

GRI Content Index

Corporate Social Responsibility Report 2018 of the Taiheiyo Cement Corporation is prepared in accordance with the core section of the GRI Sustainability Reporting Standards 2016/2018.

Sustainability Accounting Co., Ltd. (Chiyoda-ku, Tokyo) conducted a third-party audit to confirm that the report is prepared in accordance with the disclosure framework of GRI Standards 2016/2018.

GRI 102: General Disclosures 2016 ● : Required contents disclosures in accordance with the Core

Indicator			Report Page
1. Organizational profile			
●	102-1	Name of the organization	a. Name of the organization. 8
●	102-2	Activities, brands, products, and services	a. A description of the organization's activities. b. Primary brands, products, and services, including an explanation of any products or services that are banned in certain markets. 10-13
●	102-3	Location of headquarters	a. Location of the organization's headquarters. 8
●	102-4	Location of operations	a. Number of countries where the organization operates, and the names of countries where it has significant operations and/or that are relevant to the topics covered in the report. 8-9
●	102-5	Ownership and legal form	a. Nature of ownership and legal form. 8
●	102-6	Markets served	a. Markets served, including: i. geographic locations where products and services are offered; ii. sectors served; iii. types of customers and beneficiaries. 8-9, 48
●	102-7	Scale of the organization	a. Scale of the organization, including: i. total number of employees; ii. total number of operations; iii. net sales (for private sector organizations) or net revenues (for public sector organizations); iv. total capitalization (for private sector organizations) broken down in terms of debt and equity; v. quantity of products or services provided. 8-9, 48, 60
●	102-8	Information on employees and other workers	a. Total number of employees by employment contract (permanent and temporary), by gender. b. Total number of employees by employment contract (permanent and temporary), by region. c. Total number of employees by employment type (full-time and part-time), by gender. d. Whether a significant portion of the organization's activities are performed by workers who are not employees. If applicable, a description of the nature and scale of work performed by workers who are not employees. e. Any significant variations in the numbers reported in Disclosures 102-8-a, 102-8-b, and 102-8-c (such as seasonal variations in the tourism or agricultural industries). f. An explanation of how the data have been compiled, including any assumptions made. 8-9, 60, Annual Securities Report (from April 1, 2017 to March 31, 2018), p.12 (Status of Employees)
●	102-9	Supply chain	a. A description of the organization's supply chain, including its main elements as they relate to the organization's activities, primary brands, products, and services. 10-15
●	102-10	Significant changes to the organization and its supply chain	a. Significant changes to the organization's size, structure, ownership, or supply chain, including: i. Changes in the location of, or changes in, operations, including facility openings, closings, and expansions; ii. Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organizations); iii. Changes in the location of suppliers, the structure of the supply chain, or relationships with suppliers, including selection and termination. 8-9
●	102-11	Precautionary Principle or approach	a. Whether and how the organization applies the Precautionary Principle or approach. 10-15, 25, 26-27, 31-33, 38
●	102-12	External initiatives	a. A list of externally-developed economic, environmental and social charters, principles, or other initiatives to which the organization subscribes, or which it endorses. 25
●	102-13	Membership of associations	a. A list of the main memberships of industry or other associations, and national or international advocacy organizations. 25
2. Strategy			
●	102-14	Statement from senior decision-maker	a. A statement from the most senior decision-maker of the organization (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy for addressing sustainability. 2-4
	102-15	Key impacts, risks, and opportunities	a. A description of key impacts, risks, and opportunities. 2-4, 10-15, 24-25
3. Ethics and integrity			
●	102-16	Values, principles, standards, and norms of behavior	a. A description of the organization's values, principles, standards, and norms of behavior. 6, 24, 30, 54
	102-17	Mechanisms for advice and concerns about ethics	a. A description of internal and external mechanisms for: i. seeking advice about ethical and lawful behavior, and organizational integrity; ii. reporting concerns about unethical or unlawful behavior, and organizational integrity. 31-33, 56
4. Governance			
●	102-18	Governance structure	a. Governance structure of the organization, including committees of the highest governance body. b. Committees responsible for decision-making on economic, environmental, and social topics. 24, 28-29
	102-19	Delegating authority	a. Process for delegating authority for economic, environmental, and social topics from the highest governance body to senior executives and other employees. 24, 28-29

Indicator			Report Page
102-20	Executive-level responsibility for economic, environmental, and social topics	a. Whether the organization has appointed an executive-level position or positions with responsibility for economic, environmental, and social topics. b. Whether post holders report directly to the highest governance body.	24
102-21	Consulting stakeholders on economic, environmental, and social topics	a. Processes for consultation between stakeholders and the highest governance body on economic, environmental, and social topics. b. If consultation is delegated, describe to whom it is delegated and how the resulting feedback is provided to the highest governance body.	24
102-22	Composition of the highest governance body and its committees	a. Composition of the highest governance body and its committees by: i. executive or non-executive; ii. independence; iii. tenure on the governance body; iv. number of each individual's other significant positions and commitments, and the nature of the commitments; v. gender; vi. membership of under-represented social groups; vii. competencies relating to economic, environmental, and social topics; viii. stakeholder representation.	28-29
102-23	Chair of the highest governance body	a. Whether the chair of the highest governance body is also an executive officer in the organization. b. If the chair is also an executive officer, describe his or her function within the organization's management and the reasons for this arrangement.	28-29
102-24	Nominating and selecting the highest governance body	a. Nomination and selection processes for the highest governance body and its committees. b. Criteria used for nominating and selecting highest governance body members, including whether and how: i. stakeholders (including shareholders) are involved; ii. diversity is considered; iii. independence is considered; iv. expertise and experience relating to economic, environmental, and social topics are considered.	28-29
102-25	Conflicts of interest	a. Processes for the highest governance body to ensure conflicts of interest are avoided and managed. b. Whether conflicts of interest are disclosed to stakeholders, including, as a minimum: i. Cross-board membership; ii. Cross-shareholding with suppliers and other stakeholders; iii. Existence of controlling shareholder; iv. Related party disclosures.	Annual Securities Report (from April 1, 2017 to March 31, 2018), pp.32-34 (Status of Executives), pp.35-43 (Status of Corporate Governance)
102-26	Role of highest governance body in setting purpose, values, and strategy	a. Highest governance body's and senior executives' roles in the development, approval, and updating of the organization's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental, and social topics.	-
102-27	Collective knowledge of highest governance body	a. Measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental, and social topics.	16-17, 25
102-28	Evaluating the highest governance body's performance	a. Processes for evaluating the highest governance body's performance with respect to governance of economic, environmental, and social topics. b. Whether such evaluation is independent or not, and its frequency. c. Whether such evaluation is a self-assessment. d. Actions taken in response to evaluation of the highest governance body's performance with respect to governance of economic, environmental, and social topics, including, as a minimum, changes in membership and organizational practice.	24, 28-29
102-29	Identifying and managing economic, environmental, and social impacts	a. Highest governance body's role in identifying and managing economic, environmental, and social topics and their impacts, risks, and opportunities – including its role in the implementation of due diligence processes. b. Whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental, and social topics and their impacts, risks, and opportunities.	10-15, 24, 28-29, Annual Securities Report (from April 1, 2017 to March 31, 2018), pp.35-43 (Status of Corporate Governance)
102-30	Effectiveness of risk management processes	a. Highest governance body's role in reviewing the effectiveness of the organization's risk management processes for economic, environmental, and social topics.	24, 28-29,30
102-31	Review of economic, environmental, and social topics	a. Frequency of the highest governance body's review of economic, environmental, and social topics and their impacts, risks, and opportunities.	30
102-32	Highest governance body's role in sustainability reporting	a. The highest committee or position that formally reviews and approves the organization's sustainability report and ensures that all material topics are covered.	10-15, 24
102-33	Communicating critical concerns	a. Process for communicating critical concerns to the highest governance body.	28-29
102-34	Nature and total number of critical concerns	a. Total number and nature of critical concerns that were communicated to the highest governance body. b. Mechanism(s) used to address and resolve critical concerns.	-

Indicator				Report Page
	102-35	Remuneration policies	a. Remuneration policies for the highest governance body and senior executives for the following types of remuneration: i. Fixed pay and variable pay, including performance-based pay, equity-based pay, bonuses, and deferred or vested shares; ii. Sign-on bonuses or recruitment incentive payments; iii. Termination payments; iv. Clawbacks; v. Retirement benefits, including the difference between benefit schemes and contribution rates for the highest governance body, senior executives, and all other employees. b. How performance criteria in the remuneration policies relate to the highest governance body's and senior executives' objectives for economic, environmental, and social topics.	28-29
	102-36	Process for determining remuneration	a. Process for determining remuneration. b. Whether remuneration consultants are involved in determining remuneration and whether they are independent of management. c. Any other relationships that the remuneration consultants have with the organization.	28-29
	102-37	Stakeholders' involvement in remuneration	a. How stakeholders' views are sought and taken into account regarding remuneration. b. If applicable, the results of votes on remuneration policies and proposals.	28-29
	102-38	Annual total compensation ratio	a. Ratio of the annual total compensation for the organization's highest-paid individual in each country of significant operations to the median annual total compensation for all employees (excluding the highest-paid individual) in the same country.	-
	102-39	Percentage increase in annual total compensation ratio	a. Ratio of the percentage increase in annual total compensation for the organization's highest-paid individual in each country of significant operations to the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual) in the same country.	-
5. Stakeholder engagement				
●	102-40	List of stakeholder groups	a. A list of stakeholder groups engaged by the organization.	12-13
●	102-41	Collective bargaining agreements	a. Percentage of total employees covered by collective bargaining agreements.	60
●	102-42	Identifying and selecting stakeholders	a. The basis for identifying and selecting stakeholders with whom to engage.	10-15
●	102-43	Approach to stakeholder engagement	a. The organization's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process.	10-15, 16-17
●	102-44	Key topics and concerns raised	a. Key topics and concerns that have been raised through stakeholder engagement, including: i. how the organization has responded to those key topics and concerns, including through its reporting; ii. the stakeholder groups that raised each of the key topics and concerns.	10-15, 16-17, 26-27, 71
6. Reporting practice				
●	102-45	Entities included in the consolidated financial statements	a. A list of all entities included in the organization's consolidated financial statements or equivalent documents. b. Whether any entity included in the organization's consolidated financial statements or equivalent documents is not covered by the report.	8, 48, 70, Annual Securities Report (from April 1, 2017 to March 31, 2018), pp.5-11 (Content of Business; Status of Affiliates)
●	102-46	Defining report content and topic Boundaries	a. An explanation of the process for defining the report content and the topic Boundaries. b. An explanation of how the organization has implemented the Reporting Principles for defining report content.	10-15
●	102-47	List of material topics	a. A list of the material topics identified in the process for defining report content.	14-15
●	102-48	Restatements of information	a. The effect of any restatements of information given in previous reports, and the reasons for such restatements.	N/A
●	102-49	Changes in reporting	a. Significant changes from previous reporting periods in the list of material topics and topic Boundaries.	N/A
●	102-50	Reporting period	a. Reporting period for the information provided.	70
●	102-51	Date of most recent report	a. If applicable, the date of the most recent previous report.	70
●	102-52	Reporting cycle	a. Reporting cycle.	70
●	102-53	Contact point for questions regarding the report	a. The contact point for questions regarding the report or its contents.	70
●	102-54	Claims of reporting in accordance with the GRI Standards	a. The claim made by the organization, if it has prepared a report in accordance with the GRI Standards, either: i. 'This report has been prepared in accordance with the GRI Standards: Core option'; ii. 'This report has been prepared in accordance with the GRI Standards: Comprehensive option'.	70, This table
●	102-55	GRI content index	a. The GRI content index, which specifies each of the GRI Standards used and lists all disclosures included in the report. b. For each disclosure, the content index shall include: i. the number of the disclosure (for disclosures covered by the GRI Standards); ii. the page number(s) or URL(s) where the information can be found, either within the report or in other published materials; iii. if applicable, and where permitted, the reason(s) for omission when a required disclosure cannot be made.	This table

Indicator			Report Page	
●	102-56	External assurance	<p>a. A description of the organization's policy and current practice with regard to seeking external assurance for the report.</p> <p>b. If the report has been externally assured:</p> <p>i. A reference to the external assurance report, statements, or opinions. If not included in the assurance report accompanying the sustainability report, a description of what has and what has not been assured and on what basis, including the assurance standards used, the level of assurance obtained, and any limitations of the assurance process;</p> <p>ii. The relationship between the organization and the assurance provider;</p> <p>iii. Whether and how the highest governance body or senior executives are involved in seeking external assurance for the organization's sustainability report.</p>	69, 70, This table

GRI 103: Management Approach 2016 ✓: The material issues identified by the company

Indicator			Report Page	
GRI- 103: Management Approach				
	103-1	Explanation of the material topic and its Boundary	<p>a. An explanation of why the topic is material.</p> <p>b. The Boundary for the material topic, which includes a description of:</p> <p>i. where the impacts occur;</p> <p>ii. the organization's involvement with the impacts. For example, whether the organization has caused or contributed to the impacts, or is directly linked to the impacts through its business relationships.</p> <p>c. Any specific limitation regarding the topic Boundary.</p>	2-4, 7, 10-15
	103-2	The management approach and its components	<p>a. An explanation of how the organization manages the topic.</p> <p>b. A statement of the purpose of the management approach.</p> <p>c. A description of the following, if the management approach includes that component:</p> <p>i. Policies</p> <p>ii. Commitments</p> <p>iii. Goals and targets</p> <p>iv. Responsibilities</p> <p>v. Resources</p> <p>vi. Grievance mechanisms</p> <p>vii. Specific actions, such as processes, projects, programs and initiatives</p>	Common: 10-15 Economic: 8-9 Environment: 38-39, 40, 41, 42, 44-45, 46, 47 Social: 50-51, 56-60, 61-63, 64-67
	103-3	Evaluation of the management approach	<p>a. An explanation of how the organization evaluates the management approach, including:</p> <p>i. the mechanisms for evaluating the effectiveness of the management approach;</p> <p>ii. the results of the evaluation of the management approach;</p> <p>iii. any related adjustments to the management approach.</p>	Common:10-15 Economic: 8-9 Environment: 38-39, 40, 38-41, 42, 44-45, 46, 47 Social: 50-51, 56-60, 61-63, 64-67

GRI 200: Economic topics ✓: The material issues identified by the company

Indicator			Report Page	
✓	GRI- 201: Economic Performance 2016			
	201-1	Direct economic value generated and distributed	<p>a. Direct economic value generated and distributed (EVG&D) on an accruals basis, including the basic components for the organization's global operations as listed below. If data are presented on a cash basis, report the justification for this decision in addition to reporting the following basic components:</p> <p>i. Direct economic value generated: revenues;</p> <p>ii. Economic value distributed: operating costs, employee wages and benefits, payments to providers of capital, payments to government by country, and community investments;</p> <p>iii. Economic value retained: 'direct economic value generated' less 'economic value distributed'.</p> <p>b. Where significant, report EVG&D separately at country, regional, or market levels, and the criteria used for defining significance.</p>	8-9, 47, Annual Securities Report (from April 1, 2017 to March 31, 2018), pp.2-3 (Transition of Key Management Indicators, etc.), p.12 (Status of Employees), p. 31 (Dividend Policy), p.48 (Consolidated Income Statement)
	201-2	Financial implications and other risks and opportunities due to climate change	<p>a. Risks and opportunities posed by climate change that have the potential to generate substantive changes in operations, revenue, or expenditure, including:</p> <p>i. a description of the risk or opportunity and its classification as either physical, regulatory, or other;</p> <p>ii. a description of the impact associated with the risk or opportunity;</p> <p>iii. the financial implications of the risk or opportunity before action is taken;</p> <p>iv. the methods used to manage the risk or opportunity;</p> <p>v. the costs of actions taken to manage the risk or opportunity.</p>	10-15, 31-33, 47

Indicator			Report Page
201-3	Defined benefit plan obligations and other retirement plans	<p>a. If the plan's liabilities are met by the organization's general resources, the estimated value of those liabilities.</p> <p>b. If a separate fund exists to pay the plan's pension liabilities:</p> <ol style="list-style-type: none"> the extent to which the scheme's liabilities are estimated to be covered by the assets that have been set aside to meet them; the basis on which that estimate has been arrived at; when that estimate was made. <p>c. If a fund set up to pay the plan's pension liabilities is not fully covered, explain the strategy, if any, adopted by the employer to work towards full coverage, and the timescale, if any, by which the employer hopes to achieve full coverage.</p> <p>d. Percentage of salary contributed by employee or employer.</p> <p>e. Level of participation in retirement plans, such as participation in mandatory or voluntary schemes, regional, or country-based schemes, or those with financial impact.</p>	-
201-4	Financial assistance received from government	<p>a. Total monetary value of financial assistance received by the organization from any government during the reporting period, including:</p> <ol style="list-style-type: none"> tax relief and tax credits; subsidies; investment grants, research and development grants, and other relevant types of grant; awards; royalty holidays; financial assistance from Export Credit Agencies (ECAs); financial incentives; other financial benefits received or receivable from any government for any operation. <p>b. The information in 201-4-a by country.</p> <p>c. Whether, and the extent to which, any government is present in the shareholding structure.</p>	-
GRI- 202: Market Presence 2016			
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	<p>a. When a significant proportion of employees are compensated based on wages subject to minimum wage rules, report the relevant ratio of the entry level wage by gender at significant locations of operation to the minimum wage.</p> <p>b. When a significant proportion of other workers (excluding employees) performing the organization's activities are compensated based on wages subject to minimum wage rules, describe the actions taken to determine whether these workers are paid above the minimum wage.</p> <p>c. Whether a local minimum wage is absent or variable at significant locations of operation, by gender. In circumstances in which different minimums can be used as a reference, report which minimum wage is being used.</p> <p>d. The definition used for 'significant locations of operation'.</p>	-
202-2	Proportion of senior management hired from the local community	<p>a. Percentage of senior management at significant locations of operation that are hired from the local community.</p> <p>b. The definition used for 'senior management'.</p> <p>c. The organization's geographical definition of 'local'.</p> <p>d. The definition used for 'significant locations of operation'.</p>	-
✓ GRI- 203: Indirect Economic Impacts 2016			
203-1	Infrastructure investments and services supported	<p>a. Extent of development of significant infrastructure investments and services supported.</p> <p>b. Current or expected impacts on communities and local economies, including positive and negative impacts where relevant.</p> <p>c. Whether these investments and services are commercial, in-kind, or pro bono engagements.</p>	10-15, 40, 43, 64-67
203-2	Significant indirect economic impacts	<p>a. Examples of significant identified indirect economic impacts of the organization, including positive and negative impacts.</p> <p>b. Significance of the indirect economic impacts in the context of external benchmarks and stakeholder priorities, such as national and international standards, protocols, and policy agendas.</p>	-
GRI- 204: Procurement Practices 2016			
204-1	Proportion of spending on local suppliers	<p>a. Percentage of the procurement budget used for significant locations of operation that is spent on suppliers local to that operation (such as percentage of products and services purchased locally).</p> <p>b. The organization's geographical definition of 'local'.</p> <p>c. The definition used for 'significant locations of operation'.</p>	-
GRI- 205: Anti-corruption 2016			
205-1	Operations assessed for risks related to corruption	<p>a. Total number and percentage of operations assessed for risks related to corruption.</p> <p>b. Significant risks related to corruption identified through the risk assessment.</p>	-
205-2	Communication and training about anti-corruption policies and procedures	<p>a. Total number and percentage of governance body members that the organization's anti-corruption policies and procedures have been communicated to, broken down by region.</p> <p>b. Total number and percentage of employees that the organization's anti-corruption policies and procedures have been communicated to, broken down by employee category and region.</p> <p>c. Total number and percentage of business partners that the organization's anti-corruption policies and procedures have been communicated to, broken down by type of business partner and region. Describe if the organization's anti-corruption policies and procedures have been communicated to any other persons or organizations.</p> <p>d. Total number and percentage of governance body members that have received training on anti-corruption, broken down by region.</p> <p>e. Total number and percentage of employees that have received training on anti-corruption, broken down by employee category and region.</p>	31-33, 54

Indicator			Report Page
205-3	Confirmed incidents of corruption and actions taken	a. Total number and nature of confirmed incidents of corruption. b. Total number of confirmed incidents in which employees were dismissed or disciplined for corruption. c. Total number of confirmed incidents when contracts with business partners were terminated or not renewed due to violations related to corruption. d. Public legal cases regarding corruption brought against the organization or its employees during the reporting period and the outcomes of such cases.	-
GRI- 206: Anti-competitive Behavior 2016			
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	a. Number of legal actions pending or completed during the reporting period regarding anti-competitive behavior and violations of anti-trust and monopoly legislation in which the organization has been identified as a participant. b. Main outcomes of completed legal actions, including any decisions or judgments.	-

GRI 300: Environmental topics ✓: The material issues identified by the company

Indicator			Report Page
✓ GRI- 301: Materials 2016			
301-1	Materials used by weight or volume	a. Total weight or volume of materials that are used to produce and package the organization's primary products and services during the reporting period, by: i. non-renewable materials used; ii. renewable materials used.	41, 48-49
301-2	Recycled input materials used	a. Percentage of recycled input materials used to manufacture the organization's primary products and services.	41, 48-49, 68
301-3	Reclaimed products and their packaging materials	a. Percentage of reclaimed products and their packaging materials for each product category. b. How the data for this disclosure have been collected.	-
✓ GRI- 302: Energy 2016			
302-1	Energy consumption within the organization	a. Total fuel consumption within the organization from non-renewable sources, in joules or multiples, and including fuel types used. b. Total fuel consumption within the organization from renewable sources, in joules or multiples, and including fuel types used. c. In joules, watt-hours or multiples, the total: i. electricity consumption ii. heating consumption iii. cooling consumption iv. steam consumption d. In joules, watt-hours or multiples, the total: i. electricity sold ii. heating sold iii. cooling sold iv. steam sold e. Total energy consumption within the organization, in joules or multiples. f. Standards, methodologies, assumptions, and/or calculation tools used. g. Source of the conversion factors used.	38-39, 48-49, 68
302-2	Energy consumption outside of the organization	a. Energy consumption outside of the organization, in joules or multiples. b. Standards, methodologies, assumptions, and/or calculation tools used. c. Source of the conversion factors used.	-
302-3	Energy intensity	a. Energy intensity ratio for the organization. b. Organization-specific metric (the denominator) chosen to calculate the ratio. c. Types of energy included in the intensity ratio; whether fuel, electricity, heating, cooling, steam, or all. d. Whether the ratio uses energy consumption within the organization, outside of it, or both.	38-39, 68
302-4	Reduction of energy consumption	a. Amount of reductions in energy consumption achieved as a direct result of conservation and efficiency initiatives, in joules or multiples. b. Types of energy included in the reductions; whether fuel, electricity, heating, cooling, steam, or all. c. Basis for calculating reductions in energy consumption, such as base year or baseline, including the rationale for choosing it. d. Standards, methodologies, assumptions, and/or calculation tools used.	38-39
302-5	Reductions in energy requirements of products and services	a. Reductions in energy requirements of sold products and services achieved during the reporting period, in joules or multiples. b. Basis for calculating reductions in energy consumption, such as base year or baseline, including the rationale for choosing it. c. Standards, methodologies, assumptions, and/or calculation tools used.	-

Indicator			Report Page
GRI- 303: Water and Effluents 2018			
303-1	Interactions with water as a shared resource	<p>a. A description of how the organization interacts with water, including how and where water is withdrawn, consumed, and discharged, and the water-related impacts caused or contributed to, or directly linked to the organization's activities, products or services by a business relationship (e.g., impacts caused by runoff).</p> <p>b. A description of the approach used to identify water-related impacts, including the scope of assessments, their timeframe, and any tools or methodologies used.</p> <p>c. A description of how water-related impacts are addressed, including how the organization works with stakeholders to steward water as a shared resource, and how it engages with suppliers or customers with significant water-related impacts.</p> <p>d. An explanation of the process for setting any water-related goals and targets that are part of the organization's management approach, and how they relate to public policy and the local context of each area with water stress.</p>	43, 68
303-2	Management of water discharge-related impacts	<p>a. A description of any minimum standards set for the quality of effluent discharge, and how these minimum standards were determined, including:</p> <ul style="list-style-type: none"> i. how standards for facilities operating in locations with no local discharge requirements were determined; ii. any internally developed water quality standards or guidelines; iii. any sector-specific standards considered; iv. whether the profile of the receiving waterbody was considered. 	43
303-3	Water withdrawal	<p>a. Total water withdrawal from all areas in megaliters, and a breakdown of this total by the following sources, if applicable:</p> <ul style="list-style-type: none"> i. Surface water; ii. Groundwater; iii. Seawater; iv. Produced water; v. Third-party water. <p>b. Total water withdrawal from all areas with water stress in megaliters, and a breakdown of this total by the following sources, if applicable:</p> <ul style="list-style-type: none"> i. Surface water; ii. Groundwater; iii. Seawater; iv. Produced water; v. Third-party water, and a breakdown of this total by the withdrawal sources listed in i-iv. <p>c. A breakdown of total water withdrawal from each of the sources listed in Disclosures 303-3-a and 303-3-b in megaliters by the following categories:</p> <ul style="list-style-type: none"> i. Freshwater ($\leq 1,000$ mg/L Total Dissolved Solids); ii. Other water ($> 1,000$ mg/L Total Dissolved Solids). <p>d. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.</p>	43
303-4	Water discharge	<p>a. Total water discharge to all areas in megaliters, and a breakdown of this total by the following types of destination, if applicable:</p> <ul style="list-style-type: none"> i. Surface water; ii. Groundwater; iii. Seawater; iv. Third-party water, and the volume of this total sent for use to other organizations, if applicable. <p>b. A breakdown of total water discharge to all areas in megaliters by the following categories:</p> <ul style="list-style-type: none"> i. Freshwater ($\leq 1,000$ mg/L Total Dissolved Solids); ii. Other water ($> 1,000$ mg/L Total Dissolved Solids). <p>c. Total water discharge to all areas with water stress in megaliters, and a breakdown of this total by the following categories:</p> <ul style="list-style-type: none"> i. Freshwater ($\leq 1,000$ mg/L Total Dissolved Solids); ii. Other water ($> 1,000$ mg/L Total Dissolved Solids). <p>d. Priority substances of concern for which discharges are treated, including:</p> <ul style="list-style-type: none"> i. how priority substances of concern were defined, and any international standard, authoritative list, or criteria used; ii. the approach for setting discharge limits for priority substances of concern; iii. number of incidents of non-compliance with discharge limits. <p>e. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.</p>	43
303-5	Water consumption	<p>a. Total water consumption from all areas in megaliters.</p> <p>b. Total water consumption from all areas with water stress in megaliters.</p> <p>c. Change in water storage in megaliters, if water storage has been identified as having a significant water-related impact.</p> <p>d. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used, including whether the information is calculated, estimated, modeled, or sourced from direct measurements, and the approach taken for this, such as the use of any sector-specific factors.</p>	43

Indicator			Report Page
✓ GRI- 304: Biodiversity 2016			
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	a. For each operational site owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas, the following information: i. Geographic location; ii. Subsurface and underground land that may be owned, leased, or managed by the organization; iii. Position in relation to the protected area (in the area, adjacent to, or containing portions of the protected area) or the high biodiversity value area outside protected areas; iv. Type of operation (office, manufacturing or production, or extractive); v. Size of operational site in km ² (or another unit, if appropriate); vi. Biodiversity value characterized by the attribute of the protected area or area of high biodiversity value outside the protected area (terrestrial, freshwater, or maritime ecosystem); vii. Biodiversity value characterized by listing of protected status (such as IUCN Protected Area Management Categories, Ramsar Convention, national legislation).	42
304-2	Significant impacts of activities, products, and services on biodiversity	a. Nature of significant direct and indirect impacts on biodiversity with reference to one or more of the following: i. Construction or use of manufacturing plants, mines, and transport infrastructure; ii. Pollution (introduction of substances that do not naturally occur in the habitat from point and non-point sources); iii. Introduction of invasive species, pests, and pathogens; iv. Reduction of species; v. Habitat conversion; vi. Changes in ecological processes outside the natural range of variation (such as salinity or changes in groundwater level). b. Significant direct and indirect positive and negative impacts with reference to the following: i. Species affected; ii. Extent of areas impacted; iii. Duration of impacts; iv. Reversibility or irreversibility of the impacts.	42
304-3	Habitats protected or restored	a. Size and location of all habitat areas protected or restored, and whether the success of the restoration measure was or is approved by independent external professionals. b. Whether partnerships exist with third parties to protect or restore habitat areas distinct from where the organization has overseen and implemented restoration or protection measures. c. Status of each area based on its condition at the close of the reporting period. d. Standards, methodologies, and assumptions used.	42
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	a. Total number of IUCN Red List species and national conservation list species with habitats in areas affected by the operations of the organization, by level of extinction risk: i. Critically endangered ii. Endangered iii. Vulnerable iv. Near threatened v. Least concern	-
MM1	Amount of land disturbed or rehabilitated		42
MM2	The number and percentage of total sites identified as requiring biodiversity management plans and the number (percentage) of those sites with plans in place		42, 68
✓ GRI- 305: Emissions 2016			
305-1	Direct (Scope 1) GHG emissions	a. Gross direct (Scope 1) GHG emissions in metric tons of CO ₂ equivalent. b. Gases included in the calculation; whether CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆ , NF ₃ , or all. c. Biogenic CO ₂ emissions in metric tons of CO ₂ equivalent. d. Base year for the calculation, if applicable, including: i. the rationale for choosing it; ii. emissions in the base year; iii. the context for any significant changes in emissions that triggered recalculations of base year emissions. e. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source. f. Consolidation approach for emissions; whether equity share, financial control, or operational control. g. Standards, methodologies, assumptions, and/or calculation tools used.	38-39, 48-49
305-2	Energy indirect (Scope 2) GHG emissions	a. Gross location-based energy indirect (Scope 2) GHG emissions in metric tons of CO ₂ equivalent. b. If applicable, gross market-based energy indirect (Scope 2) GHG emissions in metric tons of CO ₂ equivalent. c. If available, the gases included in the calculation; whether CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆ , NF ₃ , or all. d. Base year for the calculation, if applicable, including: i. the rationale for choosing it; ii. emissions in the base year; iii. the context for any significant changes in emissions that triggered recalculations of base year emissions. e. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source. f. Consolidation approach for emissions; whether equity share, financial control, or operational control. g. Standards, methodologies, assumptions, and/or calculation tools used.	38-39, 48-49

Indicator			Report Page
305-3	Other indirect (Scope 3) GHG emissions	<p>a. Gross other indirect (Scope 3) GHG emissions in metric tons of CO₂ equivalent.</p> <p>b. If available, the gases included in the calculation; whether CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, or all.</p> <p>c. Biogenic CO₂ emissions in metric tons of CO₂ equivalent.</p> <p>d. Other indirect (Scope 3) GHG emissions categories and activities included in the calculation.</p> <p>e. Base year for the calculation, if applicable, including:</p> <ol style="list-style-type: none"> the rationale for choosing it; emissions in the base year; the context for any significant changes in emissions that triggered recalculations of base year emissions. <p>f. Source of the emission factors and the global warming potential (GWP) rates used, or a reference to the GWP source.</p> <p>g. Standards, methodologies, assumptions, and/or calculation tools used.</p>	39
305-4	GHG emissions intensity	<p>a. GHG emissions intensity ratio for the organization.</p> <p>b. Organization-specific metric (the denominator) chosen to calculate the ratio.</p> <p>c. Types of GHG emissions included in the intensity ratio; whether direct (Scope 1), energy indirect (Scope 2), and/or other indirect (Scope 3).</p> <p>d. Gases included in the calculation; whether CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, or all.</p>	38-39, 68
305-5	Reduction of GHG emissions	<p>a. GHG emissions reduced as a direct result of reduction initiatives, in metric tons of CO₂ equivalent.</p> <p>b. Gases included in the calculation; whether CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, NF₃, or all.</p> <p>c. Base year or baseline, including the rationale for choosing it.</p> <p>d. Scopes in which reductions took place; whether direct (Scope 1), energy indirect (Scope 2), and/or other indirect (Scope 3).</p> <p>e. Standards, methodologies, assumptions, and/or calculation tools used.</p>	38-39, 68
305-6	Emissions of ozone-depleting substances (ODS)	<p>a. Production, imports, and exports of ODS in metric tons of CFC-11 (trichlorofluoromethane) equivalent.</p> <p>b. Substances included in the calculation.</p> <p>c. Source of the emission factors used.</p> <p>d. Standards, methodologies, assumptions, and/or calculation tools used.</p>	-
305-7	Nitrogen oxides (NO _x), sulfur oxides (SO _x), and other significant air emissions	<p>a. Significant air emissions, in kilograms or multiples, for each of the following:</p> <ol style="list-style-type: none"> NO_x SO_x Persistent organic pollutants (POP) Volatile organic compounds (VOC) Hazardous air pollutants (HAP) Particulate matter (PM) Other standard categories of air emissions identified in relevant regulations <p>b. Source of the emission factors used.</p> <p>c. Standards, methodologies, assumptions, and/or calculation tools used.</p>	44, 48-49, 68
✓ GRI- 306: Effluents and Waste 2016			
306-1	Water discharge by quality and destination	<p>a. Total volume of planned and unplanned water discharges by:</p> <ol style="list-style-type: none"> destination; quality of the water, including treatment method; whether the water was reused by another organization. <p>b. Standards, methodologies, and assumptions used.</p>	43, 48-49
306-2	Waste by type and disposal method	<p>a. Total weight of hazardous waste, with a breakdown by the following disposal methods where applicable:</p> <ol style="list-style-type: none"> Reuse Recycling Composting Recovery, including energy recovery Incineration (mass burn) Deep well injection Landfill On-site storage Other (to be specified by the organization) <p>b. Total weight of non-hazardous waste, with a breakdown by the following disposal methods where applicable:</p> <ol style="list-style-type: none"> Reuse Recycling Composting Recovery, including energy recovery Incineration (mass burn) Deep well injection Landfill On-site storage Other (to be specified by the organization) <p>c. How the waste disposal method has been determined:</p> <ol style="list-style-type: none"> Disposed of directly by the organization, or otherwise directly confirmed Information provided by the waste disposal contractor Organizational defaults of the waste disposal contractor 	45, 48-49

Indicator			Report Page
306-3	Significant spills	<p>a. Total number and total volume of recorded significant spills.</p> <p>b. The following additional information for each spill that was reported in the organization's financial statements:</p> <ul style="list-style-type: none"> i. Location of spill; ii. Volume of spill; iii. Material of spill, categorized by: oil spills (soil or water surfaces), fuel spills (soil or water surfaces), spills of wastes (soil or water surfaces), spills of chemicals (mostly soil or water surfaces), and other (to be specified by the organization). <p>c. Impacts of significant spills.</p>	-
306-4	Transport of hazardous waste	<p>a. Total weight for each of the following:</p> <ul style="list-style-type: none"> i. Hazardous waste transported ii. Hazardous waste imported iii. Hazardous waste exported iv. Hazardous waste treated <p>b. Percentage of hazardous waste shipped internationally.</p> <p>c. Standards, methodologies, and assumptions used.</p>	-
306-5	Water bodies affected by water discharges and/or runoff	<p>a. Water bodies and related habitats that are significantly affected by water discharges and/or runoff, including information on:</p> <ul style="list-style-type: none"> i. the size of the water body and related habitat; ii. whether the water body and related habitat is designated as a nationally or internationally protected area; iii. the biodiversity value, such as total number of protected species. 	-
GRI- 307: Environmental Compliance 2016			
307-1	Non-compliance with environmental laws and regulations	<p>a. Significant fines and non-monetary sanctions for non-compliance with environmental laws and/or regulations in terms of:</p> <ul style="list-style-type: none"> i. total monetary value of significant fines; ii. total number of non-monetary sanctions; iii. cases brought through dispute resolution mechanisms. <p>b. If the organization has not identified any non-compliance with environmental laws and/or regulations, a brief statement of this fact is sufficient.</p>	37
GRI- 308: Supplier Environmental Assessment 2016			
308-1	New suppliers that were screened using environmental criteria	<p>a. Percentage of new suppliers that were screened using environmental criteria.</p>	-
308-2	Negative environmental impacts in the supply chain and actions taken	<p>a. Number of suppliers assessed for environmental impacts.</p> <p>b. Number of suppliers identified as having significant actual and potential negative environmental impacts.</p> <p>c. Significant actual and potential negative environmental impacts identified in the supply chain.</p> <p>d. Percentage of suppliers identified as having significant actual and potential negative environmental impacts with which improvements were agreed upon as a result of assessment.</p> <p>e. Percentage of suppliers identified as having significant actual and potential negative environmental impacts with which relationships were terminated as a result of assessment, and why.</p>	-

GRI 400: Social topics ✓ : The material issues identified by the company

Indicator			Report Page
GRI- 401: Employment 2016			
401-1	New employee hires and employee turnover	<p>a. Total number and rate of new employee hires during the reporting period, by age group, gender and region.</p> <p>b. Total number and rate of employee turnover during the reporting period, by age group, gender and region.</p>	8-9
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	<p>a. Benefits which are standard for full-time employees of the organization but are not provided to temporary or part-time employees, by significant locations of operation. These include, as a minimum:</p> <ul style="list-style-type: none"> i. life insurance; ii. health care; iii. disability and invalidity coverage; iv. parental leave; v. retirement provision; vi. stock ownership; vii. others. <p>b. The definition used for 'significant locations of operation'.</p>	-

Indicator			Report Page
401-3	Parental leave	<p>a. Total number of employees that were entitled to parental leave, by gender.</p> <p>b. Total number of employees that took parental leave, by gender.</p> <p>c. Total number of employees that returned to work in the reporting period after parental leave ended, by gender.</p> <p>d. Total number of employees that returned to work after parental leave ended that were still employed 12 months after their return to work, by gender.</p> <p>e. Return to work and retention rates of employees that took parental leave, by gender.</p>	58-59
GRI- 402: Labor/Management Relations 2016			
402-1	Minimum notice periods regarding operational changes	<p>a. Minimum number of weeks' notice typically provided to employees and their representatives prior to the implementation of significant operational changes that could substantially affect them.</p> <p>b. For organizations with collective bargaining agreements, report whether the notice period and provisions for consultation and negotiation are specified in collective agreements.</p>	-
✓ GRI- 403: Occupational Health and Safety 2018			
403-1	Occupational health and safety management system	<p>a. A statement of whether an occupational health and safety management system has been implemented, including whether:</p> <ul style="list-style-type: none"> i. the system has been implemented because of legal requirements and, if so, a list of the requirements; ii. the system has been implemented based on recognized risk management and/or management system standards/guidelines and, if so, a list of the standards/guidelines. <p>b. A description of the scope of workers, activities, and workplaces covered by the occupational health and safety management system, and an explanation of whether and, if so, why any workers, activities, or workplaces are not covered.</p>	61-62, 62-63
403-2	Hazard identification, risk assessment, and incident investigation	<p>a. A description of the processes used to identify work-related hazards and assess risks on a routine and non-routine basis, and to apply the hierarchy of controls in order to eliminate hazards and minimize risks, including:</p> <ul style="list-style-type: none"> i. how the organization ensures the quality of these processes, including the competency of persons who carry them out; ii. how the results of these processes are used to evaluate and continually improve the occupational health and safety management system. <p>b. A description of the processes for workers to report work-related hazards and hazardous situations, and an explanation of how workers are protected against reprisals.</p> <p>c. A description of the policies and processes for workers to remove themselves from work situations that they believe could cause injury or ill health, and an explanation of how workers are protected against reprisals.</p> <p>d. A description of the processes used to investigate work-related incidents, including the processes to identify hazards and assess risks relating to the incidents, to determine corrective actions using the hierarchy of controls, and to determine improvements needed in the occupational health and safety management system.</p>	61-62, 62-63, 68
403-3	Occupational health services	<p>a. A description of the occupational health services' functions that contribute to the identification and elimination of hazards and minimization of risks, and an explanation of how the organization ensures the quality of these services and facilitates workers' access to them.</p>	61-63
403-4	Worker participation, consultation, and communication on occupational health and safety	<p>a. A description of the processes for worker participation and consultation in the development, implementation, and evaluation of the occupational health and safety management system, and for providing access to and communicating relevant information on occupational health and safety to workers.</p> <p>b. Where formal joint management-worker health and safety committees exist, a description of their responsibilities, meeting frequency, decision-making authority, and whether and, if so, why any workers are not represented by these committees.</p>	62-63
403-5	Worker training on occupational health and safety	<p>a. A description of any occupational health and safety training provided to workers, including generic training as well as training on specific work-related hazards, hazardous activities, or hazardous situations.</p>	62-63
403-6	Promotion of worker health	<p>a. An explanation of how the organization facilitates workers' access to non-occupational medical and healthcare services, and the scope of access provided.</p> <p>b. A description of any voluntary health promotion services and programs offered to workers to address major non-work-related health risks, including the specific health risks addressed, and how the organization facilitates workers' access to these services and programs.</p>	62-63
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	<p>a. A description of the organization's approach to preventing or mitigating significant negative occupational health and safety impacts that are directly linked to its operations, products or services by its business relationships, and the related hazards and risks.</p>	62-63
403-8	Workers covered by an occupational health and safety management system	<p>a. If the organization has implemented an occupational health and safety management system based on legal requirements and/or recognized standards/guidelines:</p> <ul style="list-style-type: none"> i. the number and percentage of all employees and workers who are not employees but whose work and/or workplace is controlled by the organization, who are covered by such a system; ii. the number and percentage of all employees and workers who are not employees but whose work and/or workplace is controlled by the organization, who are covered by such a system that has been internally audited; iii. the number and percentage of all employees and workers who are not employees but whose work and/or workplace is controlled by the organization, who are covered by such a system that has been audited or certified by an external party. <p>b. Whether and, if so, why any workers have been excluded from this disclosure, including the types of worker excluded.</p> <p>c. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.</p>	-

Indicator			Report Page
403-9	Work-related injuries	<p>a. For all employees:</p> <ul style="list-style-type: none"> i. The number and rate of fatalities as a result of work-related injury; ii. The number and rate of high-consequence work-related injuries (excluding fatalities); iii. The number and rate of recordable work-related injuries; iv. The main types of work-related injury; v. The number of hours worked. <p>b. For all workers who are not employees but whose work and/or workplace is controlled by the organization:</p> <ul style="list-style-type: none"> i. The number and rate of fatalities as a result of work-related injury; ii. The number and rate of high-consequence work-related injuries (excluding fatalities); iii. The number and rate of recordable work-related injuries; iv. The main types of work-related injury; v. The number of hours worked. <p>c. The work-related hazards that pose a risk of high-consequence injury, including:</p> <ul style="list-style-type: none"> i. how these hazards have been determined; ii. which of these hazards have caused or contributed to high-consequence injuries during the reporting period; iii. actions taken or underway to eliminate these hazards and minimize risks using the hierarchy of controls. <p>d. Any actions taken or underway to eliminate other work-related hazards and minimize risks using the hierarchy of controls.</p> <p>e. Whether the rates have been calculated based on 200,000 or 1,000,000 hours worked.</p> <p>f. Whether and, if so, why any workers have been excluded from this disclosure, including the types of worker excluded.</p> <p>g. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.</p>	-
403-10	Work-related ill health	<p>a. For all employees:</p> <ul style="list-style-type: none"> i. The number of fatalities as a result of work-related ill health; ii. The number of cases of recordable work-related ill health; iii. The main types of work-related ill health. <p>b. For all workers who are not employees but whose work and/or workplace is controlled by the organization:</p> <ul style="list-style-type: none"> i. The number of fatalities as a result of work-related ill health; ii. The number of cases of recordable work-related ill health; iii. The main types of work-related ill health. <p>c. The work-related hazards that pose a risk of ill health, including:</p> <ul style="list-style-type: none"> i. how these hazards have been determined; ii. which of these hazards have caused or contributed to cases of ill health during the reporting period; iii. actions taken or underway to eliminate these hazards and minimize risks using the hierarchy of controls. <p>d. Whether and, if so, why any workers have been excluded from this disclosure, including the types of worker excluded.</p> <p>e. Any contextual information necessary to understand how the data have been compiled, such as any standards, methodologies, and assumptions used.</p>	62-63
GRI- 404: Training and Education 2016			
404-1	Average hours of training per year per employee	<p>a. Average hours of training that the organization's employees have undertaken during the reporting period, by:</p> <ul style="list-style-type: none"> i. gender; ii. employee category. 	-
404-2	Programs for upgrading employee skills and transition assistance programs	<p>a. Type and scope of programs implemented and assistance provided to upgrade employee skills.</p> <p>b. Transition assistance programs provided to facilitate continued employability and the management of career endings resulting from retirement or termination of employment.</p>	56-57
404-3	Percentage of employees receiving regular performance and career development reviews	<p>a. Percentage of total employees by gender and by employee category who received a regular performance and career development review during the reporting period.</p>	56
✓ GRI- 405: Diversity and Equal Opportunity 2016			
405-1	Diversity of governance bodies and employees	<p>a. Percentage of individuals within the organization's governance bodies in each of the following diversity categories:</p> <ul style="list-style-type: none"> i. Gender; ii. Age group: under 30 years old, 30-50 years old, over 50 years old; iii. Other indicators of diversity where relevant (such as minority or vulnerable groups). <p>b. Percentage of employees per employee category in each of the following diversity categories:</p> <ul style="list-style-type: none"> i. Gender; ii. Age group: under 30 years old, 30-50 years old, over 50 years old; iii. Other indicators of diversity where relevant (such as minority or vulnerable groups). 	8-9, 57-58
405-2	Ratio of basic salary and remuneration of women to men	<p>a. Ratio of the basic salary and remuneration of women to men for each employee category, by significant locations of operation.</p> <p>b. The definition used for 'significant locations of operation'.</p>	-

Indicator			Report Page
GRI- 406: Non-discrimination 2016			
406-1	Incidents of discrimination and corrective actions taken	a. Total number of incidents of discrimination during the reporting period. b. Status of the incidents and actions taken with reference to the following: i. Incident reviewed by the organization; ii. Remediation plans being implemented; iii. Remediation plans that have been implemented, with results reviewed through routine internal management review processes; iv. Incident no longer subject to action.	-
GRI- 407: Freedom of Association and Collective Bargaining 2016			
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	a. Operations and suppliers in which workers' rights to exercise freedom of association or collective bargaining may be violated or at significant risk either in terms of: i. type of operation (such as manufacturing plant) and supplier; ii. countries or geographic areas with operations and suppliers considered at risk. b. Measures taken by the organization in the reporting period intended to support rights to exercise freedom of association and collective bargaining.	-
GRI- 408: Child Labor 2016			
408-1	Operations and suppliers at significant risk for incidents of child labor	a. Operations and suppliers considered to have significant risk for incidents of: i. child labor; ii. young workers exposed to hazardous work. b. Operations and suppliers considered to have significant risk for incidents of child labor either in terms of: i. type of operation (such as manufacturing plant) and supplier; ii. countries or geographic areas with operations and suppliers considered at risk. c. Measures taken by the organization in the reporting period intended to contribute to the effective abolition of child labor.	-
GRI- 409: Forced or Compulsory Labor 2016			
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	a. Operations and suppliers considered to have significant risk for incidents of forced or compulsory labor either in terms of: i. type of operation (such as manufacturing plant) and supplier; ii. countries or geographic areas with operations and suppliers considered at risk. b. Measures taken by the organization in the reporting period intended to contribute to the elimination of all forms of forced or compulsory labor.	-
GRI- 410: Security Practices 2016			
410-1	Security personnel trained in human rights policies or procedures	a. Percentage of security personnel who have received formal training in the organization's human rights policies or specific procedures and their application to security. b. Whether training requirements also apply to third-party organizations providing security personnel.	-
GRI- 411: Rights of Indigenous Peoples 2016			
411-1	Incidents of violations involving rights of indigenous peoples	a. Total number of identified incidents of violations involving the rights of indigenous peoples during the reporting period. b. Status of the incidents and actions taken with reference to the following: i. Incident reviewed by the organization; ii. Remediation plans being implemented; iii. Remediation plans that have been implemented, with results reviewed through routine internal management review processes; iv. Incident no longer subject to action.	-
✓ GRI- 412: Human Rights Assessment 2016			
412-1	Operations that have been subject to human rights reviews or impact assessments	a. Total number and percentage of operations that have been subject to human rights reviews or human rights impact assessments, by country.	-
412-2	Employee training on human rights policies or procedures	a. Total number of hours in the reporting period devoted to training on human rights policies or procedures concerning aspects of human rights that are relevant to operations. b. Percentage of employees trained during the reporting period in human rights policies or procedures concerning aspects of human rights that are relevant to operations.	56
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	a. Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening. b. The definition used for 'significant investment agreements'.	-
✓ GRI- 413: Local Communities 2016			
413-1	Operations with local community engagement, impact assessments, and development programs	a. Percentage of operations with implemented local community engagement, impact assessments, and/or development programs, including the use of: i. social impact assessments, including gender impact assessments, based on participatory processes; ii. environmental impact assessments and ongoing monitoring; iii. public disclosure of results of environmental and social impact assessments; iv. local community development programs based on local communities' needs; v. stakeholder engagement plans based on stakeholder mapping; vi. broad based local community consultation committees and processes that include vulnerable groups; vii. works councils, occupational health and safety committees and other worker representation bodies to deal with impacts; viii. formal local community grievance processes.	64-67

Indicator			Report Page
413-2	Operations with significant actual and potential negative impacts on local communities	a. Operations with significant actual and potential negative impacts on local communities, including: i. the location of the operations; ii. the significant actual and potential negative impacts of operations.	-
MM6	Number and description of significant disputes relating to land use, customary rights of local communities and indigenous peoples		N/A
MM7	The extent to which grievance mechanisms were used to resolve disputes relating to land use, customary rights of local communities and indigenous peoples, and the outcomes		N/A
GRI- 414: Supplier Social Assessment 2016			
414-1	New suppliers that were screened using social criteria	a. Percentage of new suppliers that were screened using social criteria.	-
414-2	Negative social impacts in the supply chain and actions taken	a. Number of suppliers assessed for social impacts. b. Number of suppliers identified as having significant actual and potential negative social impacts. c. Significant actual and potential negative social impacts identified in the supply chain. d. Percentage of suppliers identified as having significant actual and potential negative social impacts with which improvements were agreed upon as a result of assessment. e. Percentage of suppliers identified as having significant actual and potential negative social impacts with which relationships were terminated as a result of assessment, and why.	-
GRI- 415: Public Policy 2016			
415-1	Political contributions	a. Total monetary value of financial and in-kind political contributions made directly and indirectly by the organization by country and recipient/beneficiary. b. If applicable, how the monetary value of in-kind contributions was estimated.	-
✓ GRI- 416: Customer Health and Safety 2016			
416-1	Assessment of the health and safety impacts of product and service categories	a. Percentage of significant product and service categories for which health and safety impacts are assessed for improvement.	50-52
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	a. Total number of incidents of non-compliance with regulations and/or voluntary codes concerning the health and safety impacts of products and services within the reporting period, by: i. incidents of non-compliance with regulations resulting in a fine or penalty; ii. incidents of non-compliance with regulations resulting in a warning; iii. incidents of non-compliance with voluntary codes. b. If the organization has not identified any non-compliance with regulations and/or voluntary codes, a brief statement of this fact is sufficient.	N/A
✓ GRI- 417: Marketing and Labeling 2016			
417-1	Requirements for product and service information and labeling	a. Whether each of the following types of information is required by the organization's procedures for product and service information and labeling: i. The sourcing of components of the product or service; ii. Content, particularly with regard to substances that might produce an environmental or social impact; iii. Safe use of the product or service; iv. Disposal of the product and environmental or social impacts; v. Other (explain). b. Percentage of significant product or service categories covered by and assessed for compliance with such procedures.	52-53
417-2	Incidents of non-compliance concerning product and service information and labeling	a. Total number of incidents of non-compliance with regulations and/or voluntary codes concerning product and service information and labeling, by: i. incidents of non-compliance with regulations resulting in a fine or penalty; ii. incidents of non-compliance with regulations resulting in a warning; iii. incidents of non-compliance with voluntary codes. b. If the organization has not identified any non-compliance with regulations and/or voluntary codes, a brief statement of this fact is sufficient.	-
417-3	Incidents of non-compliance concerning marketing communications	a. Total number of incidents of non-compliance with regulations and/or voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by: i. incidents of non-compliance with regulations resulting in a fine or penalty; ii. incidents of non-compliance with regulations resulting in a warning; iii. incidents of non-compliance with voluntary codes. b. If the organization has not identified any non-compliance with regulations and/or voluntary codes, a brief statement of this fact is sufficient.	-

Indicator			Report Page
GRI- 418: Customer Privacy 2016			
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	a. Total number of substantiated complaints received concerning breaches of customer privacy, categorized by: <ul style="list-style-type: none"> i. complaints received from outside parties and substantiated by the organization; ii. complaints from regulatory bodies. b. Total number of identified leaks, thefts, or losses of customer data. c. If the organization has not identified any substantiated complaints, a brief statement of this fact is sufficient.	-
GRI- 419: Socioeconomic Compliance 2016			
419-1	Non-compliance with laws and regulations in the social and economic area	a. Significant fines and non-monetary sanctions for non-compliance with laws and/or regulations in the social and economic area in terms of: <ul style="list-style-type: none"> i. total monetary value of significant fines; ii. total number of non-monetary sanctions; iii. cases brought through dispute resolution mechanisms. b. If the organization has not identified any non-compliance with laws and/or regulations, a brief statement of this fact is sufficient. c. The context against which significant fines and non-monetary sanctions were incurred.	N/A

Waste and By-products Processing in Cement Plants

Scope: Six plants of Taiheiyo Cement Corporation

(FY2002~03 Including Kawara Taiheiyo Cement Corporation, ~FY2010 Including Chichibu Taiheiyo Cement Corporation, FY2010 Two plants of Taiheiyo cement Corporation stopped to produce cement)

Total Consumption (t)

Fiscal year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Waste Oil※	74,060	78,058	70,072	66,307	66,157	63,293	60,347	118,197	109,006	115,861	115,743	103,357	128,607	139,709	139,759
Reclaimed Oil※	93,904	90,837	70,186	79,287	81,259	70,190	62,252	18,043	18,124	16,706	14,363	14,720	16,814	19,211	18,237
Waste Activated Clay	2,168	1,935	3,184	3,490	2,696	19,372	14,288	19,301	22,664	26,545	27,901	27,418	28,534	40,935	43,597
Used Tire※	96,639	77,506	65,461	51,507	49,501	46,692	37,552	32,711	28,965	27,703	27,200	25,598	29,571	32,554	35,265
Blast Furnace Slag	1,588,815	1,316,320	1,313,685	1,258,346	1,233,789	1,107,795	1,114,135	1,073,199	1,121,588	1,393,388	1,635,627	1,474,015	1,227,694	1,155,493	1,197,201
Converter Slag	147,551	127,549	65,941	108,327	74,245	56,605	69,748	48,143	36,189	56,200	78,816	82,313	83,891	76,413	63,076
Nonferrous Slag	367,065	381,749	379,287	345,052	331,820	282,232	266,639	135,333	162,121	207,414	182,714	168,485	175,295	152,136	118,053
Molding Sand	180,676	184,156	200,921	236,779	247,449	200,814	134,395	168,732	155,148	146,653	167,490	165,395	161,137	160,693	165,905
Ash, Dust	422,624	399,855	407,840	324,031	335,902	305,347	301,047	396,934	416,525	471,623	419,409	417,650	461,387	517,717	473,735
Coal Ash (including JIS fly ash)	1,990,911	2,064,738	2,217,391	2,114,838	2,131,209	1,916,754	1,902,259	1,719,077	1,686,238	1,767,745	1,870,302	1,878,491	2,004,488	1,974,224	2,009,314
Dirt and Sludge	346,194	415,601	385,143	444,827	558,601	516,791	455,175	387,964	359,512	370,600	436,208	411,044	398,811	387,011	449,472
By-production Gypsum	674,606	671,194	706,377	709,051	646,284	613,339	558,323	539,769	519,168	550,115	613,972	581,698	563,889	529,095	537,339
Construction and Demolition Waste	26,464	16,113	25,648	132,522	103,615	30,741	40,224	30,616	31,136	40,370	41,418	29,670	36,172	64,728	36,711
Wood Chips※	92,835	118,147	125,727	125,374	95,651	93,620	81,016	106,386	98,207	93,482	94,216	109,229	121,742	62,215	110,807
Construction Soil	152,077	523,321	747,271	909,639	761,864	748,091	562,440	521,775	500,297	504,722	617,608	545,293	373,753	343,717	380,612
Waste Plastic※	90,845	80,575	81,985	87,257	88,574	82,508	84,582	75,915	82,662	75,636	86,618	128,875	118,999	143,908	161,456
Others (raw material related)	88,158	87,494	120,298	108,757	94,125	92,348	77,119	74,669	100,671	77,236	73,142	217,733	69,889	77,736	61,519
Others (fuel related) ※	88,306	82,246	69,317	66,120	64,231	72,261	77,618	64,803	61,416	86,846	92,518	98,684	91,842	78,104	103,688
Sub Total	6,523,897	6,717,393	7,055,734	7,171,511	6,966,973	6,318,794	5,899,157	5,531,567	5,509,636	6,028,846	6,595,263	6,479,668	6,092,512	5,955,600	6,105,748
Municipal Incinerator Ash	57,126	58,959	58,569	60,842	69,935	76,506	75,537	86,439	90,029	89,820	98,514	100,459	106,195	117,658	133,965
Water Treatment Plant Sewage Sludge and Ash	216,991	203,679	246,988	318,119	351,295	353,205	332,840	296,397	254,914	330,474	369,005	355,350	349,263	356,580	363,993
RDF※	7,323	5,913	6,731	5,964	4,282	3,998	4,049	4,113	4,001	4,150	5,314	5,326	4,547	4,884	5,852
Other Municipal Waste	15,626	14,836	15,507	15,996	15,580	15,793	15,811	15,991	41,020	229,725	218,560	14,392	14,544	15,623	15,733
Sub Total	297,067	283,387	327,796	400,921	441,092	449,501	428,237	402,879	389,963	654,169	691,393	475,526	474,549	494,745	519,544
Total	6,820,964	7,000,780	7,383,530	7,572,432	7,408,065	6,768,294	6,327,394	5,934,447	5,899,600	6,683,015	7,286,656	6,955,195	6,567,061	6,450,345	6,625,292
Total for Raw Material Related	6,277,054	6,467,499	6,894,050	7,090,617	6,958,410	6,335,732	5,919,978	5,514,278	5,497,219	6,262,631	6,850,685	6,469,407	6,054,941	5,969,759	6,050,228
Total for Fuel Related (※)	543,911	533,282	489,479	481,815	449,655	432,562	407,416	420,169	402,381	420,384	435,971	485,788	512,121	480,585	575,064

Rate of Consumption (kg/t-cement)

Fiscal year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Waste Oil※	3.5	3.9	3.3	3.2	3.4	3.6	3.7	7.9	7.6	7.4	6.8	6.4	8.0	8.8	8.7
Reclaimed Oil※	4.4	4.5	3.3	3.8	4.2	4.0	3.8	1.2	1.3	1.1	0.8	0.9	1.0	1.2	1.1
Waste Activated Clay	0.1	0.1	0.2	0.2	0.1	1.1	0.9	1.3	1.6	1.7	1.6	1.7	1.8	2.6	2.7
Used Tire※	4.6	3.8	3.1	2.5	2.6	2.7	2.3	2.2	2.0	1.8	1.6	1.6	1.8	2.0	2.2
Blast Furnace Slag	74.9	65.0	62.6	60.9	64.1	63.8	68.2	71.4	77.9	89.6	96.6	90.7	76.2	72.4	74.7
Converter Slag	7.0	6.3	3.1	5.2	3.9	3.3	4.3	3.2	2.5	3.6	4.7	5.1	5.2	4.8	3.9
Nonferrous Slag	17.3	18.9	18.1	16.7	17.3	16.3	16.3	9.0	11.3	13.3	10.8	10.4	10.9	9.5	7.4
Molding Sand	8.5	9.1	9.6	11.5	12.9	11.6	8.2	11.2	10.8	9.4	9.9	10.2	10.0	10.1	10.4
Ash, Dust	19.9	19.7	19.4	15.7	17.5	17.6	18.4	26.4	28.9	30.3	24.8	25.7	28.6	32.4	29.6
Coal Ash (including JIS fly ash)	93.8	102.0	105.7	102.4	110.8	110.5	116.5	114.3	117.2	113.6	110.4	115.6	124.4	123.7	125.4
Dirt and Sludge	16.3	20.5	18.4	21.5	29.0	29.8	27.9	25.8	25.0	23.8	25.7	25.3	24.7	24.3	28.0
By-production Gypsum	31.8	33.1	33.7	34.3	33.6	35.3	34.2	35.9	36.1	35.4	36.2	35.8	35.0	33.2	33.5
Construction and Demolition Waste	1.2	0.8	1.2	6.4	5.4	1.8	2.5	2.0	2.2	2.6	2.4	1.8	2.2	4.1	2.3
Wood Chips※	4.4	5.8	6.0	6.1	5.0	5.4	5.0	7.1	6.8	6.0	5.6	6.7	7.6	3.9	6.9
Construction Soil	7.2	25.8	35.6	44.0	39.6	43.1	34.4	34.7	34.8	32.4	36.5	33.5	23.2	21.5	23.8
Waste Plastic※	4.3	4.0	3.9	4.2	4.6	4.8	5.2	5.0	5.7	4.9	5.1	7.9	7.4	9.0	10.1
Others (raw material related)	4.2	4.3	5.7	5.3	4.9	5.3	4.7	5.0	7.0	5.0	4.3	13.4	4.3	4.9	3.8
Others (fuel related) ※	4.2	4.1	3.3	3.2	3.3	4.2	4.8	4.3	4.3	5.6	5.5	6.1	5.7	4.9	6.5
Sub Total	307.5	331.7	336.2	347.2	362.2	364.2	361.3	367.8	382.8	387.5	389.3	398.6	378.0	373.2	381.0
Municipal Incinerator Ash	2.7	2.9	2.8	2.9	3.6	4.4	4.6	5.7	6.3	5.8	5.8	6.2	6.6	7.4	8.4
Water Treatment Plant Sewage Sludge and Ash	10.2	10.1	11.8	15.4	18.3	20.4	20.4	19.7	17.7	21.2	21.8	21.9	21.7	22.3	22.7
RDF※	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4
Other Municipal Waste	0.7	0.7	0.7	0.8	0.8	0.9	1.0	1.1	2.9	14.8	12.9	0.9	0.9	1.0	1.0
Sub Total	14.0	14.0	15.6	19.4	22.9	25.9	26.2	26.8	27.1	42.0	40.8	29.3	29.4	31.0	32.4
Total	321.5	345.7	351.8	366.6	385.2	390.1	387.5	394.6	409.9	429.5	430.1	427.9	407.4	404.2	413.4
Total for Raw Material Related	295.8	319.4	328.5	343.3	361.8	365.2	362.6	366.6	381.9	402.5	404.4	398.0	375.7	374.1	377.5
Total for Fuel Related (※)	25.6	26.3	23.3	23.3	23.4	24.9	25.0	27.9	28.0	27.0	25.7	29.9	31.8	30.1	35.9

アスベストによる健康障害の発生状況

当社における石綿(アスベスト)使用および健康障害の状況は以下の通りです。

(2018年7月31日現在)

1. 健康障害の発生状況について

工場名	労災認定等を受け死亡した方	労災認定を受けて現在治療中の方	石綿使用製品製造期間
旧秩父セメント(株)秩父第一工場 〔2000年操業停止〕	36名 (うち中皮腫死亡者 12名) ※②(同 上 1名)	5名	1936年8月～1979年12月
旧秩父セメント(株)秩父第二工場 〔現秩父太平洋セメント(株)〕			1961年～1979年12月
旧小野田セメント(株)小野田工場 〔現小野田事務所〕	1名※①② (うち中皮腫死亡者 1名)	—	1947年7月～1949年3月
旧浅野セメント(株)スレート部大阪工場※③	1名	—	1945年5月～1951年4月
旧佐伯工場	1名※① (うち中皮腫死亡者 1名)	1名※①⑤	
藤原工場	2名※① (うち中皮腫死亡者 1名)	—	—
熊谷工場	—	1名※①⑤	—
大船渡工場	1名※①	—	—
旧日本セメント(株)門司工場		1名※①	—
計	42名※④ (うち中皮腫死亡者 16名)	8名	—

※① 石綿含有製品の製造に従事していない元従業員の方に、石綿含有製品の使用によると思われる健康障害が発生しました。

※② 石綿新法による適用

※③ 1951年4月アサノスレート(株)に継承、1972年工場閉鎖

※④ 死亡時期:1973年～2012年

※⑤ ご本人への確認が取れない為、その後の状況は不明

2 健康診断の実施について

● これまで近隣住民の方からの健康異常のお申出はなく、近隣住民の方を対象とした健康診断は実施していません。

● 秩父工場で石綿使用製品の製造に携わった方々を対象とした健康診断を1993年より毎年実施しております。

● 当社の6工場並びに小野田・西多摩・土佐事務所では、2006年(平成18年)年度より3年毎に各工場OB会の理解と協力を得て、工場勤務経験者を対象とした石綿健康診断を実施しています。2015年度(第4回)は、432名のOBの方々が受診されました。

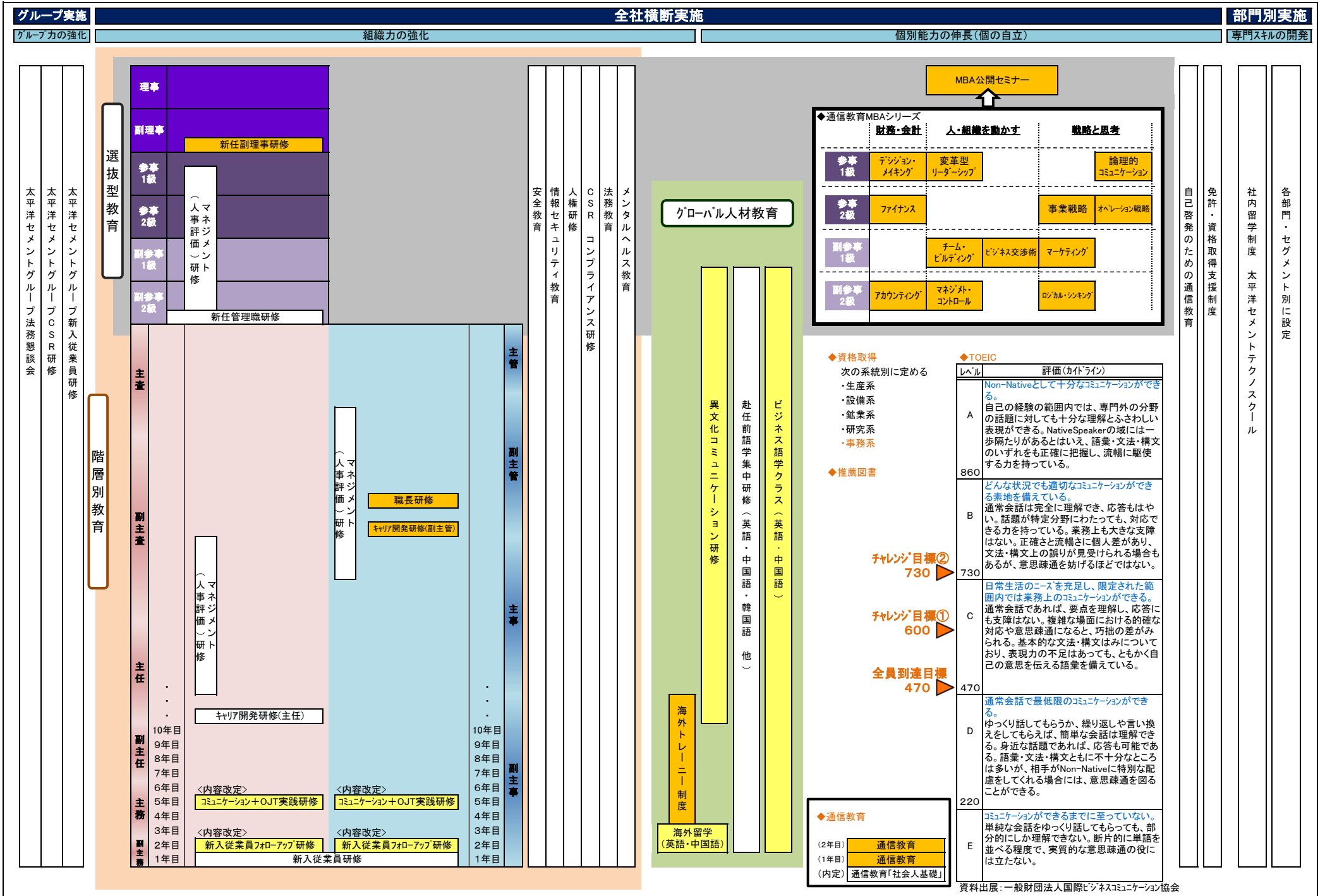
3 石綿含有製品の使用禁止及び処分

● 2005年7月に、全事業所およびグループ各社に石綿使用実態調査と使用禁止を通達しました。

● 飛散の可能性など緊急性を要する箇所については直ちに解体・除去しました。その後、順次必要な措置を実施し2006年度までに対応を完了しました。

● 石綿を含有する部材・資材については、順次ノンアスベスト品への切り替えを進めています。

● 解体工事においては、石綿含有建材の有無を調査のうえ存在が確認された場合は、関係法令に則り適切に処理を行なっています。



資料出展: 一般財団法人国際ビジネスコミュニケーション協会

■=新規に導入するプログラム ■=現行内容の改定或いは再開をするプログラム

In accordance with the CSI Charter member companies pledge to publicly disclose their performance on the priority issues in the cement industry using the key performance indicators (KPIs) developed by the CSI. They also pledge to set and make efforts to achieve reduction targets for CO₂ emissions and major air pollutants. We set group targets

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

In addition, group performance for CO₂ and climate protection, emission monitoring and reporting, health and safety, and water, has been subjected to an independent limited assurance review by KPMG AZSA Sustainability Co.,Ltd.

CO₂ Emission Reduction Targets

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

Reduce specific net CO₂ emissions per tonne of cementitious product by 10% or more from fiscal 2000 levels by fiscal 2025. (CSR Objectives for 2025)

Reduction Target for Main Air Pollutants

Emissions of NO_x, SO_x and dust from the main stacks of kilns at the cement production sites of Taiheiyō Cement and group companies

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

■ Key Performance Indicators of the CSI for Fiscal 2017*1

CO ₂ and Climate Protection (CO ₂ emissions, energy consumption)		FY2015	FY2016	FY2017
Number of facilities using CSI's "The Cement CO ₂ and Energy Protocol" guidelines for emissions inventory		22	18	18
Percentage of facilities using CSI's "The Cement CO ₂ and Energy Protocol" guidelines for emissions inventory (%)		100	100	100
Total CO ₂ emissions (million tonnes/year)	Gross	33.3	22.7	23.3
	Net*2	31.9	21.9	22.4
CO ₂ emissions per tonne of cementitious product*3 (kg-CO ₂ /t-cementitious)	Specific gross CO ₂ emissions	721	708	703
	Specific net CO ₂ emissions	692	683	679
Emissions from electricity purchased (million tonnes/year)		1.6	0.886	0.985
Specific heat consumption of clinker production (MJ/t-clinker)		3,288	3,306	3,303
Alternative fuel rate (% of thermal energy consumption) of kiln		13.3	11.3	11.6
Biomass fuel rate (% of thermal energy consumption) of kiln		2.2	1.8	1.8
Clinker/cement ratio (%)		84.1	83.1	82.9
Alternative Raw Materials Use		FY2015	FY2016	FY2017
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)		15.1	15.5	15.5
Health and Safety		2015	2016	2017
Fatalities				
Number of fatalities for directly employed		0	0	1
Fatality rate per 10,000 for directly employed		0	0	2.63
Number of fatalities for indirectly employed (contractors and subcontractors)		1	0	0
Number of fatalities involving third parties (not employed)		0	0	0
Lost-time injuries				
Number of lost-time injuries for directly employed		12	8	7
Injury frequency rate (per 1,000,000 man-hours directly employed)		1.18	0.97	0.87
Number of lost time injuries for indirectly employed (contractors and subcontractors)		5	10	6
Emission Monitoring and Reporting		FY2015	FY2016	FY2017
Percentage of clinker produced by kilns covered by a monitoring system, either continuous or discontinuous for main and other pollutants		100	100	100
Percentage of clinker produced by kilns which have installed continuous measurements for the main pollutants	NO _x	99.9	100	100
	SO _x	52.6	81.6	84.7
	Dust	99.9	100	100
Total emissions (tonnes/year)	NO _x	53,019	32,897	33,048
	SO _x	1,712	2,108	2,214
	Dust	1,674	1,057	841
Specific emissions (g/t-clinker)	NO _x	1,342	1,221	1,197
	SO _x	43	78	80
	Dust	42	39	30
Local Impacts		FY2015	FY2016	FY2017
Percentage of sites with community engagement plans in place		100	100	100
Percentage of active sites with quarry rehabilitation plans in place		100	100	100
Number of active sites where biodiversity issues are addressed		4	3	3
Water		FY2015	FY2016	FY2017
Amount of withdrawal (1,000 m ³)	Fresh water	35,083	26,719	27,596
	Seawater	148,836	146,097	149,056
Amount of discharge (1,000 m ³)	Fresh water	13,871	12,964	12,294
	Seawater	148,836	146,097	149,056

*1 Accounting and reporting of KPIs for fiscal 2017 is in accordance with the WBCSD-CSI's guidelines in "CO₂ and Energy Accounting and Reporting Standard for the Cement Industry" Version 3.1, "Guidelines for the Selection and Use of Fuels and Raw Materials in the Cement Manufacturing Process" Ver. 2.0, "Safety in the Cement Industry: Guidelines for measuring and Reporting" Version 4.0, "Guidelines for Emissions Monitoring and Reporting in the Cement Industry" Version 2.0, "Guidelines on Quarry Rehabilitation" and "Protocol for Water Reporting" Version 1.0. 100% of data for subsidiaries and partner companies (regardless of percentage of ownership) subject to aggregation is counted.

*2 Net CO₂ emissions: gross CO₂ emissions minus the CO₂ emissions from alternative-derived fuels

*3 Cementitious product: total clinker produced plus mineral components processed at the plants



Independent Assurance Report

To the President and Representative Director of Taiheiyo Cement Corporation

We were engaged by Taiheiyo Cement Corporation (the "Company") to undertake a limited assurance engagement of the Key Performance Indicators (the "CSI KPIs") of the World Business Council for Sustainable Development's Cement Sustainability Initiative (the "CSI") under the following areas included in its CSR Report 2018 (the "Report") for the fiscal year ended March 31, 2018.

- CO₂ and climate protection¹
- Health and safety²
- Emission (NOx, SOx and dust from kilns) monitoring and reporting¹
- Water¹

1 Periodic accounting is based on the fiscal year 2017 for domestic plants and the calendar year 2017 for overseas plants.

2 Periodic accounting is based on the calendar year 2017 for domestic and overseas plants.

The Company's Responsibility

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

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

Our Responsibility

Our responsibility is to express a limited assurance conclusion on the CSI KPIs based on the procedures we have performed. We conducted our engagement in accordance with 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 CSI KPIs.
- Performing analytical procedures on the CSI KPIs.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the CSI KPIs in conformity with the Criteria, and recalculating the CSI KPIs.
- Visiting the following eight out of a total of 18 plants of the Taiheiyo Cement Group, selected on the basis of a risk analysis. (CO₂ emissions covered by the plants visited correspond to 34%³ of the combined total of the Group's CO₂ emissions.)

³ Based on the amount of absolute gross CO₂ for the fiscal year 2017 for domestic plants and the calendar year 2017 for overseas plants.

Overseas plants

- CalPortland Company: Mojave Plant, Rillito Plant and Oro Grande Plant
- Taiheiyo Cement Philippines, Inc.

Domestic plants

- Taiheiyo Cement Corporation: Fujiwara Plant, Kumagaya Plant and Saitama Plant
- Tsuruga Cement Co., Ltd.

- Evaluating the overall presentation of the CSI KPIs.

Conclusion

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

Our Independence and Quality Control

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

KPMG AZSA Sustainability Co., Ltd.

KPMG AZSA Sustainability Co., Ltd.
Tokyo, Japan
October 12, 2018