

## GCCA Key Performance Indicators

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

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

KPIs and our progress toward achieving these targets are shown in the following chart.

In addition, Group performance for CO<sub>2</sub> and climate protection, emissions monitoring and reporting, health and safety, and water has been subjected to an independent limited assurance review by KPMG AZSA Sustainability Co., Ltd.

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

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

**Reduce specific net CO<sub>2</sub> emissions per tonne of cementitious product by 10% or more from FY2001 levels by FY2026. (CSR Objectives for 2025)**

### Reduction Target for Main Air Pollutants

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

**Limit NO<sub>x</sub>, SO<sub>x</sub> and dust levels per tonne of clinker (g/t-clinker) to the target levels achieved in FY2011**

### Key Performance Indicators of the GCCA for FY2020\*1

CO <sub>2</sub> and Climate Protection (CO <sub>2</sub> emissions, energy consumption)		FY2018	FY2019	FY2020
Number of facilities using GCCA "The Cement CO <sub>2</sub> and Energy Protocol" guidelines for emissions inventory		18	18	18
Percentage of facilities using GCCA "The Cement CO <sub>2</sub> and Energy Protocol" guidelines for emissions inventory (%)		100	100	100
Total CO <sub>2</sub> emissions (million tonnes/year)	Scope 1 <sup>2</sup>	24.6	24.8	25.0
	Gross <sup>3</sup>	23.3	23.5	23.7
	Net <sup>4</sup>	22.4	22.6	22.8
CO <sub>2</sub> emissions per tonne of cementitious product <sup>5</sup> (kg-CO <sub>2</sub> /t-cementitious)	Specific gross CO <sub>2</sub> emissions	703	696	701
	Specific net CO <sub>2</sub> emissions	679	671	675
Emissions from electricity purchased (million tonnes/year) (Scope 2)		0.985	0.963	0.896
Specific heat consumption of clinker production (MJ/t-clinker)		3,303	3,268	3,298
Alternative fuel rate (% of thermal energy consumption) of kiln		11.6	12.0	12.3
Biomass fuel rate (% of thermal energy consumption) of kiln		1.8	1.8	1.8
Clinker/cement ratio (%)		82.9	82.8	82.8

Alternative Raw Materials Use	FY2018	FY2019	FY2020
Alternative raw materials rate: consumption of alternative raw materials, as a percentage of total raw materials for cement and clinker production (%; calculated on a dry basis)	15.5	16.0	15.5

Health and Safety	FY2018	FY2019	FY2020
Fatalities			
Number of fatalities for directly employed	1	0	0
Fatality rate per 10,000 for directly employed	2.63	0	0
Number of fatalities for indirectly employed (contractors and subcontractors)	0	1	1
Number of fatalities involving third parties (not employed)	0	0	0
Lost-time injuries			
Number of lost-time injuries for directly employed	7	8	9
Injury frequency rate of directly employed employees (per 1,000,000 working hours)	0.87	1.01	1.16
Number of lost time injuries for indirectly employed (contractors and subcontractors)	6	8	7

Emission Monitoring and Reporting	FY2018	FY2019	FY2020
Percentage of clinker produced by kilns covered by a monitoring system, either continuous or discontinuous for main and other pollutants	100	100	100
Percentage of clinker produced by kilns which have installed continuous measurements for the main pollutants	NO <sub>x</sub>	100	100
	SO <sub>x</sub>	84.7	84.2
	Dust	100	100
Total emissions (tonnes/year)	NO <sub>x</sub>	33,048	33,183
	SO <sub>x</sub>	2,214	1,881
	Dust	841	768
Specific emissions (g/t-clinker)	NO <sub>x</sub>	1,197	1,187
	SO <sub>x</sub>	80	67
	Dust	30	27

Local Impacts	FY2018	FY2019	FY2020
Percentage of sites with community engagement plans in place	100	100	100
Percentage of active sites with quarry rehabilitation plans in place	100	100	100
Number of active sites where biodiversity issues are addressed	3	3	3

Water	FY2018	FY2019	FY2020
Amount of withdrawal (1,000 m <sup>3</sup> )	Fresh water	27,596	26,656
	Seawater	149,056	149,776
Amount of discharge (1,000 m <sup>3</sup> )	Fresh water	12,294	12,167
	Seawater	149,056	149,781

\*1 Accounting and reporting of KPIs for FY2020 is in accordance with "GCCA Sustainability Guidelines for the monitoring and reporting of CO<sub>2</sub> emissions from cement manufacturing Ver. 0.1," "GCCA Sustainability Guidelines for the monitoring and reporting of safety in cement manufacturing Ver. 0.1," "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." In addition, 100% of data for subsidiaries and partner companies (regardless of percentage of ownership) subject to aggregation is counted.

\*2 CO<sub>2</sub> emissions that do not include the disclosure items mandated by the GCCA but derive from raw materials and fuels in the cement manufacturing process, including CO<sub>2</sub> emissions generated from in-house power generation, and fall under Scope 1.

\*3 CO<sub>2</sub> emissions deriving from raw materials and fuels, excluding CO<sub>2</sub> emissions generated from in-house power generation, in the cement manufacturing process.

\*4 CO<sub>2</sub> emissions deriving from raw materials and fuels, excluding CO<sub>2</sub> emissions generated from alternative fuels and in-house power generation, in the cement manufacturing process.

\*5 Total clinker produced plus mineral components processed at the plants.



## Independent Assurance Report

To the President and Representative Director of Taiheiyo Cement Corporation

We were engaged by Taiheiyo Cement Corporation (the "Company") to undertake a limited assurance engagement of the Global Cement and Concrete Association (the "GCCA") Key Performance Indicators (the "KPIs") under the following areas included in its TAIHEIYO CEMENT REPORT 2020 (English version) (the "Report") for the fiscal year ended March 31, 2020.

- CO<sub>2</sub> and climate protection <sup>1</sup>
- Health and safety <sup>2</sup>
- Emission monitoring and reporting <sup>1</sup>
- Water <sup>1</sup>

<sup>1</sup> Periodic accounting is based on the fiscal year 2019 for domestic plants and the calendar year 2019 for overseas plants.

<sup>2</sup> Periodic accounting is based on the calendar year 2019 for domestic and overseas plants.

### The Company's Responsibility

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

- GCCA Sustainability Guidelines for the monitoring and reporting of CO<sub>2</sub> emissions from cement manufacturing Ver. 0.1
- GCCA Sustainability Guidelines for the monitoring and reporting of safety in cement manufacturing Ver. 0.1
- 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.
- Inquiring about the design of the systems and methods used to collect and process the KPIs.
- Performing analytical procedures on the KPIs.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the KPIs in conformity with the Criteria, and recalculating the KPIs.
- Visiting one of the following four plants<sup>1</sup> and making inquiries and reviewing materials including documented evidence as alternative procedures to site visits to three of the four plants<sup>2</sup>, out of a total of 18 plants of the Taiheiyo Cement Group, selected on the basis of a risk analysis. (CO<sub>2</sub> emissions covered by these four plants correspond to 35%<sup>3</sup> of the combined total of the Group's CO<sub>2</sub> emissions.)
 

<u>Overseas plants</u>	<u>Domestic plants</u>
<ul style="list-style-type: none"> <li>- Nghi Son Cement Corporation <sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>- Taiheiyo Cement Corporation: Oita Plant <sup>2</sup></li> <li>- DC Co., Ltd. <sup>1</sup></li> <li>- Myojo Cement Co., Ltd. <sup>2</sup></li> </ul>
- Evaluating the overall presentation of the KPIs.

<sup>3</sup> Based on the amount of absolute gross CO<sub>2</sub> for the fiscal year 2019 for domestic plants and the calendar year 2019 for overseas plants.

### Conclusion

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

### Our Independence and Quality Control

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

*KPMG AZSA Sustainability Co., Ltd.*

KPMG AZSA Sustainability Co., Ltd.  
Tokyo, Japan  
November 25, 2020