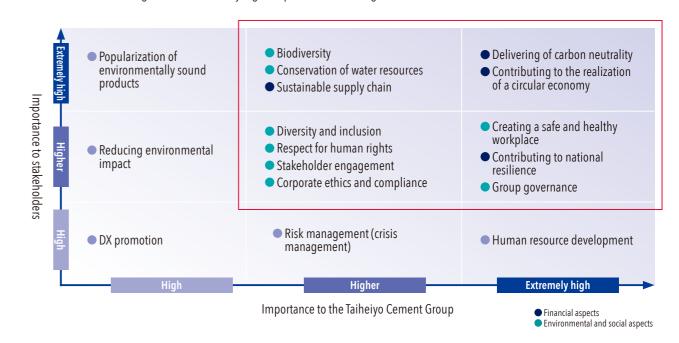
The process was conducted in three steps, from identification of issues to validation. As a result, a total of 12 materialities were identified from financial aspects, environmental aspects and social aspects.

Step 1	Step 2	Step 3
Identification of issues and categorization into themes	Prioritization and organization of themes	Verification
Issues specific to our businesses were identified and categorized into themes, using various disclosure guidelines and evaluation tools from ESG evaluation organizations as references*, as well as the opinions and information received from stakeholders through ESG interviews, opinions from third parties, our company's history and strengths, and exchanges of opinions with each relevant department.	<ul> <li>Candidate themes were mapped with the importance to stakeholders and the importance to our Group on separate axes.</li> <li>Regarding importance to stakeholders, issues that are of interest or importance were evaluated, with reference to opinions and information obtained from ESG interviews with investors and other stakeholders.</li> <li>Regarding importance to our Group, issues were evaluated in accordance with the principle of double materiality, taking into account the medium- to long-term impact of the Company on the environment and society.</li> </ul>	The identified materialities were finally discussed and verified by the Sustainability Management Committee and the Executive Committee.

 $<sup>{}^{\</sup>star}\,\mathsf{SDGs},\mathsf{ISO}\,26000,\mathsf{GRI}\,\mathsf{Standards},\mathsf{ESG}\,\mathsf{assessment}\,\mathsf{agency}\,\mathsf{evaluation}\,\mathsf{items},\mathsf{GCCA}\,\mathsf{Sustainability}\,\mathsf{Framework},\mathsf{etc.}$ 

#### Identified materialities

Twelve themes of "higher" and "extremely high" importance were designated as material.



#### List of Materialities and main KPIs

Aspect	Materiality	Themes to be addressed	Targets, KPIs, etc.	Relevant standards, targets, guidelines, etc.	Relevant SDGs
Financial Aspects	Delivering of carbon neutrality	CO <sub>2</sub> emissions reduction	<ul> <li>Delivering of carbon neutrality (by 2050)</li> <li>Reduce specific CO<sub>2</sub> emissions by at least 20% (by 2030, compared with 2000)</li> <li>Reduce domestic CO<sub>2</sub> emissions by at least 40% (by 2030, compared with 2000)</li> </ul>	Carbon Neutral Strategy 2050	9 AND THE STREET 13 7/27 19 19 19 19 19 19 19 19 19 19 19 19 19
	Contributing to the realization of a circular economy	Promote the use of alternative raw materials and fuels Waste emissions reduction	<ul> <li>Maintain waste usage intensity of 400kg/tonne-cement or more</li> <li>Maintain volume of waste to landfill at or below 40 tonnes</li> </ul>	GCCA guidelines on alternative raw materials and fuels	11 STORMAN PAT 12 STO
	Sustainable supply chain	Sustainability assessment	• Assessment rate of major suppliers: 75% (2030)	GCCA guidelines on supply chains	12 monates and the present section of the pre
	Contributing to national resilience	Maintaining a stable product supply system	<ul> <li>Upgrade of plant facilities to maintain stable supply</li> <li>Serious quality complaints: 0</li> </ul>	ISO 9001	7 mm max   9 mm m m m   11 mm m m m m m m m m m m m
Environmental and Social Aspects	Biodiversity	Develop quarry rehabilitation plans	• Quarries with rehabilitation plans: 90% or more	GCCA guidelines on biodiversity	15 the angle of the state of th
	Conservation of water resources	Management of water resources	Promote management of fresh water usage intensity	GCCA Sustainability Framework Guidelines	6 mesens  14 mesens
	Creating a safe and healthy workplace	Accident prevention Promotion of Health and Productivity Management (H&PM)	<ul> <li>Zero fatalities</li> <li>Ratio of employees receiving periodic health examinations: 100%</li> </ul>	CSR Objectives for 2025 Internal environment improvement policy	3 introduction  8 introduction
	Diversity and inclusion	Promotion of the active participation of women	<ul> <li>Ratio of female recruits: At least 30%</li> <li>Ratio of female employees: At least 10%</li> <li>Ratio of newly appointed female managers: At least 10%</li> </ul>	CSR Objectives for 2025	5 mm 10 mm . ← ÷
	Respect for human rights	Promotion of human rights due diligence	Conduct steady human rights due diligence and take corrective action	United Nations and government, etc. standards	10 mann 16 min onto min on the min of min on the min on the min of min
	Stakeholder engagement	Engagement with shareholders, investors Communication with local communities	<ul> <li>Engagement with shareholders, investors: 150/year or more</li> <li>Engagement with local communities: 1,500/year or more</li> </ul>	GCCA Sustainability Framework Guidelines	3 surano 4 suori 11 surano 4
	Group governance	Globalization of Whistleblower Program	• Coverage of the Whistleblower Program: 90% or more (by FY2031)	* Coverage = number of companies who have introduced program and subsidiaries that are covered	8 accionante la finazione premiura prem
	Corporate ethics and compliance	Compliance education	Standards of Conduct training (e-learning) participation rate: maintain at 90% or more	GCCA Sustainability Framework Guidelines	8 minutes and 10 minutes (\$\frac{1}{4}\$)

## **Value Creation Process**

## [Management Capital]

### **Financial Capital**

Credit rating (as of August 2023)

JCR /

R&I A-

### **Manufacturing Capital**

Domestic clinker production capacity (FY2023)

17,642thousand tonnes

**12,240** thousand tonnes

### **Intellectual Capital**

Patents held (as of the end of FY2023)

1,439 in Japan 287 overseas

#### **Human Capital**

Number of employees (as of the end of FY2023)

12,720

#### **Social and Relationship Capital**

Engagement with communities (FY2023)

2,538

IR Activities (FY2023) **164** 

### **Natural Resources Capital**

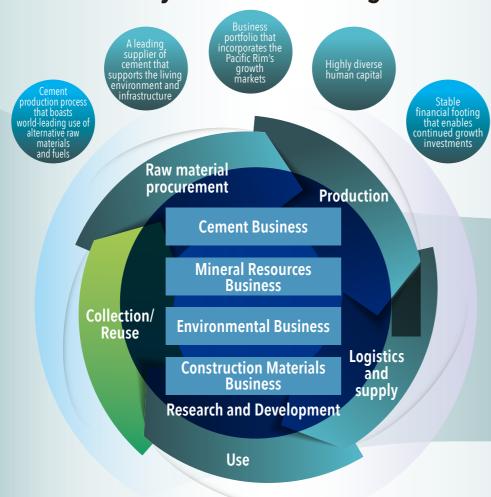
Limestone quarries of the group (as of the end of FY2023)

19

Utilization of waste and by-products (FY2023)
409.6 kg/t-cement

# **Business** model

# **Taiheiyo Cement's Strengths**



# Fundamental Policies of the 23 Medium-Term Management Plan

Aiming to become an Outstanding Leading Company

# Materiality

#### Financial Aspects

- O Delivering of carbon neutrality
- © Contributing to the realization of a circular economy
- © Sustainable supply chain
- Contributing to national resilience

### **Group Governance** /

# Output

# Taiheiyo Cement Group's Main Products

#### [Cement Business]

- Cement: 30.93 million tonnes
- Stabilizers: **2.22** million tonnes
- Ready-mixed concrete: 8.16 million m<sup>3</sup>

#### [Mineral Resources Business]

- Limestone for cement raw material **20.20** million tonne
- Limestone for concrete aggregates

  9.80 million tonnes
- Limestone for industrial use (steelmaking, etc.)
  - 8.20 million tonnes

#### [Environmental Business]

- Amount of waste and by-products processed
  - 7.27 million tonnes
- Limestone for industrial use (power plants)
   0.72 million tonnes

### [Construction Materials Business]

- Construction-related materials:
- **0.21** million tonnes
- Concrete products: **0.31** million tonnes
- Ground Improvement, repair and renovation projects (Cement and stabilizers)
  - 0.27 million tonnes

### **Environmental and Social Aspects**

- © Conservation of water resources
- © Creating a safe and healthy workplace
- ODiversity and inclusion
- © Respect for human rights
- OStakeholder engagement
- Group governance
- Corporate ethics and compliance

### Compliance

# Outcome

- Supply critical materials for national resilience
- Key player in the formation of a circular economy

[Our future vision and direction]

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

■ Steady transition to carbon neutrality

#### [Economic Value (FY2023)]

- Net sales:
- 809.5 billion yen
- Operating income:
- 4.4 billion yen
- Total amount of dividends:
  - 8.2 billion yen (shareholder returns, steady dividends)
- Capital expenditure: 75.9 billion yen (maintenance and growth areas)
- R&D expenses: 5.9 billion yen (research and intellectual property areas)

### [Social Value (FY2023)]

- Supply critical materials for national resilience Cement, aggregates, etc.:
  - 43.74 million tonnes
- Ready-mixed concrete: **8.16** million m<sup>3</sup>
- Key player in the formation of a circular economy (resolving social issues)
   Waste and by-products processed:

7.27 million tonnes

External economic benefit (EEB)

(non-consolidated): 87.2 billion yen

• Steady transition to carbon neutrality (reduction of environmental impact)

CO2 specific emissions: **10.2**% reduction (compared with 2000)
Alternative energy usage rate:

19.9%

(Contribute to reduction of fossil energy use)

• Highly diverse human capital

(permanent employees, non-consolidated)

Overall employee engagement score:

66%

Ratio of newly appointed female managers:

13.6%

# **Carbon Neutral Strategy 2050**



Taking on the challenge to develop innovative technologies and aiming to become a leader in CO<sub>2</sub> capture and utilization.

### Yuuichi Kitabayashi

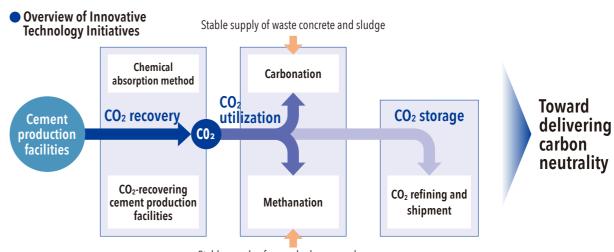
Vice President and Representative Director

#### **Toward delivering carbon neutrality**

The Taiheiyo Cement Corporation has established the "Carbon Neutral Strategy 2050" to achieve carbon neutrality throughout our supply chain by 2050, and have released a transition plan to reduce CO<sub>2</sub> specific emissions by 20% or more and to complete the development of innovative technologies for CO<sub>2</sub> capture and utilization by 2030. In December this year, we started demonstration testing of the "Carbon Capture Suspension Preheater Kiln" (C2SP Kiln), a CO<sub>2</sub>-recovering cement production process, and also started a study of a "carbon neutral model plant" at the Kawasaki Plant of our Group company DC Co., Ltd., which will demonstrate CO<sub>2</sub> capture, utilization and storage at the actual plant level.

#### Carbon neutrality is our significant growth strategy

We are aiming for our world-first, independently developed C2SP Kiln, which can efficiently capture CO<sub>2</sub> in a compact facility, to become the global standard. There are currently about 4,000 cement kilns worldwide, and we expect that there will be a great need for C2SP Kiln as the achievement of carbon neutrality is aimed for around the world. Further, regarding methanation, which is the use of separated and recovered CO<sub>2</sub> as energy, we are working with mechanical plant companies and gas companies with the aim of not only reusing it in cement production, but also using it widely in society.



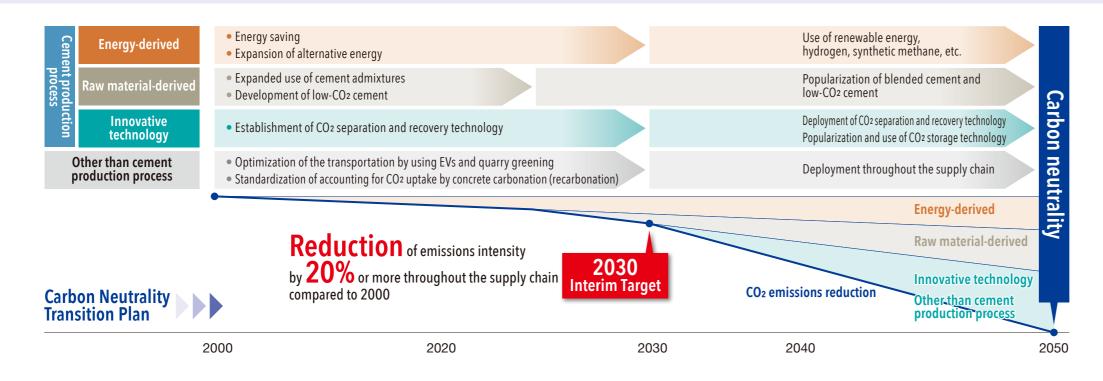
#### Stable supply of green hydrogen and energy

#### Post-2030 transition plan

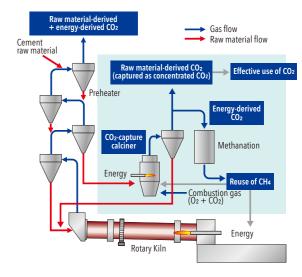
From 2030 onwards we will sequentially deploy CO<sub>2</sub> utilization technologies such as CO<sub>2</sub> separation and capture in C2SP Kiln, CO<sub>2</sub> mineralization by carbonation and CO<sub>2</sub> utilization through methanation throughout the Group. We estimate that the cost of implementing C2SP Kiln and CO<sub>2</sub> utilization facilities will exceed 100 billion yen per kiln based on the current technology, or 2 trillion yen for the entire domestic Group. Although the cost of equipment will decline as the technology evolves, there is a limit to how much capital expenditure can be borne by a single private company. It is therefore necessary for the government and industry as a whole to consider a mechanism for shifting the transition costs of carbon neutrality to cement prices and introducing appropriate carbon pricing to ensure the burden is shared fairly.

#### Challenges in the delivery of carbon neutrality

We believe that our "Carbon Neutral Strategy 2050" is consistent with the Paris Agreement. This is evident from the fact that in March 2023 the Development Bank of Japan extended a transition-linked loan to the Company, based on the Technology Roadmap for Transition Finance in the Cement Sector published by the Ministry of Economy, Trade and Industry as part of its efforts to align with the Paris Agreement. On the other hand, immediately effective measures such as the use of blended cement are necessary to achieve recognition as a Science Based Target, but rapid deployment is not easy due to market and product standard constraints in Japan. In addition to the development and commercialization of various innovative technologies, we will also accelerate our efforts regarding establishing standards.



Gas flow of a C2SP Kiln



By concentrating the calcination reaction of raw limestone in an oxygen-fired calciner, highly concentrated CO<sub>2</sub> can be recovered directly from the cement process.

# **Strengthening Production Systems**



We will strengthen our production system with "safety, maintaining quality and environmental preservation" as our top priorities.

Koshiro Hidaka Managing Executive Officer

# Our production system: Strengthening facilities, systems and engineers

The Taiheiyo Cement Group's domestic plants have been in operation for more than 60 years and their deterioration is advancing. We have determined that drastic measures are necessary to ensure stable production for the decades to come, and we are proceeding with the upgrade of major facilities with a plan to invest approximately 100 billion yen over the next 10 years, including the period of the 23 Medium-Term Management Plan. By introducing the latest facilities and digitalizing production and facility management, we are aiming to reduce our CO<sub>2</sub> emissions and environmental impact, as well as progressing energy saving and manpower conservation. We are also aiming to ensure that the core technologies required for cement production and facility management are passed on to the next generation and that human resources are developed through education and practical training.

#### **Initiatives to reduce CO<sub>2</sub> emissions**

The most significant feature of our cement production is the efficient use of various waste and by-products as alternative raw materials and fuels on a scale of approximately six million tonnes per year, while at the same time possessing quality control and facility operation technologies to maintain consistent quality. Recently, we have been working to expand the use of alternative fuels in response to soaring coal prices. With the installation of a waste heat recovery power generation system at the Saitama Plant, the installation of such equipment at all domestic plants has been completed. At the same time, we will continue to upgrade aging power generation facilities with gas turbines, with a view to using methanation, which is planned as a carbon neutrality initiative. We will continue our efforts to further reduce our CO<sub>2</sub> emissions.

#### Main facility upgrade work performed from FY2023 to FY2024

Environmental measures	Switching from electrostatic precipitators to bag filters     (Of all 12 of our kilns, 11 are scheduled to be completed by FY2025)     Switching to a dust collection system that uses filters will improve the rate of dust collection from exhaust gas generated in the cement production process
Energy-saving measures	Introduction of high-efficiency clinker coolers (to be introduced sequentially)     Will improve the recovery efficiency of the heat used for calcination in the clinker (an intermediate product of cement) production process and realize energy saving
Coal replacement ratio improvement measures	<ul> <li>Installation of storage facilities to increase receipt of waste plastic (Kamiiso Plant, Saitama Plant), installation of new burners (Kamiiso Plant)</li> <li>Recycled oil processing capacity expansion work (Kumagaya Plant)</li> <li>Will reduce coal use by using waste as an energy substitute</li> </ul>
CO <sub>2</sub> reduction and energy cost reduction measures	<ul> <li>Waste heat recovery power generation systems at the Saitama Plant (Operation started in October 2022, completing the introduction of waste heat recovery power generation systems at all domestic plants)</li> <li>Gas turbine power generation facility at Saitama Plant (in operation from September 2023)</li> <li>Will realize the reduction of CO<sub>2</sub> emissions and energy costs</li> </ul>



Fujiwara Plant No. 5 Kiln (installation of high-efficiency clinker coolers)



Inspection of kiln tires using a drone

#### **Realization of smart factories**

In view of the labor shortages that are foreseeable due to the declining birthrate, we are working to realize smart factories that utilize digital technology. Equipment inspections can detect signs of breakdown and end of service life by using Al to analyze data collected by sensors and cameras installed throughout the plant. In addition, the development of a fully automated system for operation management via Al is expected to be completed by the end of FY2024. Furthermore, in the near future, we aim to establish a support system for the operation and management of all plants through remote operation from the headquarters, which is to eventually include overseas plants too.

#### **Safety – aiming for zero fatalities**

We are committed to promoting safety, security and health activities as a Group, keeping in mind that "safety is the highest priority." However, it is very regrettable that fatalities have occurred since FY2022 and the number of accidents is also on the rise, and we recognize that we are in a critical situation. We believe that to eliminate occupational accidents the most important thing is for everyone from top management to the workers on site to share a high awareness of safety and to always follow the basic rules that have been communicated at all times. We will strengthen our initiatives to achieve zero fatalities through more thorough activities.

#### Promotion of engineer development

We are progressing the development of engineers based on the belief that "people are at the foundation of production." In order to pass on the core technologies related to cement manufacturing that we have inherited from our predecessors, we have established "Techno Schools" for mid-career engineers at each plant to intensively learn specialized knowledge, and "Maintenance Dojo" where facility maintenance skills are learnt, with eligibility expanded to include engineers from contractors.

In addition to improving cement-related skills, we have established an "Overseas Trainee Program" in which young permanent employees are sent to an overseas Group company for about one month to hone their language skills and gain experience living overseas. On the other hand, the renovation of the production line at Taiheiyo Cement Philippines, Inc., in which a state-of-the-art production line is being built, starting from the preparation of the land and foundation work, is a unique and valuable training opportunity and we are actively sending young permanent employees to this project.



Maintenance Dojo Program (surface finishing of bearing metal)

# **Medium-Term Management Plan**

#### Step 1

#### 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 towards realizing our future vision and direction. It aimed to maximize our corporate value.

#### **Fundamental Policies**

- 1 To become a corporate group that preempts future changes in the environment and seeks innovations in all fronts, thereby progressing on a growth
- 2 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.
- 3 To vigorously push ahead with further strengthening our earnings base and financial structure aiming at sustainable development by strengthening businesses through exhaustive costcutting

#### **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
- Establishment of Ofunato Power Inc. (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 of 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

### Step 2

#### 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**

- 1 To become a corporate group that anticipates future changes in the business environment and seeks innovation on all fronts, thereby advancing along a pathway of growth
- 2 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.
- 3 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 the Semen Indonesia Group Renovation of Taiheiyo Cement Philippines, Inc.'s production line
- 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

### Summary up to Step 2

#### Achievements

- Although domestic demand for cement is decreasing, operating income stayed in the 60 billion 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 to deliver **Carbon Neutrality**
- Strengthening of plant facilities and quarry development
- Restructuring our businesses in Japan

### Step 3

### 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 investments.

### **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 ven)
- 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

#### **Profitability**

Operating income on net sales:

Return on equity (ROE):

#### **Targets for FY2024**

Net sales\*1:

750 billion yen or more

Operating income:

85 billion yen or more 145 billion yen or more

EBITDA\*2:

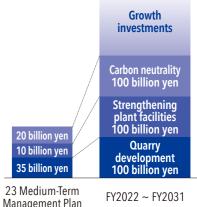
Net interest-bearing debt/EBITDA:

Net debt/equity ratio (DER):

- \*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)

### **Key Strategies**

- Initiatives to deliver carbon neutrality
- Sustained growth investment
- Strengthening plant facilities
- **Quarry Development**



Management Plan

## **Progress Summary** of the 23 Medium-Term Management Plan

Initiatives to deliver carbon

neutrality

2050 Delivering carbon neutrality

**Indicators** 

#### **Targets**

2030 Interim Target

Reduce CO<sub>2</sub> emissions intensity by 20% or more throughout the supply chain (compared with 2000)

Reduce domestic CO<sub>2</sub> emissions by 40% or more (compared with 2000)

#### **Initiatives**

- Introduction of high-efficiency coolers and operation of waste heat power generation aimed at energy saving and improved efficiency
- Development of the C2SP Kiln, an innovative CO<sub>2</sub>-Recovering cement production process
- Development of technology for the effective use of CO<sub>2</sub>, CCS project feasibility study
- Commencement of a study of the carbon neutral model plant concept

#### This year's evaluation and challenges

In addition to waste heat power generation at the Saitama Plant and the introduction of high-efficiency coolers at two plants in Japan, the use of alternative fuels has expanded and CO<sub>2</sub> emissions have been reduced. In addition to starting construction of the C2SP Kiln test facility as an innovative technology for carbon neutrality and developing CO<sub>2</sub> utilization technologies, we participated in JOĞMEC's CCS research project. Furthermore, we have commenced studying the concept of a carbon-neutral model plant at DC Co., Ltd.'s Kawasaki Plant.

Sustained growth investment Reconstructing the overseas business portfolio

Capturing growth markets

 Expand our business area in the U.S. and Asia-Pacific where demand for cement is strong, and proceed with business development that is rooted in the region

- Completion of the acquisition by CalPortland Company of a portion of the west coast cement and ready-mixed concrete business assets of Martin Marietta Materials, Inc.
- The renovation of the production line at Taiheiyo Cement Philippines, Inc.
- Withdrawal from the cement business in China

CalPortland Company now has four plants and has expanded its market share in California to 40%. The renovation of the production line at Taiheiyo Cement Philippines, Inc. is progressing well and is scheduled to begin commercial operation in May 2024. The company's annual production capacity will be 3 million tonnes.

Strengthening plant facilities

In order to establish a production and supply system with longterm stability, we will renew key machinery, upgrade production and equipment management, and deploy Al

 Implement measures to address aging cement plants and modernize production and facility management by

- Conversion of electrostatic precipitators to bag filters
- Upgrade of electric motors and control equipment
- Upgrade of specified high-voltage cables and transformers
- Modernization of facility management systems
- Development of technology for automated kiln operation that utilizes Al

In addition to replacing electrostatic precipitators with bag filters, work to restore the health of electrical equipment such as electric motors, transformers and cables was performed. We will not only upgrade aging facilities, but also promote the digitalization of plants and the increased sophistication of production and facility management.

Quarry Development

We will establish a system aimed at the long-term stable supply of limestone resources

• Establish a long-term stable supply system for limestone resources, the foundation of the cement business

- Commencement of development of the Yato area of the Shin-Tsukumi Quarry
- Commencement of development of the summit of Mount Kurohime at the Toumi Quarry
- Environmental assessment and postdevelopment survey of the Yato quarry area
- Installation of a stockyard at the Horoshi area of the Ofunato Quarry

Development work was initiated at the Shin-Tsukumi Quarry and the Toumi Quarry to ensure stable operations over the long term. Development work commenced in the Yato area of the Shin-Tsukumi Quarry in May 2023 and the Mount Kurohime summit of the Toumi Quarry in September 2023, with the aim of commencing ore production in 2029.

# Direction of the Next Medium-Term Management Plan



We will backcast from the 2050 Vision to formulate the next Medium-Term Management Plan from both financial and non-financial perspectives.

Hideaki Asakura

Director and Senior Executive Officer

#### Long-term vision and next Medium-Term Management Plan

Aiming for sustainable growth and increased corporate value over the medium to long term, we are in the process of formulating our "2050 Vision", with sustainability positioned as one of our top priorities and climate change, safety and inclusiveness, the circular economy and resilience, and biodiversity as the main pillars.

We will spend the entire current fiscal year formulating the next Medium-Term Management Plan, which will start in FY2025 and will backcast from this 2050 Vision with a view to resolving current issues as well as the medium- to long-term perspective, and will focus on five key issues: "strengthening our domestic earnings base," "diversifying our overseas earnings," "recovering the financial base and reviewing investment recovery criteria," "approach to human capital," and "realization of carbon neutrality."

#### Climate change

- Delivering carbon neutrality
- Reducing environmental impact
- 3 Popularization of environmentally sound products

#### **Safety and Inclusiveness**

- Workplace diversity, gender equality
- 2 Occupational health and safety
- Engagement with local communities
- 4 Sustainable supply chain

#### **Circular Economy and Resilience**

- Key player in the formation of a circular economy
- Contributing to national resilience

#### **Biodiversity**

- Nature Positive
- Conservation of water resources



### **Next Medium-Term Management Plan**

#### Strengthening our domestic earnings base

First, in our main domestic cement business, we believe that our top priority is to have a firm pricing policy and create an environment and system in which the entire supply chain, including users, can pass on cost increases to prices and secure profits. Currently, most users have accepted energy price fluctuation in the form of an increase in cement prices, but we will continue to discuss a surcharge system with users as another option and work toward achieving appropriate prices.

#### Diversifying our overseas earnings

While our U.S. business has grown to become the Group's main source of income, we will also strengthen our business in the growth market of Southeast Asia. As the annual production capacity of Taiheiyo Cement Philippines, Inc. will increase to 3 million tonnes when the new production line is completed in May 2024, we will also launch measures to steadily capture the strong demand. We believe that an EBITDA margin of around 25% is desirable for our overseas cement business and we will work closely with our domestic cement business to achieve high profitability across the Group.

# Recovering the financial base and reviewing investment recovery criteria

Although we posted a net loss in FY2023, interest-bearing debt increased as a result of the growth investments set forth in the 23 Medium-Term Management Plan, which were generally implemented as planned. We will continue investing to expand our overseas business, develop our quarries and strengthen our production systems, and we will strive to quickly recover our financial base so that these investments can be funded by cash flow from operating activities. In addition, as cement is mainly an equipment-based industry and the scale of investment is large and requires a long time to recover the investment, we will also incorporate indicators such as ROIC and discuss investment recovery criteria.

#### Approach to human capital

Regarding human capital, above all else the most important issue is to nurture the younger generation, and we will promote investment in education and the creation of systems for career advancement. It is also important to create a system that allows for a balance between work and life while incorporating challenging work, for example, by transferring employees to Group companies, including overseas companies, in order to gain experience in work that exceeds their job level. In addition to salary and benefits, we believe that a company can only be attractive if it is an organization that rewards effort.

#### **Toward the Delivery of Carbon Neutrality**

Regarding carbon neutrality, in addition to revising investment criteria in line with carbon price trends, we will continue to discuss the transfer of investments to cement prices. Also, the Global Cement and Concrete Association, of which we are a member, is studying a method to quantitatively evaluate the characteristics of atmospheric CO<sub>2</sub> absorption by concrete buildings during service, which is a very supportive move for the cement industry. We will promote our initiatives toward carbon neutrality while also taking into account such global trends.



The renovation of the production line (Taiheiyo Cement Philippines, Inc.)

# Financial Strategy – Message from the Officer in Charge



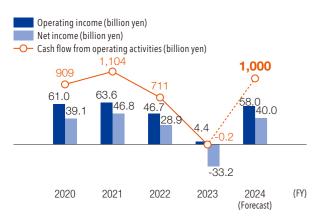
We will build a solid earnings base and steadily execute investments for growth and strengthening production lines.

Masahiro Ban Managing Executive Officer

#### **Looking back at FY2023**

In FY2023, both operating income and ordinary income declined, with major factor being the worsening profitability of our main domestic cement business due to higher production costs caused by soaring coal prices. In addition, due to recording the expense of our Chinese subsidiaries withdrawing from their business as extraordinary losses, the ultimate result was a very severe net loss of 33.2 billion yen for the fiscal year.

Operating income, net income and cash flow from operating activities



The domestic Cement Business posted an operating loss of 36.9 billion yen due to being unable to absorb cost increases during the fiscal year, despite efforts to raise cement prices. As for overall operating income, we were able to secure a profit of 4.4 billion yen, contributed by CalPortland Company Inc.,. We believe this is the result of our global strategy functioning well. As we made growth investments and investments to strengthen our earnings base, including the acquisition of assets in the U.S., renovation of the production line at Taiheiyo Cement Philippines, Inc. and strengthening of plant and quarry facilities, under a situation where we were not able to generate the cash flow from operating activities that we had initially

planned, interest-bearing debt increased 132.8 billion yen on the previous fiscal year to 403.4 billion yen.

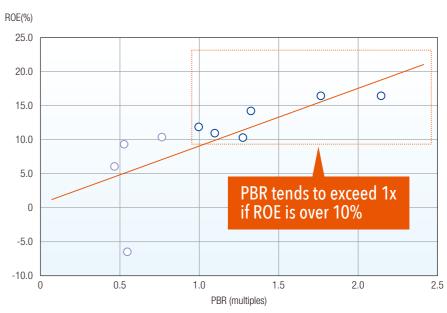
Interest-bearing Debt and Net Debt/Equity Ratio (DER)



#### **Forecast for FY2024**

For FY2024, we forecast a 110.5 billion yen increase in net sales to 920.0 billion yen, a 53.6 billion yen increase in operating income to 58.0 billion yen, a 55.0 billion yen increase in ordinary income to 56.0 billion yen, and a 73.2 billion yen improvement in profit to 40.0 billion yen compared to the previous fiscal year. We expect a significant improvement in earnings due to factors including the increase in domestic cement prices and earnings in the U.S. We recently announced our first quarter results, and although domestic cement demand is on a downward trend, cement price increases are progressing as expected. Meanwhile, U.S. earnings were weak in the first quarter from January to March due to heavy rains on the west coast, but have been favorable since the second quarter starting in April. Coal prices have also stabilized since the beginning of this year, and we believe that the figures in our earnings forecast are achievable.

#### Correlation of PBR and ROE (based on FY2014-FY2023 results)



PBR (Price to Book Value Ratio)

The ratio used to compare a company's current market value to its book value.

#### **Progress of the 23 Medium-Term Management Plan**

This fiscal year is the final year of the 23 Medium-Term Management Plan, and although we had set management targets of an operating income on net sales of 11% or higher and ROE of 10% or higher, it will be difficult to achieve these targets given the current fiscal year's forecasts. The same applies to the financial indicators that have been set as quidelines for achieving the management targets; the net debt/equity ratio (DER) of 0.41x that was achieved in FY2022 was 0.65x at the end of the previous fiscal year and is expected to remain flat in the current fiscal year. This fiscal year is the final year of the 23 Medium-Term Management Plan and, at the same time, it will also be an important year as a launching pad for the next Medium-Term Management Plan. It will be important to ensure the implementation of any unfinished elements of the plan, including increases to cement prices, achieving a V-shaped recovery and linking these to the next Medium-Term Management Plan. Despite the challenging profit and loss results in FY2023, we are steadily implementing the growth investments set forth in the 23 Medium-Term Management Plan. In the overseas cement business, we have acquired assets on the west coast of the U.S., and the results of these acquisitions are already being seen from the second half of FY2023. In addition, the renovation of the production line at Taiheiyo Cement Philippines, Inc. is scheduled to be completed in May 2024 as planned, and the annual production capacity will increase from 2.2 million tonnes to 3 million tonnes. By

increasing production capacity we will steadily capture an increased market share, which will lead to further revenue growth in the overseas business.

# **Toward the Next Medium-Term Management**

#### Analysis of PBR below 1x

Regarding the issue of PBR being below 1x, it has remained at this low level since falling below 1x before 2021 when coal prices began to soar, and this will be discussed during the formulation of the next Medium-Term Management Plan. In the case of our company, we can calculate from past data that PBR will exceed 1x if ROE exceeds 10%, so it is important to recover ROE as soon as possible. We believe that the expected rate of return (cost of capital) sought by our shareholders is around 8%, but our feeling is that it is becoming higher than before. While this is an industry-wide problem, we surmise that it is also due to a sense of unease and uncertainty about the transition to carbon neutrality, as cement is an industry that emits a considerable amount of CO<sub>2</sub>. In addition, there may be inadequate disclosure of our non-financial strategy initiatives such as human capital investment and intellectual capital investment. The Investor Relations and Communications Group, General Affairs Department, will work with the Sustainability Promotion Department which was established this fiscal year to disseminate information on these matters. Another factor that

may have contributed to the higher cost of capital is the high volatility of the domestic cement business' profits relative to the external environment, that is, the inability to immediately pass higher coal and fuel prices on to cement prices. This is the primary challenge in increasing ROE, but it will also be a challenge in lowering the cost of capital. The key will be the domestic cement business' pricing policy. We worked hard to raise the price by a total of 5,000 yen per tonne since last year, but rather than just discussing whether the 5,000 yen is a reasonable amount or whether we should simply pass cost increases on to cement prices in the future, we would like to clarify the approach to the appropriate price of cement throughout the entire supply chain. On top of that, I believe it is necessary to once again demonstrate to institutional investors and our shareholders that the domestic cement business is a cash cow that can generate stable earnings.

# Continuing the strengthening of our earnings base and growth investments

We are implementing the strengthening of our plant and quarry facilities as an important investment that is fundamental to our domestic cement business, and will proceed in a planned manner to ensure long-term stable supply. We will also continue to invest in the steady transition to carbon neutrality. We have launched our "Carbon Neutral Strategy 2050" and plan to achieve interim  $CO_2$  emission reduction targets by 2030, as well as complete the development of innovative technologies such as  $CO_2$  capture and utilization at the actual plant level. These initiatives will require 100 billion yen by 2030. From 2030 onward, we will sequentially deploy the innovative technologies at each of our plants.

We will continue to expand our overseas business while capturing growth markets, and we will not hesitate to make

2019

2020

growth investments if we determine there is an opportunity from a medium- to long-term perspective of five to ten years. More than 30 years have passed since our initial investment in our U.S. business, which has grown to become the Group's largest earner. I think this is a classic example of why investments related to the cement business must not be judged in the short term. In the future, in order to continue stable growth as the domestic population declines and a significant recovery in cement demand is not expected, we would like our overseas sales as a proportion of the Group's overall net sales to increase to 50%, but it is important not to focus solely on the U.S. business, but to grow our existing businesses in the Philippines and Vietnam, as well as Indonesia and the rest of Southeast Asia, in a well-balanced manner.

Our investment in human capital will also accelerate. Currently, the Group is under pressure to respond to labor shortages, including the shortage of drivers under the revision of regulation in 2024. Domestically, our first priority is to increase labor productivity and we are working to improve individual skills not only in production and sales, but also in the administrative departments. The basic strategy of our group from now on is to generate stable earnings with a minimum number of employees in Japan and to generate new cash flow overseas where growth can be expected. We believe that the fundamental element of this is human resources who can be active on the global stage, and we will build mechanisms that enable these individual abilities to be utilized.

#### Introduction of ROIC

2022

As businesses related to cement are mainly equipment intensive industries, the scale of investment is large and requires a long time to recover the investment. Solid

2023

(FY)

management and decision-making are needed based on an unbiased, long-term perspective at the business level, regional level and company level. We are considering making ROIC, the concept of how much profit is produced from invested capital, one of our target indicators in the future. While ROE uses net income as the numerator, ROIC uses after-tax operating income as the numerator and total investment plus interest-bearing debt as the denominator, thus making earning power visible in its true sense. As the three core segments of our group, namely the Domestic Cement Business, Mineral Resources Business and Environmental Business, are closely related in terms of human capital and non-current assets, including internal transactions, ROIC will be used as an indicator of overall management, and a KPI tree will be developed for each segment. We believe that its introduction into each of our overseas subsidiaries, the Construction Materials Business segment and the other business segments that operate their respective businesses independently will particularly significant.

#### Financial Strategy





A stable financial footing is necessary for the continued execution of investment and policies. For this purpose the company must maintain an A issuer credit rating at a minimum. In the current fiscal year we received a JCR issuer rating of A and an R&I rating of A-. In order to maintain this A rating in the future, we will first improve the profitability of the domestic cement business and return cash flow from operating activities to over 100 billion yen as soon as possible. In addition, approximately 35 billion yen of Group companies' surplus funds are circulating within the Group under our financial subsidiary's cash management system, and we will strengthen this system with the aim of further improving capital efficiency. Regarding the delivering of carbon neutrality, we will consider the procurement of funds in a manner that is consistent with the "Technology Roadmap for Transition Finance in the Cement Sector" formulated by the Ministry of Economy, Trade and Industry. As a start, in March of this year we procured funds through a transition-linked loan that was a first for the domestic cement industry. In the future, this ratio will be increased in line with our gradual decarbonization.

#### Shareholder Returns

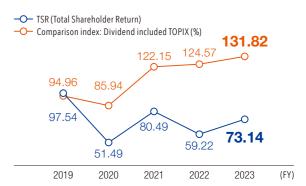
Under the 23 Medium-Term Management Plan, our plan for shareholder returns is a total return ratio of 33%. Despite the

net loss in FY2023, we paid the same amount in dividends as the previous fiscal year, in line with our basic stance of providing stable and continuous dividends. In the next Medium-Term Management Plan, we will develop a returns policy that will provide institutional investors and our shareholders with even greater peace of mind. We will strive to increase corporate value with an awareness of TSR (Total Shareholder Return), which takes into account not only dividends and treasury share purchases but also stock price fluctuations.

#### Dialogue with stakeholders

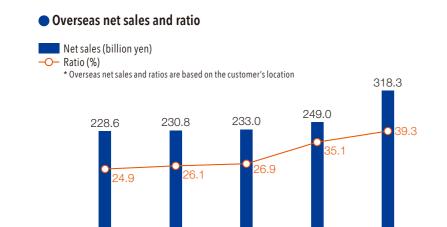
In terms of dialogue with institutional investors and other stakeholders, each year the opportunities to discuss not only financial data, such as financial results and forecasts, but also non-financial data are increasing. The opinions and suggestions which we receive are reported to management in a timely manner, and we intend to increase the opportunities for management to engage in direct dialogue with stakeholders in the future.

#### TSR (Total Shareholder Return)



#### TSR (Total Shareholder Return)

The ratio of the return (mainly dividends and capital gains) earned on a stock investment divided by the stock price (investment amount), which represents the overall investment return for the shareholder. Calculated using the closing price at the end of each fiscal year (last day of March) and based on an investment having been made at the closing price on the last day of March 2018.



2021

# **DX Strategy**



**Providing safety and security to our** internal and external stakeholders by utilizing increasingly sophisticated digital technology and data.

#### Hideaki Asakura

Director and Senior Executive Officer

#### **Current environment and objectives**

In recent years, it has become important to rapidly advance DX in corporate activities in order to maintain and strengthen competitiveness and to develop new business areas. We recognize the importance of organizational and business transformation, as well as the promotion of our core businesses of cement production and sales, and research and development, through the use of increasingly sophisticated digital technology and data in order to materialize "our future vision and direction" for the mid-2020s. We believe that DX promotion will be one of the key drivers of these efforts.

#### **Implementation system**

Based on the results of the IT environment survey conducted in the previous fiscal year when formulating the DX strategy, we have decided to promote stable production through advanced control and automation of cement production processes, as well as promote management from a new perspective, improve operations and enhance services such as information provision to customers. In June 2022, we launched the "DX Promotion Team" in order to strongly promote these initiatives. The DX Promotion Team will handle, on a company-wide, crosssectional basis, the individual DX projects that have been promoted by each department until now, and is working to materialize new services by making maximum use of the latest digital technology.

## Roadmap

**Digital infrastructure** 

Establishment of an information

Provision of an electronic transaction

system through a web portal site for

Cultivation of "DX human resources"

with both business knowledge and

sharing platform with group companies to create group synergy

and resolve issues

business partners

advanced digital skills

### **Utilization of the latest digital** technology

- Advanced facility maintenance through operation monitoring of cement production facilities using digital technologies
- Rapid detection of facility abnormalities through periodic inspection of cement production facilities using drones
- Development of a remote support system for cement production facility operation
- Al learning aimed at fully automated operation of cement production facilities
- Improved operational efficiency and optimization of logistics by using AI in ship allocation planning
- Development of a slump forecasting system using Al image recognition in concrete production

**DX** initiatives will contribute as a key driver of our future vision and direction

### External (customers, stakeholders, society)

#### Advancement of customer services

- Expansion of web portal
- Concrete slump prediction (PreSLump AI)
- Structural diagnosis using RFID with sensors, etc.

#### Reform of corporate culture and climate

- Promote DX human resource development
- Raise employees' awareness through understanding of DX, etc.

#### **Promotion of offensive DX**

#### Reform of business processes

- Workflow and RPA utilization
- Introduction of electronic contracts and electronic seal services
- Utilization of BI tools (data)

Promotion of defensive DX

• Introduction of AI ship allocation planning optimization system, etc.

#### Reform of plant and quarry productivity

- Utilization of drone and 3D laser scanners
- Kiln automation, remote operator assistance • Utilization of anomaly prediction and detection, VR
- · Cement quality prediction system, etc.

Internal (within the company)

#### **DX** promotion

Initiatives will be progressed to realize measures that have been promoted in each business division, such as the restructuring of business systems, development of communication infrastructure, strengthening of plant facilities and quarry development, the smart factory concept, and optimization of the allocation of cement distribution vessels through AI. We also recognize that acquiring and developing DX human resources is essential for DX promotion. From these perspectives, we are working on the themes shown in the diagram as new business development that utilizes digital technology.

#### Example: Web Portal

This service digitalizes information including shipment records, invoices and payment information, and provides it online. Service provision commenced in the Cement Business in 2019 and in the Mineral Resources and Environmental Businesses in July 2023. For business partners, digitalization eliminates the time lag in the transmission of information, and the downloading of text data enables the contents of statements to be reused, thereby improving operational efficiency and saving labor. Orders and applications can also be submitted through this service, eliminating mistakes and double entries, thereby improving accuracy and speeding up procedures.

## Benefits business partners

- Documents such as shipment records and invoices are at hand instantly
- Electronic data can be used for shipping and invoicing statements
- Online ordering simplifies the process
- Prevents typographical errors, improves operational efficiency and progresses labor saving

#### Benefits to our company

- The process of sending invoices, etc. is eliminated
- Transcription errors in inquiry information, vehicle information, etc. are eliminated
- Information can be shared with business partners in real
- Prevents typographical errors, improves operational efficiency and progresses labor saving

