

Taiwan Cement Corp. (1101)

Construction Materials | TW

Improvement in board practices; strong labor and safety management practices

MSCI
ESG RATINGS



CCC B BB BBB A AA AAA

RATING ACTION DATE: December 05, 2022

LAST REPORT UPDATE: December 20, 2022

Score attribution by key issue

This chart highlights the company's positioning relative to the industry average for each Key Issue that contributed to its ESG Rating as of December 20, 2022.



Last ESG Rating action

Rating action date: December 05, 2022

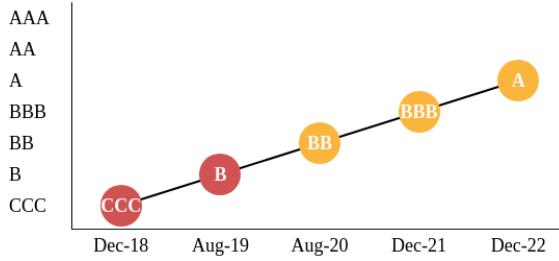
Taiwan Cement has been upgraded to 'A' from 'BBB'.

The removal of a key metric derived from accounting ratios (Revenue Recognition) in the Governance assessment is a key contributor to the company's upgrade due to its relatively low accounting risk compared to home market peers. Additionally, its executive board members are no longer overboarded, supporting the upgrade. However, owing to limited disclosures on executive pay practices and due to cross-shareholdings, the company trails home market and global peers on overall corporate governance.

- The labor-intensive nature of cement manufacturing exposes companies such as Taiwan Cement to risks of workflow disruptions in the event of labor unrest. Our assessment indicates the company leads peers on programs to mitigate these risks. Like leading peers, it provides stock plans and non-pay benefits to all employees. Further it conducts annual engagement surveys to gauge job satisfaction levels.
- Cement manufacturing activities typically expose the workforce to risk of workplace accidents. Taiwan Cement's employee safety programs include groupwide safety policies, safety training for employees and periodic audits. We note it has set targets to reduce its LTIR and TRIR rates by 35% by FY 2023 vs. baseline of FY 2016.
- As part of its climate mitigation programs, Taiwan Cement has introduced ecofriendly cement and energy storage systems. It also focuses on circular economy to reduce waste generation. We note it has set targets to reduce carbon emission intensity by 20% and 31% in China and Taiwan, respectively, by 2030.

Analysts: Ajay Lobo, Margarita Grabert

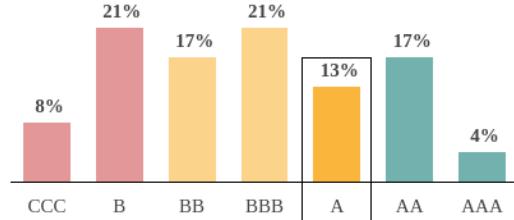
ESG Rating history



ESG Rating history shows five most recent rating actions

ESG Rating distribution

Universe: MSCI ACWI Index constituents, Construction Materials, n=24



Key scores

	Weight	Score (0-10)
Industry-Adjusted Score (Last Updated: December 05, 2022)		6.3
Weighted-Average Key Issue Score (Last updated: December 05, 2022)		4.8
Environmental Pillar Score	39%	3.8
Social Pillar Score	28%	6.5
Governance Pillar Score	33%	4.5

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What is an ESG Rating? MSCI ESG Ratings aim to measure a company's resilience to long-term ESG risks. Companies are scored on an industry-relative AAA-CCC scale across the most relevant Key Issues based on a company's business model.



CCC B BB BBB A AA AAA

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ESG Rating scorecard

As of December 20, 2022

KEY ISSUE	WEIGHT	INDUSTRY AVERAGE	SCORE (0-10)	CHANGE	EXPLANATION
Weighted-Average Key Issue Score		4.1	4.8		
> ENVIRONMENT	39%	3.8	3.8	▼0.5	
<u>Carbon Emissions</u>	20%	4.0	4.2	▼0.5	<ul style="list-style-type: none"> Carbon Intensity 71% lower than industry average
<u>Toxic Emissions & Waste</u>	19%	3.4	3.3	▼0.6	<ul style="list-style-type: none"> 100% of revenues from business lines with relatively high toxic emissions and waste intensities
> SOCIAL	28%	4.2	6.5	▲1.5	
<u>Health & Safety</u>	14%	3.8	4.7	▲1.1	<ul style="list-style-type: none"> Incident reduction targets for both employees and contractors
<u>Labor Management</u>	14%	4.5	8.3	▲2.0	<ul style="list-style-type: none"> Limited risk of operational disruptions, employment litigation or reduced productivity relative to peers Robust compensation practices compared to peers, including stock-based awards
> GOVERNANCE	33%	4.3	4.5	▲0.9	
<u>Corporate Governance</u>		5.4	4.6	▲1.0	<ul style="list-style-type: none"> The company falls into the lower scoring range relative to global peers, reflecting key areas of concern related to executive pay.
<u>Corporate Behavior</u>		4.6	6.6		<ul style="list-style-type: none"> Evidence of detailed policies on business ethics and corruption

* denotes company-specific Key Issue

This table shows the Key Issue scores and weights contributing to the company's ESG Rating and any changes to those scores since the last ESG Rating action. The range of possible scores is 0-10, where 10 is best and 0 is worst.

Rating model details

Taiwan Cement was rated based on a standard version of the Construction Materials Industry ESG Rating Model.

Company Data Feedback response

Data feedback in last 12 months? _____ No
Date of last feedback _____ Dec 2021



CCC B BB BBB A AA AAA

RATING ACTION DATE: December 05, 2022
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Recent developments affecting ESG scores

This table shows the last 10 score changes* and rating actions that have occurred in the past 12 months.

Date ▲	Type	Score (0-10)	Change	Explanation
	Current Weighted-Average Key Issue Score	4.8		
Dec 05, 2022	ESG Rating action	4.8	▲0.2	Taiwan Cement has been upgraded to 'A' from 'BBB'.
Dec 05, 2022	Data Update: Carbon			Decrease in performance score, management score
Jul 08, 2022	Data Update: Corporate Governance		▲0.1	Flags Added: Revenue Recognition, Revenue Recognition, Revenue Recognition Flags Removed: No Nomination Committee Governance Score changed based on the listed Key Metric(s): Asset-Liability Valuation, Expense Recognition, Asset-Liability Valuation, Expense Recognition, Asset-Liability Valuation, Expense Recognition
Jun 13, 2022	Methodology Update: ESG Ratings	4.5	▲0.1	Methodology Enhancements: scores recalculated to reflect enhancements to the ESG Ratings model.
Apr 29, 2022	Data Update: Corporate Governance		▲0.2	Flags Removed: Overboarded Exec Directors
Apr 26, 2022	Data Update: Exposure		▼0.1	Change in exposure score for the following Key Issue(s): Corporate Behavior, Labor Management,
Mar 11, 2022	Data Update: Corporate Governance		▼0.1	Governance Score changed based on the listed Key Metric(s): Cross Shareholdings
Mar 04, 2022	Data Update: Corporate Governance		▲0.1	Governance Score changed based on the listed Key Metric(s): Asset-Liability Valuation, Expense Recognition, Cross Shareholdings
Dec 17, 2021	ESG Rating action	4.3	▲0.1	Taiwan Cement has been upgraded to 'BBB' from 'BB'.
Dec 07, 2021	Data Update: Carbon		▼0.1	Decrease in performance score, management score

This table outlines the latest changes to specific data points that have occurred, the trigger for change (e.g. issuer feedback, data update or methodology enhancements) and the overall impact on the company's Weighted Average Key Issue Score. Companies are monitored on a continuous basis and significant score changes may trigger an ESG Rating action.

[View additional recent developments affecting the ESG score](#)

Most recent controversies

There are no recent new controversies or updates to ongoing controversies for this company.



Corporate governance summary

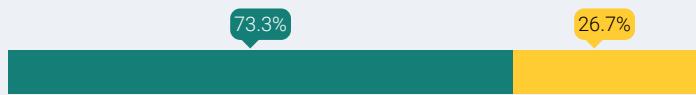


Board of directors

Board type: Unitary Board



Board diversity



Ownership summary

Capital structure	Multiple Equity Classes	Top shareholders
Ownership classification	Principal Shareholder	Koo Family and Chang Family - 10.95% (Chinatrust Investment Co., Ltd. -3.95% via Tian-Yi Huo - 0.14% Chia Hsin Cement Corporation-3.56% via Kang-Lung Chang, Chia Hsin International -1.74 via Kang-Lung Chang International CSRC Investment Holdings Co - 1.69%, via Kung-Yi Koo - 0.01)
Key Owner Types	Family Firm	
Complex Ownership Structures	Cross Shareholdings	

CEO

Name: An Ping Chang

Total realized pay*:N/A

Tenure: 3 Years

Total summary pay*:N/A

*CEO pay figures are sourced from listed company annual reports and proxy filings. When a new CEO is named the pay figures for the previous CEO will be displayed until this information has been updated for the new CEO

Peer benchmarking

LARGEST 5 INDUSTRY PEERS (CONSTRUCTION MATERIALS)	Carbon Emissions	Toxic Emissions & Waste	Health & Safety	Labor Management	Corporate Governance	Corporate Behaviour	Rating & Trend
CRH PUBLIC LIMITED COMPANY	● ● ●	● ● ● ●	● ● ●	● ● ●	● ● ● ●	● ● ● ●	AAA ▲ ▲
Holcim AG	● ● ●	● ● ●	● ●	●	● ● ● ●	●	AA ▲
MARTIN MARIETTA MATERIALS, INC.	● ● ●	● ● ● ●	● ● ●	● ● ● ●	● ● ● ●	● ● ● ●	A ▲ ▲
Taiwan Cement Corp.	● ● ●	● ● ●	● ● ●	● ● ● ●	● ●	● ● ● ●	A ▲
VULCAN MATERIALS COMPANY	● ●	● ● ● ●	● ● ●	● ● ●	● ● ●	● ● ● ●	BBB ▲ ▲
ULTRATECH CEMENT LIMITED	● ●	●	● ●	● ●	●	● ●	B ▲ ▲

QUARTILE KEY : Bottom Quartile ● Top Quartile ● ● ● ●

RATING TREND KEY : Maintain ▲ ▲ Upgrade ▲ Upgrade by two or more notches ▲▲ Downgrade ▼ Downgrade by two or more notches ▼▼

This table shows the company's positioning relative to five of its 24 industry peers. Industry peers are constituents of the MSCI ACWI Index in the ESG Ratings Industry classified as Construction Materials, as of December 20, 2022. The selection of five industry peers in this distribution is based on market capitalization, sorted by ESG Ratings (best to worst).



Analyst insights

- With Engie EPS acquisition, Taiwan Cement Corporation positions for entry into battery storage opportunities

August 02, 2021
Mathew Lee

Engie finalized the sale of its 60.5% stake in subsidiary Engie EPS to Taiwan Cement Corporation (TCC) in a deal worth EUR 132 million at EUR 17.10 per share (July 2021). Engie EPS will rebrand as New Horizons Ahead (NHOA). NHOA's portfolio of storage solutions positions the company well to capitalize on opportunities related to transport electrification and renewable energy.

TCC subsidiary TCC Green Energy Corp has developed both the first large-scale Battery Energy Storage System (BESS) and combined solar and wind power plant in Taiwan, where regulatory requirements set a 10% minimum of renewables consumption for heavy industry. NHOA's project development experience with storage solutions (300 MWh installed and 600 MWh under development globally) could help increase the viability of renewables to supply TCC's heavy industry operations in cement production that our research indicates account for over 85% of its business revenue. As other heavy industries in Taiwan seek to comply with regulatory requirements, TCC could be tapping into a growing market that recently saw Taiwan Semiconductor Manufacturing Company (TSMC) sign the world's largest corporate Power Purchase Agreement (PPA) for 920 MW of wind energy in June 2020.

TCC subsidiary E-One Moli Energy Corp (Modicel), the largest lithium battery manufacturer in Taiwan announced in April 2021 a USD 350 million dollar investment towards building a battery factory that can supply the equivalent of long-distances batteries for the production of 24,000 electric vehicles a year. NHOA's joint venture Free2Move eSolutions with automotive manufacturer Stellantis aims to build 35,000 fast chargers over 9,000 locations throughout Southern Europe by 2030, hoping to capitalize on the European Commission's proposed Fit for 55 emissions reduction policies calling for 100% zero emission cars by 2035 and regular electric charging intervals every 60km of highway. Modicel and NHOA thus give TCC exposure to rising demand for both electric vehicles and charging infrastructure.

- Brother-in-law holds onto chairmanship until Koo's successors are named

October 19, 2020
Sophia Cheng

In 2017, Leslie Koo, the third-generation Taiwanese cement scion, passed away from injuries sustained from a fall at age of 62. Following his sudden death, his brother-in-law Nelson Chang was appointed to be the acting chairman of Taiwan Cement Corp (TCC), the island's top cement maker founded by Koo's family. The family controls Taiwan Cement Group and its 17 affiliate companies across various sectors, including construction, biotech and chemical products. TCC is the group's flagship company, in which the family holds 9.8% voting rights.

The family has delegated Leslie Koo's responsibilities to other family members but a succession plan is still not apparent. Chang officially became the chairman and CEO of TCC, while Koo's nephew Koo Kung-yi, from the family's fourth generation, became the deputy chairman after the company's annual general meeting in June 2018. Koo Kung-yi was also appointed as chairman of two other affiliated companies in the TCC Group, China Synthetic Rubber Corp. and Taiwan Prosperity Chemical Corp. While it appears that some of the family's fourth generation has been given key roles in the companies, Koo's family has not announced a succession plan for TCC yet. (Leslie Koo's son Koo Gung-kai and daughter Koo Hsuan-hui, both in their 30s, do not hold any positions at TCC.) Besides, TCC has an entrenched board, based on MSCI's definition, with 26% of the board directors' tenure over 15 years and six out of 19 board members over age 70. TCC has the most directors older than 70 among the MSCI ACWI Taiwan Index constituents. In January 2020, the younger-generation Koo Kung-yi resigned as deputy chairman of TCC, citing too many work commitments. This led to speculation that this potential succession candidate would rather focus on the other two TCC Group companies where he serves. As a result of his resignation, his uncle, Chang, who has served on TCC's board for more than 26 years, is expected to continue to lead the board for the foreseeable future.



CCC B BB BBB A AA AAA

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ESG Rating drill down

Description	As of prior rating action date: Dec 17, 2021		As of last rating action date: Dec 05, 2022		As of last report update date: Dec 20, 2022		Difference	
	Score	Weight	Score	Weight	Score	Weight	Score	Weight
ESG Rating Letter Grade	BBB		A		A		-	-
Industry Adjusted Score	5.7		6.3		6.3		-	-
Industry Minimum Score	1.5		1.5		1.5		-	-
Industry Maximum Score	6.4		6.7		6.7		-	-
Weighted Average Key Issue Score	4.3		4.8		4.8		-	-
Environmental Pillar Score	4.3	39.0%	3.8	39.0%	3.8	39.0%	-	-
Carbon Emissions Key Issue Score	4.7	20.0%	4.2	20.0%	4.2	20.0%	-	-
Exposure Score	10.0		10.0		10.0		-	-
Business Segment Exposure Score	9.2		9.5		9.5		-	-
Geographic Exposure Score	5.9		5.9		5.9		-	-
Management Score	7.7		7.2		7.2		-	-
Management Score - Excluding Controversies	7.7		7.2		7.2		-	-
Practices Score	8.5		8.5		8.5		-	-
Performance Score	6.0		4.5		4.5		-	-
Toxic Emissions & Waste Key Issue Score	3.9	19.0%	3.3	19.0%	3.3	19.0%	-	-
Exposure Score	9.4		9.4		9.4		-	-
Business Segment Exposure Score	9.4		9.4		9.4		-	-
Management Score	6.3		5.7		5.7		-	-
Management Score - Excluding Controversies	6.3		5.7		5.7		-	-
Practices Score	6.9		6.5		6.5		-	-
Performance Score	5.0		4.1		4.1		-	-
Controversy Deduction	0.0		0.0		0.0		-	-
Social Pillar Score	5.0	28.0%	6.5	28.0%	6.5	28.0%	-	-
Health & Safety Key Issue Score	3.6	14.0%	4.7	14.0%	4.7	14.0%	-	-
Exposure Score	8.3		8.3		8.3		-	-
Business Segment Exposure Score	7.1		7.2		7.2		-	-
Geographic Exposure Score	6.7		6.5		6.5		-	-
Management Score	4.9		6.0		6.0		-	-
Management Score - Excluding Controversies	4.9		6.0		6.0		-	-
Practices Score	4.9		6.5		6.5		-	-
Performance Score	5.0		5.0		5.0		-	-
Controversy Deduction	0.0		0.0		0.0		-	-
Labor Management Key Issue Score	6.3	14.0%	8.3	14.0%	8.3	14.0%	-	-
Exposure Score	6.1		6.2		6.2		-	-
Business Segment Exposure Score	7.1		7.2		7.2		-	-
Geographic Exposure Score	6.2		6.3		6.3		-	-
Company-Specific Exposure Score	3.8		3.8		3.8		-	-
Management Score	5.4		7.5		7.5		-	-
Management Score - Excluding Controversies	5.4		7.5		7.5		-	-



CCC | B | BB | BBB | **A** | AA | AAA

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Description	As of prior rating action date: Dec 17, 2021		As of last rating action date: Dec 05, 2022		As of last report update date: Dec 20, 2022		Difference	
	Score	Weight	Score	Weight	Score	Weight	Score	Weight
Practices Score	5.4		7.5		7.5		-	
Controversy Deduction	0.0		0.0		0.0		-	
Governance Pillar Score*	3.6	33.0%	4.5	33.0%	4.5	33.0%	-	-
Governance Pillar Deductions**	-6.4		-5.5		-5.5		-	-
Corporate Governance Deductions	-5.0		-4.2		-4.2		-	-
Board	-2.2		-1.8		-1.8		-	-
Pay	-1.3		-1.3		-1.3		-	-
Ownership & Control	-0.9		-1.0		-1.0		-	-
Accounting	-0.7		-0.1		-0.1		-	-
Corporate Behavior Deductions	-1.3		-1.3		-1.3		-	-
Business Ethics	-1.3		-1.3		-1.3		-	-
Tax Transparency	0.0		0.0		0.0		-	-

**Beginning November 2020, the Environmental Pillar Score and Social Pillar Score are calculated based on the weighted average of underlying Key Issue Scores, while the Governance Pillar Score is calculated based on 10 minus the sum of Corporate Governance and Corporate Behavior deductions. In the ESG Rating drill-down, deductions are scaled to indicate impact on the overall Governance Pillar Score. In subsequent sections of the report, deductions are scaled to show impact on the Corporate Behavior and Corporate Governance Theme Scores.



Overflow table: Recent developments affecting ESG scores

Date ▲	Type	Score (0-10)	Change	Explanation
	Current Weighted-Average Key Issue Score	4.8		
Dec 05, 2022	ESG Rating action	4.8	▲0.2	Taiwan Cement has been upgraded to 'A' from 'BBB'.
Dec 05, 2022	Data Update: Carbon			Decrease in performance score, management score
Jul 08, 2022	Data Update: Corporate Governance		▲0.1	Flags Added: Revenue Recognition, Revenue Recognition, Revenue Recognition Flags Removed: No Nomination Committee Governance Score changed based on the listed Key Metric(s): Asset-Liability Valuation, Expense Recognition, Asset-Liability Valuation, Expense Recognition, Asset-Liability Valuation, Expense Recognition
Jun 13, 2022	Methodology Update: ESG Ratings	4.5	▲0.1	Methodology Enhancements: scores recalculated to reflect enhancements to the ESG Ratings model.
Apr 29, 2022	Data Update: Corporate Governance		▲0.2	Flags Removed: Overboarded Exec Directors
Apr 26, 2022	Data Update: Exposure		▼0.1	Change in exposure score for the following Key Issue(s): Corporate Behavior, Labor Management,
Mar 11, 2022	Data Update: Corporate Governance		▼0.1	Governance Score changed based on the listed Key Metric(s): Cross Shareholdings
Mar 04, 2022	Data Update: Corporate Governance		▲0.1	Governance Score changed based on the listed Key Metric(s): Asset-Liability Valuation, Expense Recognition, Cross Shareholdings
Dec 17, 2021	ESG Rating action	4.3	▲0.1	Taiwan Cement has been upgraded to 'BBB' from 'BB'.
Dec 07, 2021	Data Update: Carbon		▼0.1	Decrease in performance score, management score
Nov 19, 2021	Data Update: Corporate Governance		▼0.1	Governance Score changed based on the listed Key Metric(s): Asset-Liability Valuation, Expense Recognition, Revenue Recognition
Oct 22, 2021	Data Update: Corporate Governance		▼0.1	Flags Added: CEO Equity Policy, Combined CEO/Chair
Oct 20, 2021	Data Update: Controversies		▲0.2	Minor controversy case(s): (1) China: CNY 300,000 SAMR penalty for the alleged failure to declare joint venture with OYAK
Sep 28, 2021	Issuer Verification: ESG		▲0.3	Feedback provided on Health & Safety, Labor Management and Toxic Emissions & Waste
Sep 28, 2021	Issuer Verification: ESG		▲0.3	Feedback provided on Health & Safety, Labor Management and Toxic Emissions & Waste



Aug 10, 2021	Data Update: Corporate Governance		▼0.2	Governance Score changed based on the listed Key Metric(s): Revenue Recognition, Asset-Liability Valuation, Entrenched Board
Jun 18, 2021	Data Update: Corporate Governance		▲0.2	Flags Removed: Multiple Equity Classes with Different Voting Rights Governance Score changed based on the listed Key Metric(s): Related Party Transactions
Jun 11, 2021	Data Update: Corporate Governance		▼0.2	Flags Added: Multiple Equity Classes with Different Voting Rights Flags Removed: Business Combination Provision Governance Score changed based on the listed Key Metric(s): Asset-Liability Valuation, Expense Recognition, Revenue Recognition, Cross Shareholdings
Mar 05, 2021	Data Update: Corporate Governance		▼0.1	Flags Added: Overboarded Exec Directors
Feb 10, 2021	Issuer Verification: ESG		▲0.1	Feedback provided on Health & Safety and Toxic Emissions & Waste
Nov 05, 2020	Methodology Update: ESG Ratings	3.6	▼0.4	Methodology Enhancements: scores recalculated to reflect enhancements to the ESG Ratings model.
Oct 23, 2020	Data Update: Governance		▲0.1	Governance Score changed based on the listed Key Metric(s): Asset-Liability Valuation, Expense Recognition, Revenue Recognition
Aug 31, 2020	ESG Rating action	3.9	▲0.1	Taiwan Cement has been upgraded to 'BB' from 'B'.
Aug 31, 2020	Data Update: Governance			Flags Added: Revenue Recognition Governance Score changed based on the listed Key Metric(s): Asset-Liability Valuation, Expense Recognition
Aug 18, 2020	Data Update: Carbon		▲0.3	Increase in practices score, management score, exposure score
Aug 14, 2020	Data Update: Governance		▲0.2	Flags Removed: Revenue Recognition Governance Score changed based on the listed Key Metric(s): Asset-Liability Valuation, Expense Recognition
Jun 26, 2020	Data Update: Governance		▼0.1	Flags Removed: Asset-Liability Valuation, Expense Recognition Governance Score changed based on the listed Key Metric(s): Revenue Recognition
Jun 23, 2020	Data Update: Governance		▲0.2	Flags Added: Asset-Liability Valuation, Expense Recognition Flags Removed: Leadership Concerns Governance Score changed based on the listed Key Metric(s): Revenue Recognition
Jun 19, 2020	Data Update: Governance		▼0.1	Flags Added: Leadership Concerns
Jun 16, 2020	Data Update: Governance		▲0.1	Flags Added: Audit Committee Industry Expert, Business Combination Provision, Combined CEO/Chair Flags Removed: Director Removal Without Cause, Leadership Concerns Governance Score changed based on the listed Key Metric(s): Cross Shareholdings, Asset-Liability Valuation, Expense Recognition, Revenue Recognition



CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
LAST REPORT UPDATE: December 20, 2022

Dec 20, 2019

Data Update: Governance

▼0.3

Flags Added: Overboarded Audit Committee Members,
Overboarded Non-Exec Directors
Governance Score changed based on the listed Key Metric(s):
Related Party Transactions

Aug 05, 2019

ESG Rating action

3.1

Taiwan Cement has been upgraded to 'B' from 'CCC'.



Corporate Governance

Score	Change (since rating)	Quartile	As of
4.6	▲ 1.0	••	Sep 05, 2022

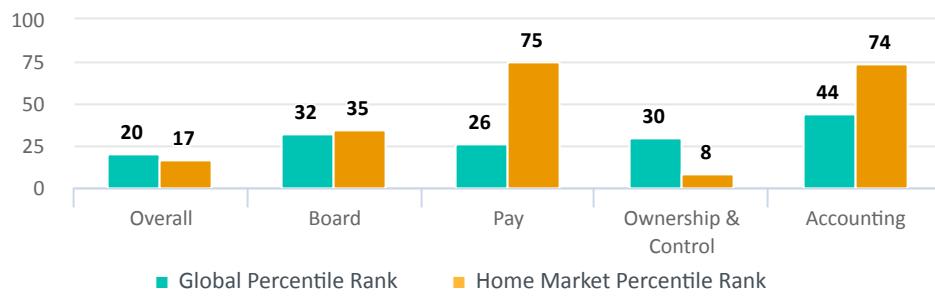
Market Cap: 8,063,959,885 USD

Home Market: Taiwan

Last Data Update:

Sep 05, 2022

GOVERNANCE THEMES AND RANKINGS



SUMMARY

Taiwan Cement falls into the lower scoring range for all the companies we assess relative to global peers, indicating the presence of significant risks in one or more areas. The key areas of concern relate to: executive pay.

KEY DATES

Financial Year End	December 31
Annual Filing Date	Apr 30, 2022
AGM Date	May 26, 2022

WEBSITE

<https://www.taiwancement.com/>

*Key areas of concern include flagged key metrics within the three sub-issues that represent the largest scoring deductions. Please review the full report to see the complete set of flagged key metrics.

KEY AREAS OF CONCERN*

SCORING DEDUCTIONS

Pay Figures

(-1.20)

🚩 Executive Pay Disclosure

Ownership Structure

(-1.00)

🚩 Cross Shareholdings

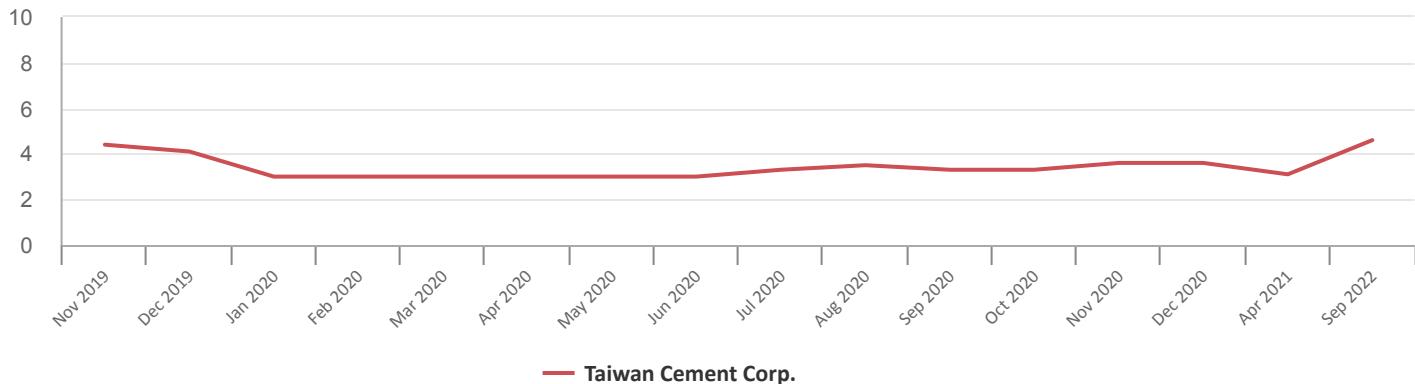
Board Effectiveness

(-0.50)

🚩 Overboarded Non-Exec Directors



CORPORATE GOVERNANCE SCORE HISTORY



CHANGES TO FLAGGED KEY METRICS (SINCE AUGUST 2021)

Key Metric	Key Metric Change	Date	Score Change*	Change Notes
Nomination Committee Chair Independence	Flag Added	Sep 21, 2022	-0.10	Non-independent nomination committee chair identified
No Nomination Committee	Flag Removed	Jul 07, 2022	0.30	Nomination committee function disclosed
Revenue Recognition	Flag Removed	Jun 12, 2022	0.53	Methodology enhancements
No Nomination Committee	Flag Added	Jun 12, 2022	-0.30	Methodology enhancements
Board Majority Independent of Other Interests	Flag Added	Jun 12, 2022	-0.30	Methodology enhancements
Overboarded Exec Directors	Flag Removed	Apr 27, 2022	0.50	
Combined CEO/Chair	Flag Added	Oct 18, 2021	-0.20	
CEO Equity Policy	Flag Added	Oct 18, 2021	-0.20	
Significant Votes Against Directors	Flag Removed	Aug 31, 2021	0.50	AGM voting results updated
Entrenched Board	Flag Removed	Aug 31, 2021	0.80	
Combined CEO/Chair	Flag Removed	Aug 31, 2021	0.20	
CEO Equity Policy	Flag Removed	Aug 31, 2021	0.20	

Note: A full list of score changes (including where there is no Key Metric Change) is included in the Appendix.

*Score change available in respect of changes dated on or after 13 December 2017.



CCC B BB BBB A AA AAA

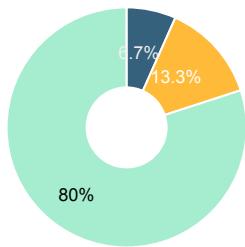
RATING ACTION DATE: December 05, 2022
LAST REPORT UPDATE: December 20, 2022

BOARD OVERVIEW

Board Type: Unitary Board

Board of Directors

Chair	An Ping (Nelson) Chang	Since: Jan 24, 2017
CEO	An Ping (Nelson) Chang	Since: Jul 17, 2019



Executive Leadership

CFO	Randy Yu	Since: Sep 13, 2022
------------	----------	---------------------

■Executive ■Links to Management ■Independent of Management



CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
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BOARD

The policies and practices of the Taiwan Cement board fall within the average scoring range relative to global peers. We have flagged this board for potential concerns regarding the presence of certain related party transactions and some non-executives may have too many other public board commitments.

0-10 Score	Global Percentile Rank	Home Market Percentile Rank
6.0	32nd (Average)	35th (Average)

KEY METRICS SCORING

Deduction

AUDIT OVERSIGHT

- ☒ Audit Committee Industry Expert -0.10
- ☒ Overboarded Audit Committee Members -0.10

BOARD EFFECTIVENESS

- ☒ Overboarded Non-Exec Directors -0.50

BOARD INDEPENDENCE

- ☒ Related Party Transactions -0.20
- ☒ Board Majority Independent of Other Interests -0.30

BOARD LEADERSHIP

- ☒ Combined CEO/Chair -0.20
- ☒ Independent Chair -0.10
- ☒ Chair not Independent & No Independent Lead Director -0.10

BOARD SKILLS & DIVERSITY

- ☒ Risk Management Expertise -0.20
- ☒ Not 30% Female Directors -0.10

NOMINATION PROCESS OVERSIGHT

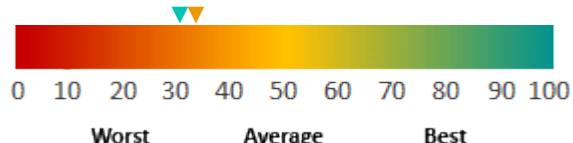
- ☒ Nomination Committee Chair Independence -0.10

PAY OVERSIGHT

- ☒ Pay Committee Concerns -0.30

BOARD PERFORMANCE VS.

▼ Global ▼ Home Market





CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
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LEADERSHIP

CHIEF EXECUTIVE OFFICER

History	CEO Since	Until	Name	Gender	Age
Current	Jul 2019		An Ping (Nelson) Chang	M	
Former	Jul 1998	Jan 2017	Cheng-Yun Koo	M	

CHIEF FINANCIAL OFFICER

History	CFO Since	Until	Name	Gender	Age
Current	Sep 2022		Randy Yu	M	

CHAIR

History	Chair Since	Until	Name	Gender	Age
Current	Jan 2017		An Ping (Nelson) Chang	M	
Former	Apr 1988	Jan 2017	Cheng-Yun Koo	M	

BOARD OF DIRECTORS

The Taiwan Cement board currently has an independent majority, which enables it to more effectively fulfill its critical function of overseeing management on behalf of shareholders.

Number of Board Meetings: 13

Non-executives meet in absence of Executives: No

Name	M/F	Age	Tenure (Years)	Boards	Independent of Mgmt	Independent of Other Interests	Management Link/Designation Reason	Nationality
An Ping (Nelson) Chang <small>COB CEO I \$</small>	M		28	2	No	No	Family Firm Director; Executive	Taiwan
Chi Chia Hsieh	M		6	2	Yes	No	Special Shareholder Representative	Taiwan
Chi-Te Chen	M		1	2	Yes	No	Special Shareholder Representative	Not Disclosed
Chien (James) Wen <small>\$</small>	M		4	1	Yes	No	Special Shareholder Representative	Taiwan
Chun Ying Liu	F	47	4	1	Yes	No	Special Shareholder Representative	Taiwan
Kang Lung (Jason) Chang	M		10	1	No	No	Family relationship; Family Firm Director	Taiwan
Kenneth C.M. Lo <small>\$</small>	M		17	1	Yes	No	Special Shareholder Representative	Taiwan
Kung Yi Koo	M		4	1	No	No	Non-Executive Employee; Family relationship; Family Firm Director	Taiwan
Ling Tai (Lynette) Chou <small>\$</small>	F		4	1	Yes	Yes		Taiwan
Mei-Hwa Lin	F		1	1	Yes	Yes		Not Disclosed
Por-yuan Wang	M		13	1	Yes	No	Special Shareholder Representative	Taiwan
Shiou-Ling (Sherry) Lin	F		1	2	Yes	Yes		Taiwan
Sun-Te (Eric) Chen <small>\$</small>	M	67	< 1	2	Yes	No	Special Shareholder Representative	China
Victor Wang <small>\$</small>	M		10	1	Yes	Yes		Taiwan
Yu-Cheng (Arthur) Chiao	M		10	5	Yes	Yes		Taiwan
	F	# >= 70	# >= 15 yrs	# >= 4				
Total (of 15)	4	0	2	1	12	5		
Percentage	26.7%	0%	13.3%	6.7%	80%	33.3%		

Note: Board count includes the membership of this board.

\$ - Financial Expert (6) I - Industry Expert CEO - Chief Executive Officer COB - Chair of the Board

RELATED PARTY TRANSACTIONS

The risk to minority shareholders arising from related party transactions is a function of the nature of the related party, the relative size of the transaction and the pricing of the transaction. The board, and in particular the independent directors or audit committee, play a key role in the protection of minority shareholders' interests, and monitoring and managing potential conflicts of interest of management, board members and shareholders.



Reported Transactions

RPT with affiliated companies, major investors, merged company with significant influence includes operating income and expenses and interest expenses.

For the two most recently reported fiscal years, these value of these transactions can be summarised as follows :

Fiscal Year	Related Party Types	Aggregate Transaction Value		Type
		Value (CUR)	% of Total	
Dec 31, 2021	Other	3,067,087 TWD	0.003% of Total Revenue	Recurring income from related party
		5,468,566 TWD	0.006% of Expenses	Recurring purchases from related party
Dec 31, 2020	Other	2,629,691 TWD	0.002% of Total Revenue	Recurring income from related party
		4,939,026 TWD	0.006% of Expenses	Recurring purchases from related party

Sources : AR 2020 p. 155-158, 2021 AR pg 78

BOARD EFFECTIVENESS

There appears to be director overboarding on this board, with at least one non-executive director sitting on too many boards. MSCI ESG Research considers a non-executive director to be overboarded when they sit on three or more additional boards (i.e. four total boards, including the rated company) in MSCI ESG Research's corporate governance research universe. For CEOs and other executive directors, we have established a limit of two additional boards (i.e. three boards including the rated company).

Nomination Committee

Name	M/F	Age	Board Tenure (Years)	Independent of Mgmt	of Other Interests	Committee Status
An Ping (Nelson) Chang I \$	M		28	No	No	Chair
Kenneth C.M. Lo \$	M		17	Yes	No	Member
Ling Tai (Lynette) Chou \$	F		4	Yes	Yes	Member
Shiou-Ling (Sherry) Lin	F		1	Yes	Yes	Member
Yu-Cheng (Arthur) Chiao	M		10	Yes	Yes	Member

\$ - Financial Expert (3) I - Industry Expert

BOARD SKILLS & DIVERSITY

We have flagged the Taiwan Cement board for gender diversity concerns.

A board with one or more active CEOs and overboarded directors may not be able to provide effective oversight of management. Their other roles may limit the time and attention required to fulfill their fiduciary duties. The company's 'Below Average' rating for pay may be an indication of a management-friendly board due to the presence of one or more active CEOs on the board, which may be magnified by the apparent entrenchment of the board.

AUDIT OVERSIGHT

Audit Committee - Number Of Meetings: 12

The Taiwan Cement board of directors includes a fully independent audit committee and at least one member of that committee meets our standards for financial expertise.

Name	M/F	Age	Board Tenure (Years)	Boards	Independent of Mgmt	Independent of Other Interests	Committee Status
Ling Tai (Lynette) Chou \$	F		4	1	Yes	Yes	Member
Mei-Hwa Lin	F		1	1	Yes	Yes	Member
Shiou-Ling (Sherry) Lin	F		1	2	Yes	Yes	Member
Victor Wang \$	M		10	1	Yes	Yes	Chair
Yu-Cheng (Arthur) Chiao	M		10	5	Yes	Yes	Member

\$ - Financial Expert (2)

Risk Committee - Number Of Meetings: 2

Name	M/F	Age	Board Tenure (Years)	Independent of Mgmt	Independent of Other Interests	Committee Status
Ling Tai (Lynette) Chou \$	F		4	Yes	Yes	Member
Shiou-Ling (Sherry) Lin	F		1	Yes	Yes	Chair
Victor Wang \$	M		10	Yes	Yes	Member

\$ - Financial Expert (2)

PAY OVERSIGHT

Pay Committee - Number Of Meetings: 4

The Taiwan Cement board includes an independent pay committee, which is considered best practice for oversight of executive pay according to international corporate governance standards.

Name	M/F	Age	Board Tenure (Years)	Independent of Mgmt	Independent of Other Interests	CEO Role?	Committee Status
Ling Tai (Lynette) Chou \$	F		4	Yes	Yes		Member
Mei-Hwa Lin	F		1	Yes	Yes		Member
Shiou-Ling (Sherry) Lin	F		1	Yes	Yes		Member
Victor Wang \$	M		10	Yes	Yes		Member
Yu-Cheng (Arthur) Chiao	M		10	Yes	Yes	Active	Chair

\$ - Financial Expert (2)



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RATING ACTION DATE: December 05, 2022
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CONTROVERSIES & EVENTS

No major relevant controversies have been uncovered.



CCC B BB BBB A AA AAA

RATING ACTION DATE: December 05, 2022
LAST REPORT UPDATE: December 20, 2022

PAY

Executive pay practices at Taiwan Cement fall into the average scoring range relative to global peers. Areas of particular concern include poor disclosure in relation to executive pay.

0-10 Score	Global Percentile Rank	Home Market Percentile Rank
2.3	26th (Below Average)	75th (Average)

KEY METRICS SCORING

Deduction	
NON-EXECUTIVE DIRECTOR PAY	
🚩 Director Equity Policy	-0.10
PAY FIGURES	
🚩 Executive Pay Disclosure	-1.20
PAY PERFORMANCE ALIGNMENT	
🚩 CEO Equity Policy	-0.20
🚩 Clawbacks & Malus	-0.20

PAY FIGURES

DISCLOSURE

Disclosure should include, at minimum, pay for each executive member of the Board of Directors (or Management Board for companies with a two-tier board structure) on an individualized basis or in cases where there are no executive members, the CEO. The individualized disclosure should include separate information on the amount of each of the following (where such a component is provided): salary, short-term Incentives, long-term Incentives, pensions, benefits, and any one-off payments (such as recruitment or retention awards).

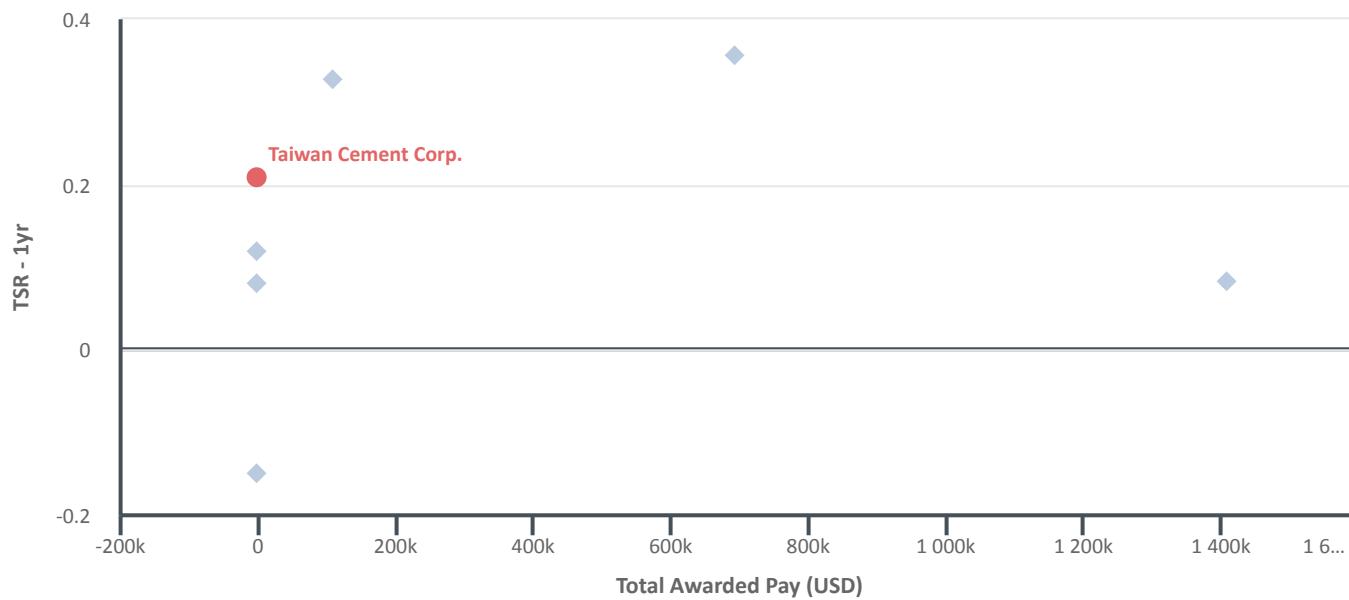
PAY PEER GROUP

MIDCAP - EMERGING - CONSTRUCTION MATERIALS (7 COMPANIES)

Company	Home Market	Market Cap (USD m)	Pay Year	1 Yr TSR	Total CEO Annual Pay (USD)	CEO Name	CEO Since
CHINA JUSHI CO., LTD	China	6,704	2021	0.08%	1,408,804	Zhang	Mar 2005
ACC LIMITED	India	6,032	2021	0.36%	692,804	Balakrishnan	Feb 2020
CEMEX, S.A.B. de C.V.	Mexico	6,728	2021	0.33%	108,771	Gonzalez Olivieri	May 2014
BUA Cement PLC	Frontier	4,218	2021	-0.15%		Binji	Dec 2019
DANGOTE CEMENT PLC	Frontier	9,185	2021	0.08%		Puchercos	Feb 2020
Asia Cement Corporation	Taiwan	4,780	2021	0.12%		Lee	Aug 2000
Taiwan Cement Corp.	Taiwan	7,850	2021	0.21%		Chang	Jul 2019



CEO TOTAL AWARDED PAY VERSUS PAY PEER GROUP



Pay Peers (♦) are used in the calculation of the Key Metric CEO Pay Total Summary and selected as set out in the MSCI Governance Metrics Methodology Document.

CEO TOTAL REALIZED PAY VERSUS PAY PEER GROUP



Pay Peers (♦) are used in the calculation of the Key Metric CEO Pay Total Summary and selected as set out in the MSCI Governance Metrics Methodology Document.

PAY PERFORMANCE ALIGNMENT

CEO & EXECUTIVE EQUITY

No effective stock ownership guidelines have been identified.



CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
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No CEO equity policy found.

Executive	Tenure (Years)	Shares Held	YoY % Change	Shareholding As % of Salary
An Ping (Nelson) Chang I \$	28	2,188,553	0.00%	
Jong-Peir (John) Li I \$	N/A (Resigned)	786,542		

\$ - Financial Expert (2) I - Industry Expert (2)

CLAWBACK & MALUS

No clawback or malus provisions have been identified.

NON-EXECUTIVE DIRECTOR PAY

NON-EXECUTIVE EQUITY

Director	Tenure (Years)	Shares Held
Chi Chia Hsieh	6	494,397
Chi-Te Chen	1	67,906
Chi-Wen Chang \$	N/A (Resigned)	3,376,895
Chin Jen Sheng	N/A (Resigned)	2,100
Kung Yi Koo	4	561,815
Ling Tai (Lynette) Chou \$	4	200,001
Nan-Chou Lin	N/A (Resigned)	2,897,442
Tung Sheng (Eric) Wu	N/A (Resigned)	74,686

\$ - Financial Expert (2)

NON-EXECUTIVE PAY TABLES

There are insufficient disclosures available to present non-executive pay data.

CONTROVERSIES & EVENTS

No major relevant controversies have been uncovered.



OWNERSHIP & CONTROL

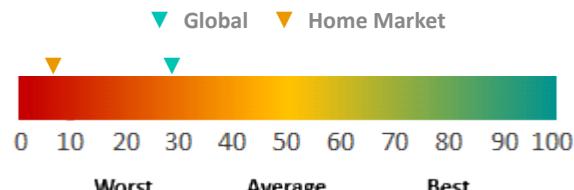
The company's ownership structure and shareholder rights at Taiwan Cement fall within the average scoring relative to global peers.

0-10 Score	Global Percentile Rank	Home Market Percentile Rank
5.5	30th (Average)	8th (Below Average)

KEY METRICS SCORING

	Deduction
DIRECTOR ELECTIONS	
Flag Annual Director Elections	-0.10
Flag Majority Voting	-0.10
OWNERSHIP STRUCTURE	
Flag Cross Shareholdings	-1.00
SHAREHOLDER RIGHTS	
Flag Say on Pay Policy	-0.10

OWNERSHIP & CONTROL PERFORMANCE VS.



CORPORATE STRUCTURE

Public Company

CAPITAL STRUCTURE

Capital Type	Votes Per Share	Shares Outstanding
ordinary shares	1.0	6,116,173,002
preferred shares	0.0	200,000,000

Ordinary shares and Preferred shares

AR 2021 page 73/383

OWNERSHIP STRUCTURE

OWNERSHIP CATEGORIES

- Principal Shareholder
- Family Firm

NOTABLE SHAREHOLDERS

Koo Family and Chang Family - 10.95% (Chinatrust Investment Co., Ltd. 11%
-3.95% via Tian-Yi Huo - 0.14% Chia Hsin Cement Corporation-3.56% via
Kang-Lung Chang, Chia Hsin International -1.74 via Kang-Lung Chang
International CSRC Investment Holdings Co - 1.69%, via Kung-Yi Koo - 0.01)



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5%+ shareholders - Aggregate Voting Power	0%
Insider Voting Power	11%

We note that despite being classified as a family firm/founder firm, the company does not have a controlling shareholder. The company does not have a special capital structure, thus one vote right is afforded per common share. This principle of 'one share one vote' helps align economic and voting power and ensures that no class of shareholders has more voting power than economic exposure.

CROSS SHAREHOLDINGS

The company has been flagged for being involved in a series of cross-shareholdings with other (related or unrelated) companies. Cross shareholdings can lead to double counting, whereby the equity of each company is counted twice when determining value. Cross-shareholdings are rare in the Taiwan markets, with only 9% of the companies being flagged for this.

Chinatrust Investment Co., Ltd. holds 3.95 % of Taiwan Cement Corp., Taiwan Cement Corp holds 9.36% of Chinatrust Investment Co., Ltd.

Chia Hsin Cement Corp. holds 3.56% of Taiwan Cement Corp, Taiwan Cement Corp holds 3.54% of Chia Hsin Cement Corp.

CROSS-SHAREHOLDINGS

	Percentage of Voting Rights	Value of Cross Holding in Other Party As % of Market Cap
Chia Hsin Cement Corp. holds 3.56% of the total voting rights in 'Taiwan Cement Corp.' as part of a cross-shareholding arrangement. Some 2.22% of the market cap of 'Taiwan Cement Corp.' is invested in shares of Chia Hsin Cement Corp. as part of this arrangement.	Votes Held by Chia Hsin Cement Corp. Voting Rights: 3.6 % Others: 96.4 %	Investment by Chia Hsin Cement Corp. Market Cap: 2.2 % Others: 97.8 %
Chinatrust Investment Co., Ltd. holds 3.95% of the total voting rights in 'Taiwan Cement Corp.' as part of a cross-shareholding arrangement. Some 18.97% of the market cap of 'Taiwan Cement Corp.' is invested in shares of Chinatrust Investment Co., Ltd. as part of this arrangement.	Votes Held by Chinatrust Investment Co., Ltd. Voting Rights: 4.0 % Others: 96.1 %	Investment by Chinatrust Investment Co., Ltd. Market Cap: 19.0 % Others: 81.0 %

FAMILY FIRM

Koo family collectively holds 10.95% of company shares through direct and indirect holdings

TAKEOVER PROVISIONS

Fair Price Provision	Mandatory Bid Provision	Mandatory Bid Ownership Threshold
Yes	Yes	20.0
% of Votes to Approve a Merger		
67%		



GOVERNING DOCUMENTS

MAJORITY REQUIREMENTS

	Bylaws	Charter
Default percentage of votes required to amend a provision		67%

The following matters shall be passed by a special resolution at the general meeting of shareholders. Amendment of the company's articles of association

A special resolution made by the shareholders' general meeting shall be passed by more than 2/3 of the voting rights held by the shareholders (including shareholders' proxies) present at the shareholders' general meeting

SHAREHOLDER RIGHTS

There may be governance risks for investors in relation to shareholder rights and management-controlled takeover defense mechanisms at Taiwan Cement including:

- Limits on the right of shareholders to take action by written consent

SHAREHOLDER MEETINGS & RESOLUTIONS

	Call Special Meeting	Requisition a Resolution at AGM	Act by Written Consent
Percentage of shares required	3%		100%

RESTRICTIONS ON LEGAL ACTION BY SHAREHOLDERS

No exclusive forum provision has been identified.

SAY ON PAY

Despite a global trend towards providing shareholders with the ability to review and approve executive pay practices, the company does not operate in a market which requires regular 'say on pay' votes nor has it extended this right to shareholders.

DIRECTOR ELECTIONS

BOARD RE-ELECTION PROVISIONS

Not all board members are subject to annual re-election. While considered by some governance experts as a means of ensuring board continuity, a classified board structure may limit the ability of shareholders to hold directors accountable and serve as a takeover defense.

Board Re-election Provisions	
Board Re-election Frequency (Years)	3
% of Board subject to re-election	100%



CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
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DIRECTOR ELECTION STANDARD

Director Election Rules	
Vote Standard	Plurality
Immediate Binding Resignation	Yes

In the election of directors of this Company, candidates who acquire more votes should win the seats of directors. If two or more persons acquire the same number of votes and the number of such persons exceeds the specified seats available, such persons acquiring the same votes shall draw lots to decide who should win the seats available, and the Chairman shall draw lots on behalf of the candidate who is not present



CCC | B | BB | BBB | **A** | AA | AAA

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ACCOUNTING

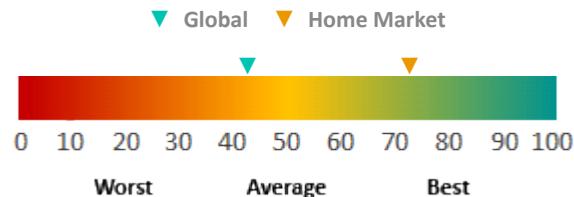
Based on the company's disclosures and other public information, accounting and financial reporting practices at Taiwan Cement appear to be generally appropriate and effective relative to global peers.

0-10 Score	Global Percentile Rank	Home Market Percentile Rank
9.4	44th (Average)	74th (Average)

KEY METRICS SCORING

Deduction	
AUDITOR INDEPENDENCE	
Auditor Tenure	-0.10

ACCOUNTING PERFORMANCE VS.



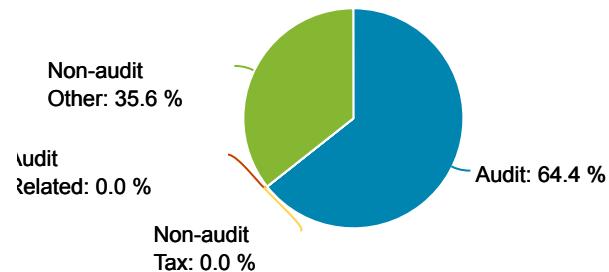
EXTERNAL AUDITORS

Type	Since	Firm	Most Recent Fiscal Year End Signed Off
Primary		Deloitte & Touche	2021

AUDITOR FEES

Fees paid to: Deloitte & Touche (Primary)

Fee	Dec 31, 2021 (TWD)	Dec 31, 2020 (TWD)	Dec 31, 2019 (TWD)
Audit	34,652,000	24,655,000	24,425,000
Audit Related			
Total Audit + Audit Related	34,652,000	24,655,000	24,425,000
Tax Compliance/Advice			
Other Non-audit Services	19,185,000	11,767,000	8,269,000
Total Non-audit Fees	19,185,000	11,767,000	8,269,000
Total Fees	53,837,000	36,422,000	32,694,000





CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
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AUDITOR'S REPORT

	Dec 31, 2021	Dec 31, 2020	Dec 31, 2019
Report Disclosed	Yes	Yes	Yes
Opinion	Unqualified Opinion	Unqualified Opinion	Unqualified Opinion
Emphasis of Matter	No	No	No

CONTROVERSIES & EVENTS

No major relevant controversies have been uncovered.



CCC B BB BBB A AA AAA

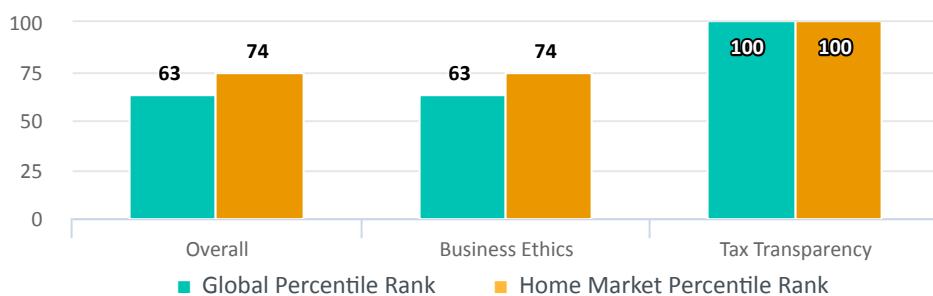
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Corporate Behavior

0-10 Score	Change (since rating)	Quartile	As of
6.6	0.0	••••	Nov 23, 2022

CORPORATE BEHAVIOR THEME AND KEY ISSUE RANKINGS



METHODOLOGY NOTE

This theme evaluates the extent to which companies may face ethics issues such as fraud, executive misconduct, corruption scandals, money laundering, anti-trust violations, or tax-related controversies.

* [For symbols and terms used in this report, refer to the Glossary section at the end of the report]

KEY AREAS OF CONCERN*

SCORING DEDUCTIONS

Business Ethics Policies & Practices

(-1.40)

Oversight for Ethics Issues

Employee Training on Ethical Standards

Business Ethics Risk & Controversies

(-2.00)

Corruption Risk Exposure & Controversies

CORPORATE BEHAVIOR SCORE HISTORY





BUSINESS ETHICS

KEY METRICS SCORING

	Deduction
BUSINESS ETHICS POLICIES & PRACTICES	-1.40
Oversight for Ethics Issues	-0.70
Employee Training on Ethical Standards	-0.70
BUSINESS ETHICS RISK & CONTROVERSIES	-2.00
Corruption Risk Exposure & Controversies	-2.00

Note: Business Ethics Policies & Practices deductions as well as Business Ethics Risk & Controversies are capped at a maximum of -7.0. Cumulative deductions are capped at 10.

0-10 Score	Change (since rating)	Global Percentile Rank	Home Market Percentile Rank
6.5	0.0	63rd (Average)	74th (Average)

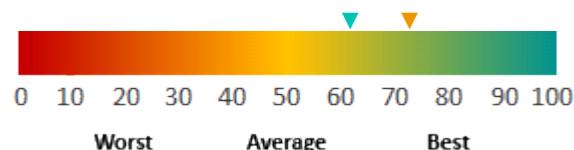
METHODOLOGY NOTE

Companies are evaluated on their oversight and management of business ethics issues such as fraud, executive misconduct, corrupt practices, money laundering, or anti-trust violations.

*[For symbols and terms used in this report, refer to the Glossary section at the end of the report]

BUSINESS ETHICS VS.

▼ Global ▼ Home Market



BUSINESS ETHICS POLICIES & PRACTICES

Indicators	Company Practice	Best Practice	Deduction
Oversight for Ethics Issues	Special task force or risk officer	Board-level committee or C-suite or Executive committee	-0.70
Bribery and Anti-Corruption Policy	Detailed formal policy on bribery and anti-corruption	Detailed formal policy on bribery and anti-corruption	0.00
Regular Audits of Ethical Standards	Audits of all operations at least once every three years	Audits of all operations at least once every three years	0.00
Whistleblower Protection	Policy provides whistleblowers with protection from retaliation	Policy provides whistleblowers with protection from retaliation	0.00
Employee Training on Ethical Standards	Programs covering all permanent employees (excluding part-time and contractors)	Programs covering all employees (including part-time) and contractors	-0.70
Anti-Corruption Policy for Suppliers	NA	All suppliers are required to have anti-corruption policies and programs to verify compliance	0.00
Policies Related to Anti-Money Laundering	NA	Policy and implementation strategy articulated	0.00

*Business Ethics Policies & Practices deductions are capped at a maximum of -7.0.



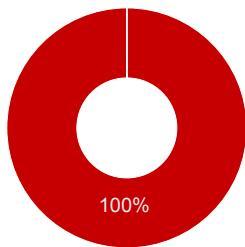
CCC | B | BB | BBB | **A** | AA | AAA

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CORRUPTION RISK EXPOSURE

Exposure to: Regulatory risks or lost market access due to corruption scandals or political and social instability
Business Types : Percentage of operations in business segments perceived most likely to pay or receive bribes

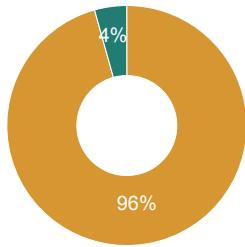
■ High Risk ■ Medium Risk ■ Low Risk



- Cement, Power generation
- No exposure to medium risk segments
- No exposure to low risk segments

Source: Bribe Payers Index (Transparency International); State Capture Index (Transparency International); Refinitiv; MSCI ESG Research; company disclosure

Business Locations : Percentage of operations in countries with high/moderate/low level of corruption and political instability, violence or terrorism



- No operations in markets with high risks
- China, Taiwan
- Europe

Source: Corruption Perceptions Index (Transparency International); World Governance Indicators (World Bank); Refinitiv; MSCI ESG Research; company disclosure

CORRUPTION RISK EXPOSURE SCORING DEDUCTION KEY

% of operations in medium and high risk geographies	% of operations in high risk business segments	>=20% government ownership	<20% government ownership	No evidence of government ownership
20% or more	50% or more	-4.00	-2.60	-2.00
	Less than 50%	-1.20	-1.20	-1.20
Less than 20%	50% or more	-0.60	-0.60	-0.60
	Less than 50%	0.00	0.00	0.00

*The Corruption Risk and Controversies Deduction is based on the maximum of deductions from the corruption risk exposure and corruption controversies category listed below

BUSINESS ETHICS CONTROVERSIES

Controversy Cases

Category	Assessment	Headline	Status	Last Updated	Deduction
Business Ethics & Fraud	--	No ongoing controversies.	--	--	--
Anticompetitive Practices	Minor	China: CNY 300,000 SAMR penalty for the alleged failure to declare joint venture with OYAK	Concluded	September 2020	0.0
Corruption	--	No ongoing controversies.	--	--	--

*The maximum deductions from the Anticompetitive Practices and Business Ethics & Fraud categories are summed to arrive at the overall Business Ethics Controversies deduction, which is capped at a maximum of -7.0.



TAX TRANSPARENCY

TAX GAP ASSESSMENT

Indicators

Tax Gap

Estimated Effective Tax Rate	23.4%
Estimated Corporate Income Tax Rate	23.0%
Estimated Tax Gap	(-0.4%)
Tax Gap Assessment	Low Gap

Revenue

Foreign Revenue	61.0%
-----------------	-------

Confidence

Confidence Level of Estimation	High
--------------------------------	------

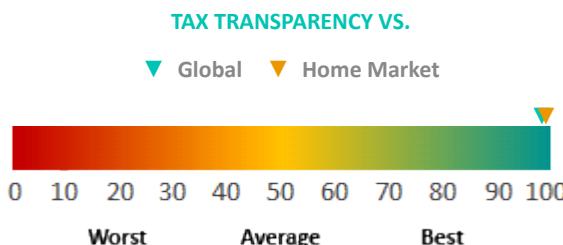
Involvement in Controversies

0-10 score	Change (since rating)	Global Percentile Rank	Home Market Percentile Rank
10.0	0.0	100th (Best In Class)	100th (Best In Class)

METHODOLOGY NOTE

Companies are evaluated on their estimated corporate tax gap (i.e. gap between estimated effective tax rate and estimated corporate income tax rate) and their involvement in tax-related controversies.

*[For symbols and terms used in this report, refer to the Glossary section at the end of the report]



TAX CONTROVERSIES

Controversy Cases

Category	Assessment	Headline	Status	Last Updated	Deduction
Tax Transparency	--	No ongoing controversies.	--	--	--

TAX CONTROVERSIES SCORING DEDUCTION KEY

Involvement in tax controversies	Estimated tax gap	Tax gap assessment	Deduction
Yes	Below 5%	Low	-0.80
	5-10%	Moderate	-1.40
	Above 10%	High	-2.00
No	Below 5%	Low	0.00
	5-10%	Moderate	0.00
	Above 10%	High	0.00

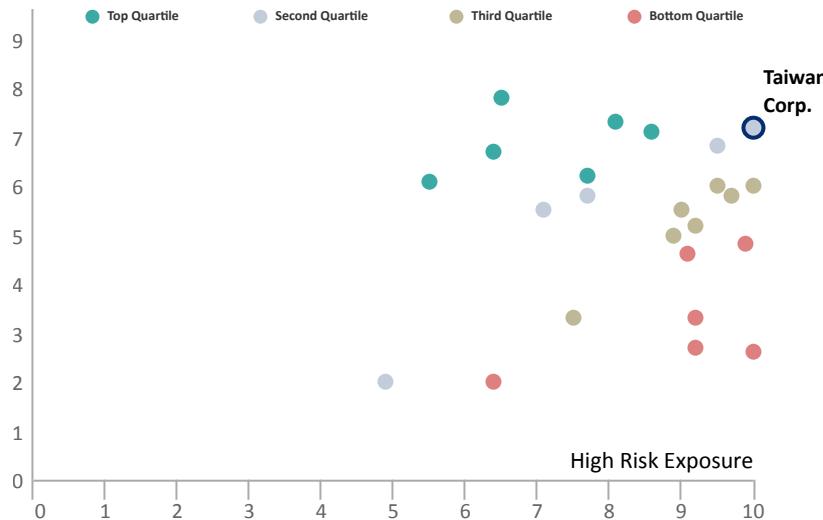
Tax related controversies are not considered for companies in Real Estate Management services or Mortgage REITs industries. Tax gap assessment is effectively low for companies with less than 5% of total revenue categorized as foreign.



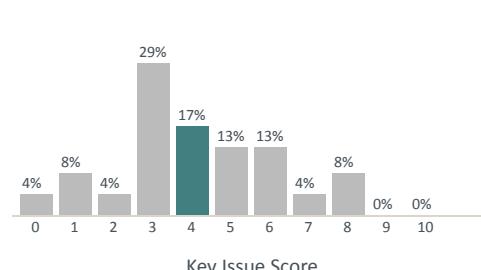
Carbon Emissions

Score	Change (since rating)	Quartile	Weight	As of
4.2	▼ -0.5	•••	20.0%	Nov 23, 2022

Strong Risk Management



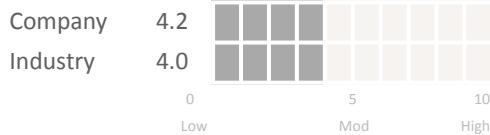
KEY ISSUE SCORE DISTRIBUTION *



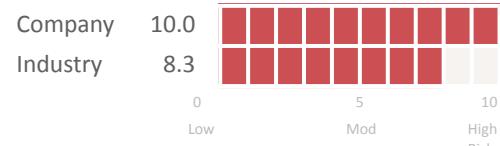
TOP 5 INDUSTRY LEADERS

GRASIM INDUSTRIES LTD	8.3
The Siam Cement Public Company Limited	7.6
JAMES HARDIE INDUSTRIES PUBLIC LIMITED COMPANY	7.3
CEMEX, S.A.B. de C.V.	6.2
HeidelbergCement AG	5.5

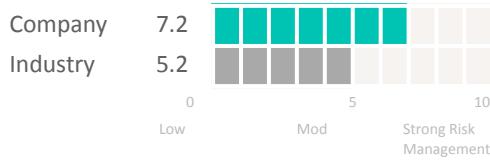
KEY ISSUE ASSESSMENT



RISK EXPOSURE ASSESSMENT



RISK MANAGEMENT ASSESSMENT



Drivers of Risk Exposure

Drivers of Risk Management

Business Types

Practices Score



Business Locations

Performance Score



BOTTOM 5 INDUSTRY LAGGARDS

AMBUJA CEMENTS LIMITED	2.5
CHINA RESOURCES CEMENT HOLDINGS LIMITED	1.9
Huaxin Cement Co., Ltd.	1.1
China National Building Material Company Limited	0.5
TANGSHAN JIDONG CEMENT CO.,LTD.	0.0

METHODOLOGY NOTE

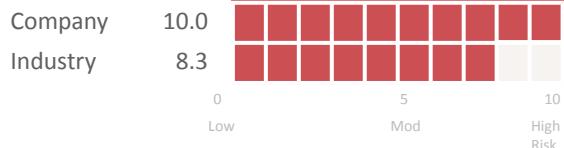
Companies are evaluated on the carbon intensity of their operations and their efforts to manage climate-related risks and opportunities.



* [For symbols and terms used in this report, refer to the Glossary section at the end of the report]

EXPOSURE

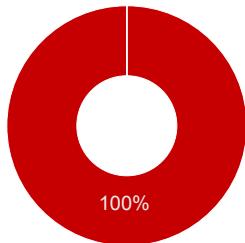
RISK EXPOSURE ASSESSMENT



Key Drivers of Risk Exposure

Exposure to: Risks of having to pay increased compliance costs tied to carbon emissions regulations

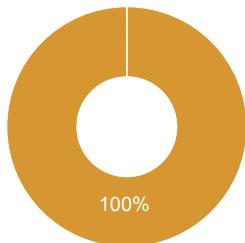
Business Types : Percentage of operations in business segments with high/moderate/low carbon intensity



- Cement, Power generation
- No exposure to medium risk segments
- No exposure to low risk segments

Source: IERS' Comprehensive Environmental Data Archive (CEDA); Air Emissions Accounts (Eurostat); Refinitiv; MSCI ESG Research; company disclosure

Business Locations : Percentage of operations in countries with strengthening or pending carbon emissions regulation

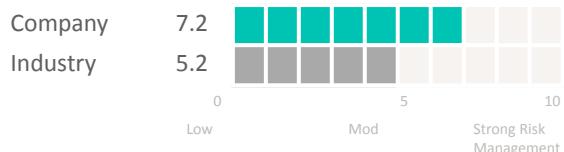


- No operations in markets with high risks
- Europe, China, Taiwan
- No operations in markets with low risks

Source: MSCI ESG Research; Refinitiv; company disclosure

MANAGEMENT

RISK MANAGEMENT ASSESSMENT





Description	Company Practice	Best Practice	Practices Score ²
Targets			
Aggressiveness of the company's reduction target in the context of its current performance	Aggressive target with a low base	Aggressive target with a low base	- LOW MID TOP
Carbon Improvement Targets			
Baseline Year	Target Year	Target Description	Target Reduction (%)
	2030	Supply chain carbon reduction by 2030 50%	50.00%
	2030	Target of a net-zero emissions in Operation Headquarters and offices by 2030	100.00%
	2050	Target of a net-zero emissions in production sites by 2050.	100.00%
2016	2025	Reduce 11% of Scope 1 carbon emission intensity in Taiwan by 2025	11.00%
2016	2025	Reduce 32% of Scope 2 carbon emission intensity in Taiwan by 2025	32.00%
2016	2030	Reduce 31% of carbon emission intensity in Taiwan by 2030	31.00%
2016	2030	Reduce 20% of carbon emission intensity in Mainland China by 2030	20.00%
2016	2050	Carbon neutral concrete products by 2050	
2016	2020	Reduce energy consumption by over 5% of the 2016-2020 accumulative consumption in 2021	5.00%
2016	2021	Reduce carbon emission intensity by 2% of the 2016-2020 accumulative average in 2021	2.00%
2013	2030	Reduce emissions by 30% by 2030.	30.00%

Mitigation

Strength of Greenhouse Gas Mitigation Strategy (0-10 Score, 0=worst, 10=best) 7.00

Programs or actions to reduce the emissions intensity of core operations

Use of cleaner sources of energy	Some efforts	Aggressive efforts	- LOW MID TOP
Capture GHG emissions	Aggressive efforts	Aggressive efforts	- LOW MID TOP
Energy consumption management and operational efficiency enhancements	Some efforts	Aggressive efforts	- LOW MID TOP
CDP disclosure	Yes	Yes	- LOW TOP

Performance

Carbon Emissions Performance Relative to Peers (0-10 Score, 0=worst, 10=best) 4.50



CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
LAST REPORT UPDATE: December 20, 2022

GHG Emissions - metric tons CO2e

Year	Scope 1 Disclosed	Scope 1 Estimate Key	Scope 2 Disclosed	Scope 2 Estimate Key	Scope 1+2 Disclosed	Scope 3 (upstream)	Scope 3 (downstream)	Scope 3 (undefined)	Scope 1 Estimated	Scope 2 Estimated	Scope 1+2 Estimated	Scope 1+2 Estimate Key	GHG Emissions Details
2021	4,798,945.0	Reported	220,392.0	Reported	5,019,337.0	28,761.0		814.0				Reported	
2020	4,413,285.0	Reported	210,612.0	Reported	4,623,897.0	22,427.0		907.0				Reported	
2019	4,268,620.0	Reported	229,346.0	Reported	4,497,966.0	21,083.0		942.0				Reported	
2018	4,230,680.0	Reported	256,018.0	Reported	4,486,698.0	15,041.0						Reported	
2017	4,144,669.0	Reported	241,691.0	Reported	4,386,360.0	8,873.0						Reported	
2016	4,396,724.0	Reported	253,768.0	Reported	4,650,492.0							Reported	
2015	4,614,890.0	Reported	281,352.0	Reported	4,896,242.0							Reported	
2014	5,097,453.0	Reported	284,379.0	Reported	5,381,832.0							Reported	
2013	6,545,197.0	Reported	306,790.0	Reported	6,851,987.0							Reported	
2012		E.CSI		E.CSI				6,318,540.0	351,160.0	6,669,700.0	E.CSI	April 2018 Estimations	
2011		E.CSI		E.CSI				6,012,913.0	334,174.0	6,347,087.0	E.CSI	April 2018 Estimations	
2010		E.CSI		E.CSI				5,594,964.0	310,946.0	5,905,910.0	E.CSI	April 2018 Estimations	
2009		E.CSI		E.CSI				4,169,956.0	231,750.0	4,401,706.0	E.CSI	April 2018 Estimations	
2008		E.CSI		E.CSI				3,674,763.0	204,229.0	3,878,992.0	E.CSI	April 2018 Estimations	

GHG Emissions Intensity - metric tons CO2e / USD million sales

Year	GHG Intensity	GHG Intensity Details	GHG Intensity - Reported	GHG Intensity - Reported Details
2021	1,297.30		0.81	tCO 2/metric ton of cementitious materials
2020	1,136.00		0.81	tons of CO2e per metric ton of cementitious material
2019	1,098.20			
2018	1,106.90			
2017	1,325.70			
2016	1,673.40			
2015	1,715.90			
2014	1,437.30			
2013	1,760.70			
2012	1,622.20			
2011	1,622.20			
2010	1,622.20			
2009	1,622.20			
2008	1,622.20			

Energy Consumption

Year	Total energy consumption (reported)	Total energy consumption (MWh)	Energy intensity (reported)	Reported intensity details	Total energy consumption intensity	Energy consumption details
2021	5,369,331.67	5,369,331.67			1,387.81	Energy Consumption of Cement Plants
2020	4,969,318.62	4,969,318.62			1,220.87	Energy Consumption of Cement Plants



CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
LAST REPORT UPDATE: December 20, 2022

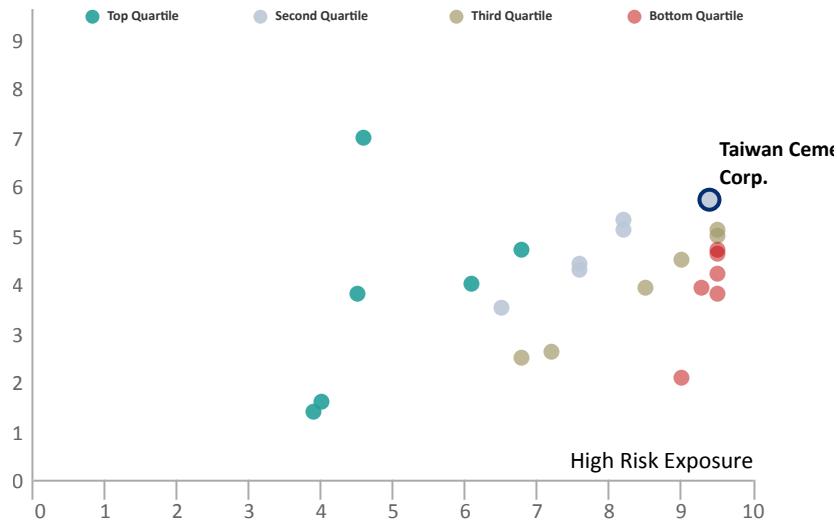
Year	Total energy consumption (reported)	Total energy consumption (MWh)	Energy intensity (reported)	Reported intensity details	Total energy consumption intensity	Energy consumption details
2019	4,951,266.39	4,951,266.39			1,208.83	Annual energy consumption (plants and HQ): coal, diesel and electricity
2018	4,860,469.73	4,860,469.73			1,199.06	Annual energy consumption (plants and HQ): coal, diesel and electricity
2017	5,231,866.67	5,231,866.67			1,581.28	Annual energy consumption (plants and HQ): coal, diesel and electricity
2016	5,574,619.73	5,574,619.73			2,005.98	Annual energy consumption (plants and HQ): coal, diesel and electricity
2015	9,524,741.95	9,524,741.95			3,337.96	Annual energy consumption (plants and HQ): coal, diesel and electricity
2014	10,290,800.01	10,290,800.01			2,748.39	Annual Energy Consumption
2013	12,603,016.40	12,603,016.40			3,238.48	Annual Energy Consumption



Toxic Emissions & Waste

Score	Change (since rating)	Quartile	Weight	As of
3.3	0.0	•••	19.0%	Nov 23, 2022

Strong Risk Management



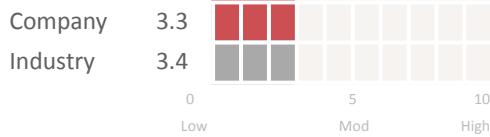
KEY ISSUE SCORE DISTRIBUTION *



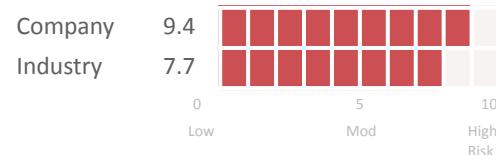
TOP 5 INDUSTRY LEADERS

CRH PUBLIC LIMITED COMPANY	9.4
BBMG Corporation	6.3
CHINA JUSHI CO., LTD	4.9
HeidelbergCement AG	4.9
MARTIN MARIETTA MATERIALS, INC.	4.6

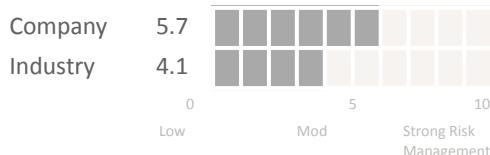
KEY ISSUE ASSESSMENT



RISK EXPOSURE ASSESSMENT



RISK MANAGEMENT ASSESSMENT

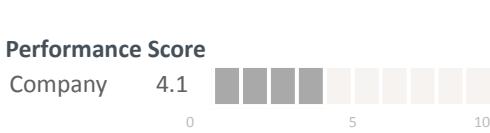


Drivers of Risk Exposure

Drivers of Risk Management

Business Types

Practices Score



Performance Score



BOTTOM 5 INDUSTRY LAGGARDS

ULTRATECH CEMENT LIMITED	2.1
TANGSHAN JIDONG CEMENT CO.,LTD.	1.7
ACC LIMITED	1.6
PT Semen Indonesia (Persero) Tbk	1.3
Asia Cement Corporation	0.1

METHODOLOGY NOTE

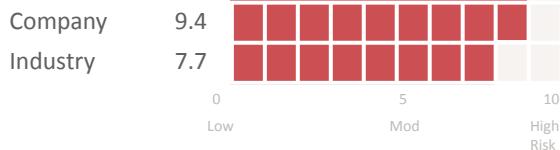
Companies are evaluated on the potential environmental contamination and toxic or carcinogenic emissions arising from their operations and the strength of their environmental management systems.

* [For symbols and terms used in this report, refer to the Glossary section at the end of the report]



EXPOSURE

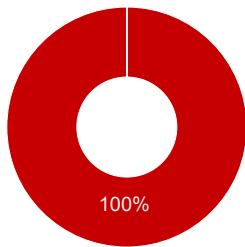
RISK EXPOSURE ASSESSMENT



Key Drivers of Risk Exposure

Exposure to: Risk of increased compliance costs and liabilities associated with damaging health, property; risk of losing access to markets due to community opposition or heightened regulatory hurdles

Business Types : This represents the portion of the company's revenues derived from lines of business that are High Risk (typically generate large amounts of toxic emissions), Medium Risk (typically generate moderate amounts of toxic emissions), and Low Risk (typically generate low amounts of toxic emissions).

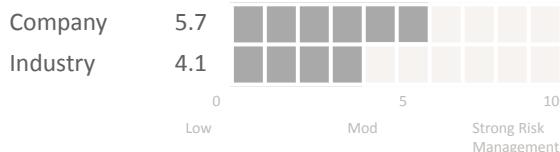


- Cement, Power generation
- No exposure to medium risk segments
- No exposure to low risk segments

Source: Toxics Release Inventory (US Environmental Protection Agency); National Emissions Inventory (US Environmental Protection Agency); Risk-Screening Environmental Indicators (US Environmental Protection Agency); US Economic Census; Refinitiv; MSCI ESG Research; company disclosure

MANAGEMENT

RISK MANAGEMENT ASSESSMENT





Description	Company Practice	Best Practice	Practices Score ²		
Governance and Strategy					
Existence of Environmental Management System (EMS)	ISO 14001 or equivalent	ISO 14001 or equivalent	-	LOW	MID TOP
Percentage of sites with hazardous waste guidance that achieved HAZWOPER certification or follow ISO 14001 for waste management	100.00%				
Disclosure around the number or percentage of sites with HAZWOPER or ISO 14001 certification	Disclosed	Disclosed	-	LOW	MID TOP
Evidence of regular environmental impact audits	Yes	Yes	-	LOW	TOP
Evidence of audits across all locations of operations	Yes	Yes	-	LOW	TOP
Evidence of annual compliance audits	Yes	Yes	-	LOW	TOP

Targets					
Aggressiveness of Toxic Emissions Reduction Target (0-10 Score, 0=worst, 10=best)	8				
Demonstrated track record of achieving its toxic emissions targets	Mixed record of meeting previous targets	Met previous targets	-	LOW	MID TOP

Toxic Emissions and Waste Reduction Targets

Baseline Year	Target Year	Target Description	Target Reduction (%)
	2030	Assist in processing 1.57 million tonnes of waste by 2030.	
2016	2025	Reduce SOx emissions by 30% vs. 2016 baseline.	30.00%
2016	2025	Reduce NOx emissions by 50% vs. 2016 baseline.	50.00%
2016	2025	Reduce TSP (total suspended particles) emissions by 50% vs. 2016 baseline.	30.00%
2013	2030	Lower 2030 air pollution emissions by 20% compared to the base year.	20.00%

Performance

Toxic Releases Performance Relative to Peers (0-10 Score, 0=worst, 10=best) 4.10

Air Emissions: NOx Performance

3 Year Average Intensity	4.64
Average Annual % Change in Intensity	64.62%



CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
LAST REPORT UPDATE: December 20, 2022

Air Emissions: NOx Performance

Year	NOx Emissions	NOx Emissions Intensity (tons/ USD million sales)
2021	16,381	4.23
2020	18,253	4.48
2019	21,361	5.22
2018	6,744	1.66
2017	7,035	2.13
2016	7,331	2.64
2015	7,896	2.77

Air Emissions: SOx Performance

3 Year Average Intensity	0.35
Average Annual % Change in Intensity	619.29%

Air Emissions: SOx Performance

Year	SOx Emissions	SOx Emissions Intensity (tons/ USD million sales)
2021	1,110	0.29
2020	1,399	0.34
2019	1,711	0.42
2018	85	0.02
2017	82	0.02
2016	111	0.04
2015	117	0.04

Air Emissions: Particulate Matter Performance

3 Year Average Intensity	0.27
Average Annual % Change in Intensity	21.70%

Air Emissions: Particulate Matter Performance

Year	Quantities	Intensity
2021	783	0.20
2020	1,076	0.26
2019	1,356	0.33
2018	643	0.16
2017	587	0.18
2016	433	0.16
2015	655	0.23



CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
LAST REPORT UPDATE: December 20, 2022

CONTROVERSIES

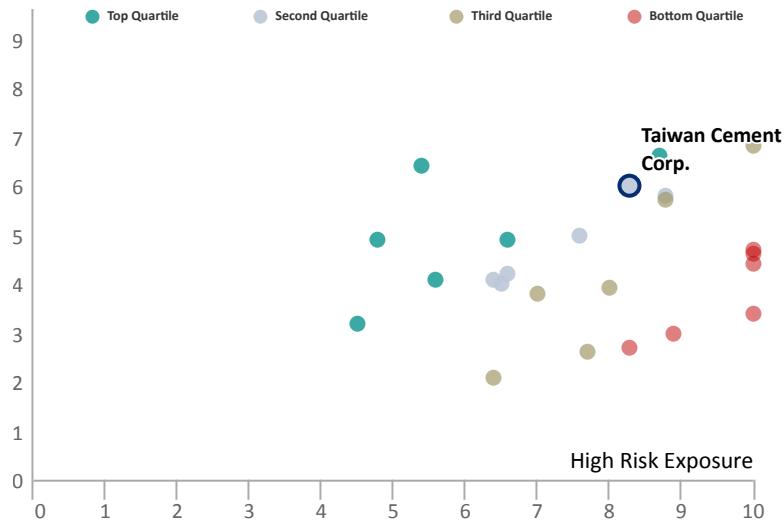
All controversies are assessed as part of the annual review of a company's ESG rating. MSCI ESG Research tracks controversies for all companies on a regular basis. There is no evidence of the Taiwan Cement's current involvement in prominent controversial events or alleged misconduct.



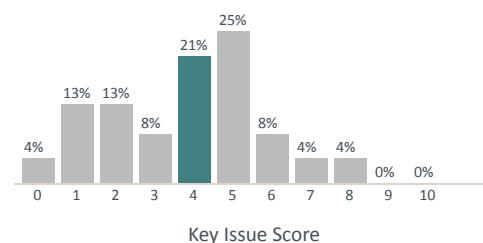
Health & Safety

Score	Change (since rating)	Quartile	Weight	As of
4.7	0.0	•••	14.0%	Nov 23, 2022

Strong Risk Management



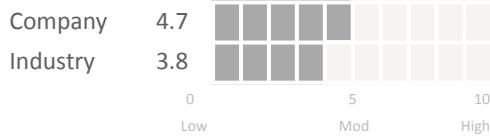
KEY ISSUE SCORE DISTRIBUTION *



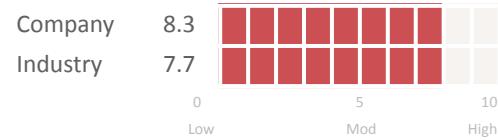
TOP 5 INDUSTRY LEADERS

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The Siam Cement Public Company Limited	7.1
CHINA JUSHI CO., LTD	5.7
JAMES HARDIE INDUSTRIES PUBLIC LIMITED COMPANY	5.5
CEMEX, S.A.B. de C.V.	5.3

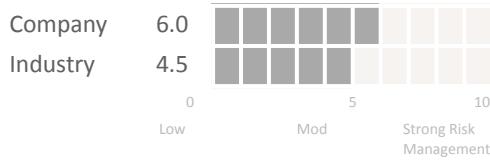
KEY ISSUE ASSESSMENT



RISK EXPOSURE ASSESSMENT



RISK MANAGEMENT ASSESSMENT



Drivers of Risk Exposure

Drivers of Risk Management

Business Types

Practices Score



Business Locations

Performance Score

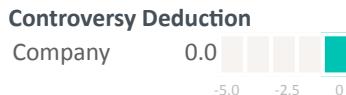


BOTTOM 5 INDUSTRY LAGGARDS

CHINA RESOURCES CEMENT HOLDINGS LIMITED	1.6
ACC LIMITED	1.4
Asia Cement Corporation	1.4
TANGSHAN JIDONG CEMENT CO.,LTD.	1.1
SHREE CEMENT LIMITED	0.4

METHODOLOGY NOTE

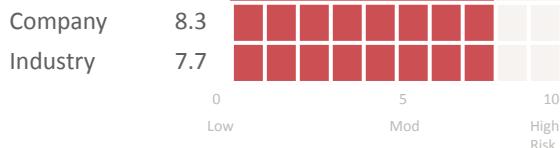
Companies are evaluated on their management of workplace safety and the workplace safety standards in the industries and regions in which they operate.



* [For symbols and terms used in this report, refer to the Glossary section at the end of the report]

EXPOSURE

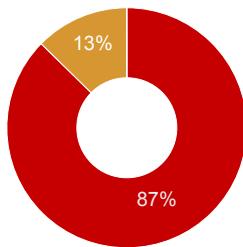
RISK EXPOSURE ASSESSMENT



Key Drivers of Risk Exposure

Exposure to: Risk of accidents that can lead to production disruptions, litigation, and liabilities

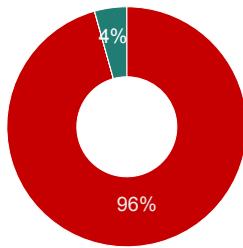
Business Types : Percentage of operations in business segments with high/moderate/low level of fatalities and industrial injuries



- Cement
- Power generation
- No exposure to low risk segments

Source: US Occupational Health & Safety Administration (OSHA); UK Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR); US Bureau of Labor Statistics; Refinitiv; MSCI ESG Research; company disclosure

Business Locations : Percentage of operations in countries with high/moderate/low employee fatality rates (total fatalities per 100,000 employees)

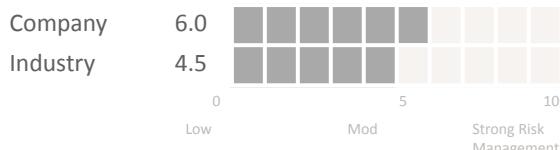


- China, Taiwan
- No operations in markets with medium risks
- Europe

Source: International Labour Organization; Refinitiv; MSCI ESG Research; company disclosure

MANAGEMENT

RISK MANAGEMENT ASSESSMENT





Description	Company Practice	Best Practice	Practices Score ²		
Governance and Strategy					
Percentage of the company's health & safety system certified to OHSAS 18001	100.00%				
Evidence of Recognized Certification	Yes	Yes	-	LOW	TOP
What executive body is responsible for H&S strategy and performance?					
H&S strategy and performance is managed by Sustainability Committee, H&S task force or risk officer	Yes	Yes	-	LOW	TOP
Health & safety policy					
H&S policy is group-wide	Yes	Yes	-	LOW	TOP
H&S policy applies to contractors	Yes	Yes	-	LOW	TOP
Targets					
Target to improve H&S performance	Non-zero target (contractors included)	Non-zero target (contractors included)	-	LOW	MID TOP
Other H&S Metric					
Year (YYYY)	Other Health & Safety Metric Description	Other Health & Safety Metric Value	Details		
2021	Lost Day Rate (LDR)	1.79			
2020	Lost Day Rate (LDR)	5.08			
2019	Lost Day Rate (LDR)	17.37			
2018	Lost Day Rate (LDR)	4.40			
2017	Lost Day Rate (LDR)	6.23			
Operations					
Performance on Health & Safety Metrics Relative to Peers (0-10 Score, 0=worst, 10=best)				5.00	
Lost Time Incident Rate					
Year	Lost Time Incident Rate	Lost Time Incident Rate (per million hours)	Lost Time Incident Rate Unit	Details	
2021	0.10	0.50	per 200,000 hours		
2020	0.11	0.55	per 200,000 hours		



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Year	Lost Time Incident Rate	Lost Time Incident Rate (per million hours)	Lost Time Incident Rate Unit	Details
2019	0.24	1.20	per 200,000 hours	only for Taiwan employees
2018	0.40	2.00	per 200,000 hours	only for Taiwan employees
2017	0.35	1.75	per 200,000 hours	only for Taiwan employees

Total Recordable Injury Rate

Year	Total Recordable Injury Rate	Total Recordable Injury Unit	Total Recordable Injury Rate (per million hours)	Details
2021	0.10	per 200,000 hours	0.50	
2020	0.11	per 200,000 hours	0.55	
2014	0.11	per 200,000 hours	0.55	only for Taiwan employees
2013	0.76	per 200,000 hours	3.80	only for Taiwan employees
2012	0.10	per 200,000 hours	0.50	only for Taiwan employees

Fatalities

Year	Contractor Fatalities	Employee Fatalities	Fatalities	Details
2021	1	0	1	
2020	1	0	1	
2019			0	
2018			0	
2017			0	
2016			0	

CONTROVERSIES

All controversies are assessed as part of the annual review of a company's ESG rating. MSCI ESG Research tracks controversies for all companies on a regular basis. There is no evidence of the Taiwan Cement's current involvement in prominent controversial events or alleged misconduct.



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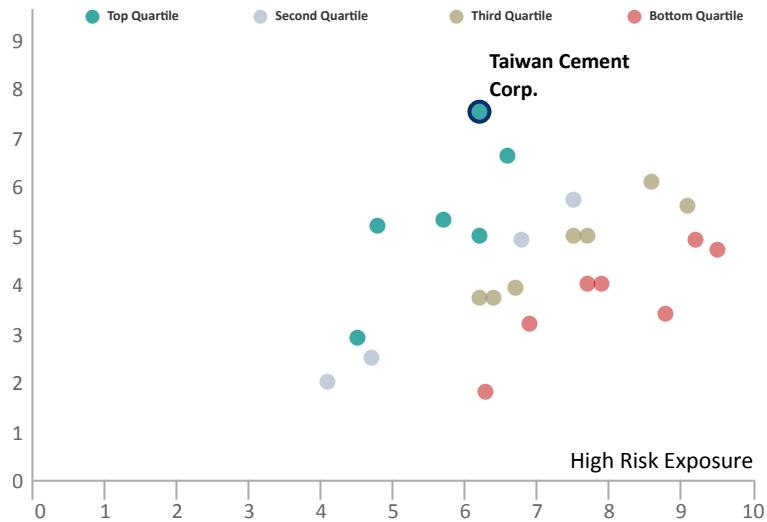
RATING ACTION DATE: December 05, 2022
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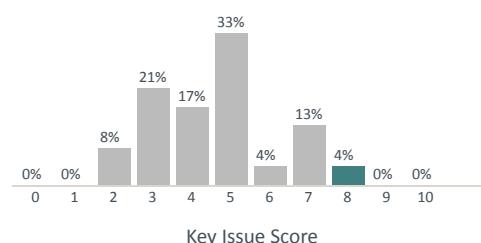
Labor Management

Score	Change (since rating)	Quartile	Weight	As of
8.3	0.0	••••	14.0%	Nov 23, 2022

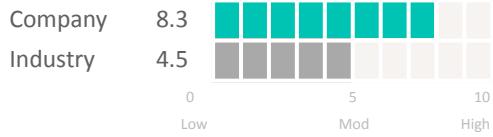
Strong Risk Management



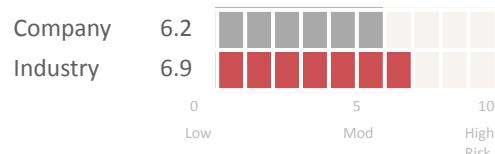
KEY ISSUE SCORE DISTRIBUTION *



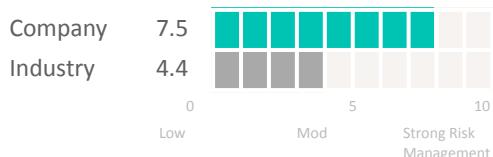
KEY ISSUE ASSESSMENT



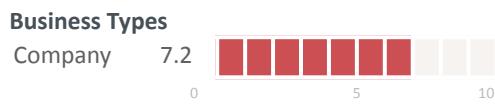
RISK EXPOSURE ASSESSMENT



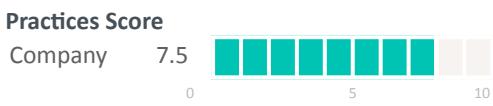
RISK MANAGEMENT ASSESSMENT



Drivers of Risk Exposure



Drivers of Risk Management



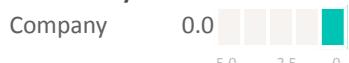
Business Types

Practices Score

Business Locations



Controversy Deduction



TOP 5 INDUSTRY LEADERS

Taiwan Cement Corp.	8.3
The Siam Cement Public Company Limited	7.4
CHINA JUSHI CO., LTD	7.0
Asia Cement Corporation	6.6
POSCO CHEMICAL CO., LTD.	5.8

BOTTOM 5 INDUSTRY LAGGARDS

ACC LIMITED	3.1
China National Building Material Company Limited	2.7
JAMES HARDIE INDUSTRIES PUBLIC LIMITED COMPANY	2.5
Holcim AG	2.2
HeidelbergCement AG	1.6

METHODOLOGY NOTE

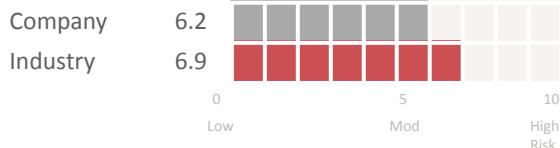
Companies are evaluated on the complexity of their workforce (size, labor intensity, and regions of operation), employee relations, strength of worker protections, and employee engagement efforts.



* [For symbols and terms used in this report, refer to the Glossary section at the end of the report]

EXPOSURE

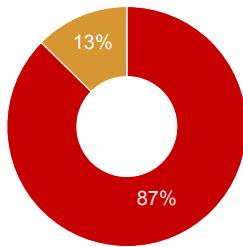
RISK EXPOSURE ASSESSMENT



Key Drivers of Risk Exposure

Exposure to: Risk of workflow disruptions due to labor unrest, or reduced productivity due to poor job satisfaction

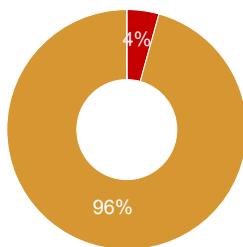
Business Types : Percentage of operations in business segments with high/moderate/low labor intensities, as measured by average sales per employee of industries



- Cement
- Power generation
- No exposure to low risk segments

Source: MSCI ESG Research; Refinitiv; company disclosure

Business Locations : Percentage of operations in countries with high/moderate/low likelihood of labor unrest (based on historic precedent)



- Europe
- China, Taiwan
- No operations in markets with low risks

Source: International Labour Organization; Refinitiv; MSCI ESG Research; company disclosure

Additional Drivers of Exposure

Collective bargaining negotiation expected in next 12 months:

Not Disclosed

Layoffs Events

Major Layoffs:

No

Size and Composition of Workforce

Number of employees:

10,858



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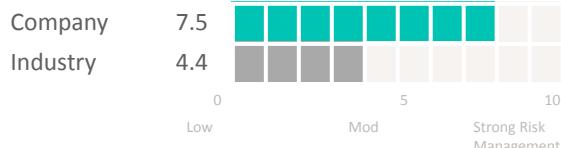
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Number of Employees

Year	Number of employees	Part time workers (%)	Contract or temporary workers (%)	Estimated Part time/contract %
2020	10,858			
2019	10,618			
2018	9,325			
2017	9,356			
2016	9,609			
2015	9,822			
2014	8,890			
2013	8,448			
2012	10,409			
2011	9,777			
2010	7,129			
2009	4,780			
2008	4,864			

MANAGEMENT

RISK MANAGEMENT ASSESSMENT



Description	Company Practice	Best Practice	Practices Score ²
Strategy			
Percentage of workforce covered by trade unions/ collective agreements	100.00%		
Estimate Key: Percentage of workforce covered by trade unions/ collective agreements	Reported	Reported	- LOW MID TOP
Evidence of collective agreements	Yes	Yes	- LOW TOP
Employee stock ownership plan (ESOP) or employee stock purchase plan (ESPP)	Sector-leading number of employees eligible for ESOP and/or ESPP	Sector-leading number of employees eligible for ESOP and/or ESPP	- LOW MID TOP
Variable performance-based component to pay	Strong performance-based incentive pay structure covers all employees	Strong performance-based incentive pay structure covers all employees	- LOW MID TOP
Non-compensation benefits including pension and retirement	Benefits cover all employees	Benefits cover all employees	- LOW MID TOP



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Performance

External recognition as employer of choice (last three years)	Not Disclosed
Company witnessed strikes / lock-outs in the last three years	No

Employee turnover

Year	Annual employee turnover (%)	Details
2020	4.10%	
2019	9.28%	
2018	11.03%	
2017		

Employee Productivity

Year	Profit per employee (USD '000)
2018	0

CONTROVERSIES

All controversies are assessed as part of the annual review of a company's ESG rating. MSCI ESG Research tracks controversies for all companies on a regular basis. There is no evidence of the Taiwan Cement's current involvement in prominent controversial events or alleged misconduct.



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APPENDIX

CONTENTS

CONTROVERSIES DETAIL

ADDITIONAL CORPORATE GOVERNANCE CONTENT

KEY METRIC & SCORE CHANGES

CEO PAY CHARTS

SHAREHOLDER/MANAGEMENT PROPOSALS

GOVERNANCE STANDARDS

DIRECTOR PROFILES



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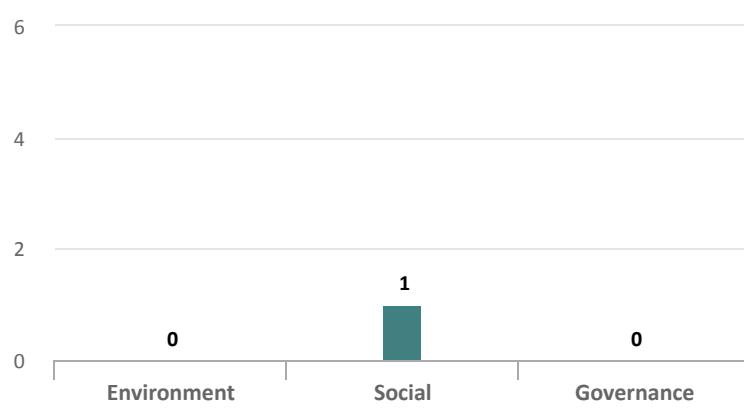
CONTROVERSIES DETAIL

Here you will find the narratives for all controversies relevant to the ESG Ratings issues covered for the company in addition to those controversies that do not map to the ESG Ratings issues.

CONTROVERSY CARD

	MOST SEVERE CONTROVERSY	CONTROVERSY COUNT
Environment		
Carbon Emissions	None	0
Toxic Emissions & Waste	None	0
Social		
Labor Management	None	0
Health & Safety	None	0
Governance		
Corporate Governance	None	0
Corporate Behavior	Minor	1

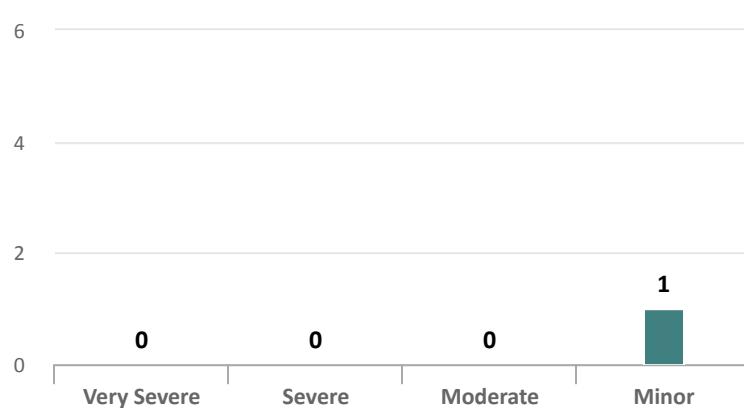
NUMBER OF CONTROVERSIES BY PILLAR



CONTROVERSIES

- **Very Severe:** Indicates an action by a company that results in a very large impact on society and/or the environment.
- **Severe:** Indicates an action by a company that results in a large impact on society and/or the environment.
- **Moderate:** Indicates an action by a company that results in a moderate impact on society and/or the environment.
- **Minor:** Indicates an action by a company that results in a low impact on society and/or the environment.
- **None:** There is no evidence that a company is involved in any controversy.

NUMBER OF CONTROVERSIES BY ASSESSMENT





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KEY METRIC & SCORE CHANGES

ALL KEY METRIC & SCORE CHANGES (SINCE AUGUST 2021)

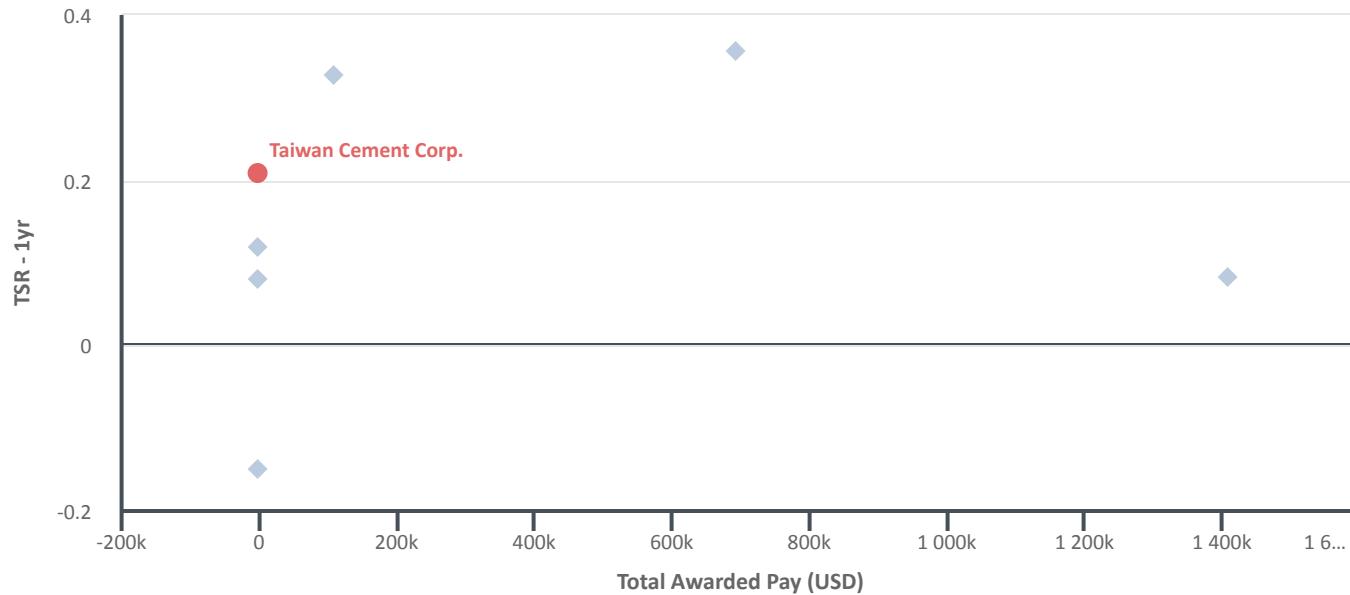
Key Metric	Key Metric Change	Date	Score Change*	Change Notes
Nomination Committee Chair Independence	Flag Added	Sep 21, 2022	-0.10	Non-independent nomination committee chair identified
Board Majority Independent of Other Interests	Score Change	Sep 21, 2022	0.20	
No Nomination Committee	Flag Removed	Jul 07, 2022	0.30	Nomination committee function disclosed
Revenue Recognition	Flag Removed	Jun 12, 2022	0.53	Methodology enhancements
No Nomination Committee	Flag Added	Jun 12, 2022	-0.30	Methodology enhancements
Expense Recognition	Score Change	Jun 12, 2022	0.13	Methodology enhancements
Board Majority Independent of Other Interests	Flag Added	Jun 12, 2022	-0.30	Methodology enhancements
Board Majority Independent of Other Interests	Score Change	Jun 12, 2022	-0.20	Methodology enhancements
Asset-Liability Valuation	Score Change	Jun 12, 2022	0.26	Methodology enhancements
Related Party Transactions	Score Change	Jun 08, 2022	0.30	
Cross Shareholdings	Score Change	Jun 08, 2022	-0.20	
Overboarded Exec Directors	Flag Removed	Apr 27, 2022	0.50	
Cross Shareholdings	Score Change	Mar 10, 2022	-0.40	
Expense Recognition	Score Change	Mar 03, 2022	0.02	Updates to data for accounting peer group member(s)
Cross Shareholdings	Score Change	Mar 03, 2022	0.40	
Asset-Liability Valuation	Score Change	Mar 03, 2022	-0.10	Updates to data for accounting peer group member(s)
Revenue Recognition	Score Change	Nov 19, 2021	-0.09	Updates to data for accounting peer group member(s)
Expense Recognition	Score Change	Nov 19, 2021	0.01	Updates to data for accounting peer group member(s)
Asset-Liability Valuation	Score Change	Nov 19, 2021	-0.16	Updates to data for accounting peer group member(s)
Combined CEO/Chair	Flag Added	Oct 18, 2021	-0.20	
CEO Equity Policy	Flag Added	Oct 18, 2021	-0.20	
Significant Votes Against Directors	Flag Removed	Aug 31, 2021	0.50	AGM voting results updated
Entrenched Board	Flag Removed	Aug 31, 2021	0.80	
Combined CEO/Chair	Flag Removed	Aug 31, 2021	0.20	
CEO Equity Policy	Flag Removed	Aug 31, 2021	0.20	
Asset-Liability Valuation	Score Change	Aug 20, 2021	0.02	Updates to data for accounting peer group member(s)

*Score change available in respect of changes dated on or after 13 December 2017.



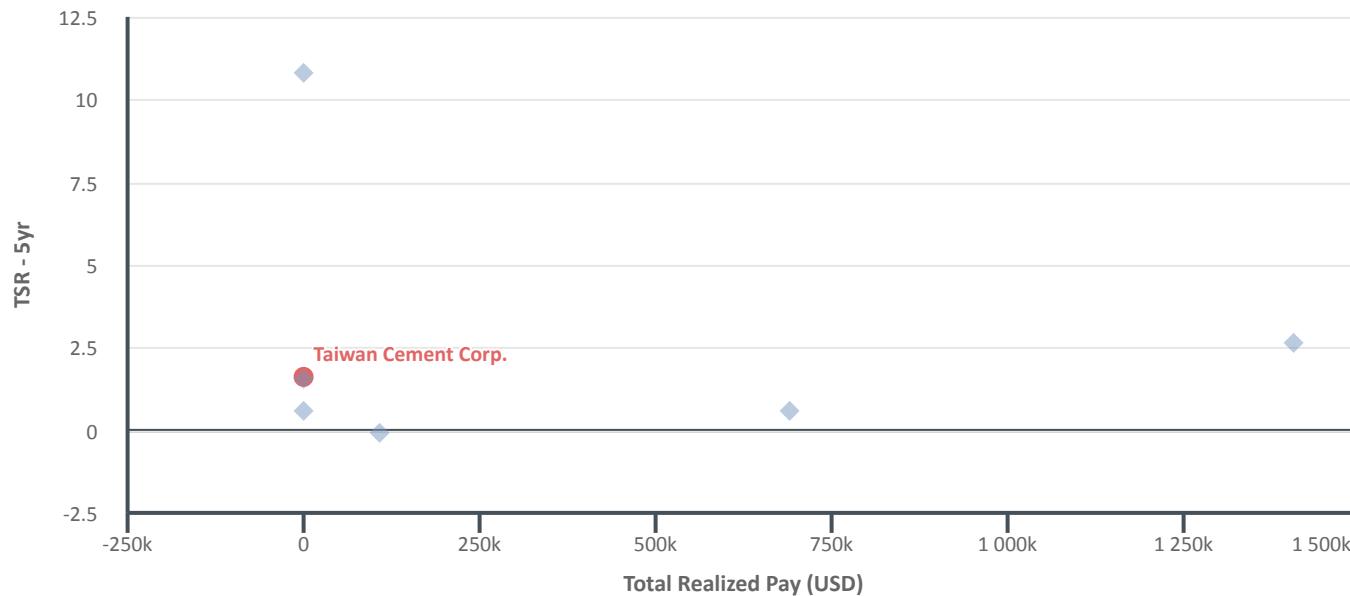
CEO PAY CHARTS

CEO TOTAL AWARDED PAY VERSUS PAY PEER GROUP



Pay Peers (diamonds) are used in the calculation of the Key Metric CEO Pay Total Summary and selected as set out in the MSCI Governance Metrics Methodology Document.

CEO TOTAL REALIZED PAY VERSUS PAY PEER GROUP



Pay Peers (diamonds) are used in the calculation of the Key Metric CEO Pay Total Summary and selected as set out in the MSCI Governance Metrics Methodology Document.



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SHAREHOLDER/MANAGEMENT PROPOSALS

MANAGEMENT PROPOSALS

Proxy Year	Proposal	Proposal Summary	Outcome	Votes For	Votes Against	Abstain/ Withheld%
2022	Other	1 The 110th Annual Business Report and Financial Statements are hereby acknowledged.	Approved	93.7%	0.6%	5.7%
2022	Other	2 The 110th Annual Surplus Distribution Proposal, please acknowledge it.	Approved	94.5%	0%	5.5%
2022	Stock Issuance	3 The Company's annual ? annual surplus is converted into capital to issue new shares, which is hereby submitted to a referendum.	Approved	92.6%	0%	7.4%
2022	Stock Issuance	4 The company plans to handle the cash capital increase and the issuance of ordinary shares to participate in the issuance of overseas depository receipts	Approved	92.4%	0.2%	7.4%
2022	Amend Certificate of Incorporation	5 Amendments to some of the articles of the Company's "Articles of Association" are hereby submitted to a referendum.	Approved	90.9%	1.6%	7.5%
2022	Other	6 Amend some of the provisions of the company's "Acquisition or Disposal of Assets Handling Procedures	Approved	92.6%	0%	7.4%
2021	Other	(I) To approve 2020 Annual Business Report and Financial Statements.	Approved	93.2%	0.1%	6.7%
2021	Other	(II) The proposal for distribution of 2020 profits	Approved	93.3%	0.1%	6.6%
2021	Other	(I) To approve the amendments on part of "Rules of Procedures for the Acquisition and Disposal of Assets".	Approved	86.1%	0%	13.9%
2021	Other	(II) To approve the amendments on part of Rules of Procedure for Annual Shareholders' Meeting.	Approved	91.9%	0%	8.1%
2021	Other	(III) Proposal to release the newly-elected Directors from non- competition restrictions.	Approved	85.1%	0.1%	14.8%
2020	Other	(III) To approve the amendments on part of Rules of Procedure for Annual Shareholders' Meeting	Approved	89.5%	0%	10.5%
2020	Amend Certificate of Incorporation	(II)To approve the amendments on part of Article of Incorporation.	Approved	89.5%	0%	10.5%
2020	Stock Issuance	(I) Proposal for a new share issue through capitalization of earnings.	Approved	89.5%	0%	10.5%
2020	Other	(II) The proposal for distribution of 2019 profits	Approved	91.1%	0%	8.9%
2020	Other	(I) To approve 2019 Annual Business Report and Financial Statements.	Approved	90.5%	0.2%	9.3%

*For Management Proposals at AGM's held more than three years ago, please refer to the Screener tool on ESG Manager.

TAIWAN



CURRENCY: TAIWAN NEW DOLLAR (TWD)

The main regulatory and legislative framework for corporate governance in Taiwan is the Company Act, Securities and Exchange Act and the TWSE/TPEx listing rules for relevant companies. There is the Taiwan Corporate Governance for Best Practice Principles, which follows a "comply or explain" approach and the Corporate Governance 3.0: Sustainable Development Roadmap.

There are two types of corporate structures available for public companies in Taiwan: (i) a supervisory system consisting of annual general meeting (AGM), board of directors and a supervisor and (ii) an audit committee system consisting of AGM, board of directors and audit committee. Most companies in Taiwan adopt the two-tier board structure of a supervisory board and a management board (acting as the board of directors).

The board of directors must have at least five members. The number of independent directors must be at least two and no less than one-fifth of the total number of directors. Independent directors cannot concurrently serve as directors in more than five TWSE/TPEx listed companies. The audit committee must consist of at least three members and comprise entirely independent directors. The listing rules require establishing pay and nomination committees and internal risk management mechanisms. There are no board gender diversity requirements.

Related party transactions (RPTs) that reaches 10% or more of the company's total assets must obtain an appraisal report from a professional appraiser or the opinion of a certified public accountant. The law and regulations governing procedure for board directors' meetings of public companies stipulate that interested directors must disclose their interest to the board and must abstain from voting on the issue of the matter.

Company law states that pay of directors and supervisors is determined by the annual general meeting. The Taiwan Corporate Governance Best Practice Principles for public companies requires companies to disclose the directors' pay as well as the pay of supervisors, general managers, and vice general managers for the most recent fiscal year.

Controlled and principal ownership dominates in Taiwan, and families are the most common owner type.

Cross-shareholdings are a common control-maintaining mechanism used by Taiwanese companies. Multiple share classes with unequal voting rights are not permitted, but foreign ownership limits are present in strategic sectors such as telecommunications, shipping and aviation.

The Companies Act provides shareholders with the right to vote, elect and discharge directors and supervisors, determine the pay of directors and supervisors, amending the articles of incorporation, and approving certain transactions. Companies in Taiwan do not generally hold annual elections, since directors are typically elected for a three-year term. Shareholders with at least 1% of outstanding shares can propose agenda items to the annual general meeting. Shareholders owning 3% of the shares can request in writing for the supervisor to initiate an action against a director on behalf of the company.

A mandatory takeover bid is triggered if a bidder intends to purchase 20% or more shares within a period of 50 days.

Public companies must provide their disclosure information subject to both the Company Act and the Securities and Exchange Act. Companies are further required to appoint external auditors. External auditors are subject to a mandatory five-year rotation.



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DIRECTOR PROFILES

AN PING (NELSON) CHANG

Age: _____
 Gender: M
 Nationality: Taiwan

Financial: Yes
 Risk: No
 Industry: Materials - Construction Materials, Consumer Services - Hotels, Restaurants & Leisure

BIOGRAPHICAL INFORMATION

Synnex Technology International Corp., Source Date:

Zhang Anping has been Independent Director in Synnex Technology International Corp. since June 13, 2012. Zhang is also Chairman of the Board and Director in five other companies. Zhang holds a Master of Business Administration from New York University and a Bachelor's degree in Economics from Princeton University.

Taiwan Cement Corp., Source Date:

Mr. Zhang Anping has been Managing Director in Taiwan Cement Corporation since November 1, 2011. He was Vice Chairman of the Board in the Company. He is also Chairman of the Board, Independent Director and Director in other companies. He holds a Master of Business Administration (MBA) from New York University, the United States. He was Vice Chairman of the Board in another cement company.

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
CTCI Corporation	Board Member	5	Jun 28, 2017		Yes	No	
Taiwan Cement Corp.	Executive, Board Member, Chairman, CEO	28	Apr 21, 1994		No	No	

BOARD COMMITTEES

Company	Committee Type	Position
Taiwan Cement Corp.	Nomination	Chair



CHI CHIA HSIEH

Age:

Gender: M

Nationality: Taiwan

Financial: No

Risk: No

Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp., Source Date:

Xie Qijia is Director in Taiwan Cement Corporation. Xie is Vice Chairman of the Board, Chairman of the Board, Independent Director and Director in four other companies. Xie holds a Ph.D in Electrical Engineering from Santa Clara University, the United States.

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	6	Jun 22, 2016		Yes	No	
Innolux Corporation	Board Member	9	Jun 19, 2013		Yes	Yes	

BOARD COMMITTEES

Company	Committee Type	Position
Innolux Corporation	Audit	Chair
Innolux Corporation	Pay	Chair



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CHI-TE CHEN

Age:	No
Gender:	M
Nationality:	Not Disclosed

Financial: No

Risk: No

Industry: Capital Goods - Construction & Engineering

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 04/30/2022

Chi-Te Chen is the Director of the Taiwan Cement Corp.MBA, University of California Santa Clara Vice Chairman, Chien Kuo Construction Co., Ltd.; Director, Chia Hsin Cement Corporation; Director, Chia Hsin Property Management and Development Corporation; Chairman, Chien Hwei Investment Co., Ltd.; Chairman, Rock Publishing International; Chairman, Golden Canyon Venture Capital Investment Co., Ltd.; Chairman, Golden Canyon II Venture Capital Investment Co., Ltd.; Director, Silver Shadow Holdings Co., Ltd.; Director, Golden Canyon Co., Ltd.; Director, Chien Kuo Asia Co., Ltd.; Director, China Real Estate Management Corporation; Chairman, Chien Kuo Building Co., Ltd.; Chairman, Chien Huei Cultural & Educational Foundation; Chairman, Chien Kuo Foundation for Arts and Culture and more.

CHIA HSIN CEMENT CORPORATION - Board Member Source Date: 05/19/2022

Chi-Te Chen is a Director at Chia-Hsin Cement Corporation and Vice Chairman of Chien Kuo Construction Co. Ltd.

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
CHIA HSIN CEMENT CORPORATION	Board Member		Jun 14, 2022		No	Yes	
Taiwan Cement Corp.	Board Member	1	Jul 05, 2021		Yes	No	



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CHIEN (JAMES) WEN

Age:	Financial:	Yes
Gender: M	Risk:	No
Nationality: Taiwan	Industry:	Semiconductors & Semiconductor Equipment - Semiconductors & Semiconductor Equipment

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 04/30/2022

Chien, Wen is a member of our board of directors. MBA, The Wharton Business School, University of Pennsylvania; Director, International CSRC Investment Holdings Co., Ltd.; Supervisor, Winbond Electronics Corp.; CFO, Winbond Electronics Corp.; President, Cathay Securities Investment Trust Director, Chinatrust Investment Co., Ltd.; Supervisor, Ta-Ho Maritime Corporation and more

Winbond Electronics Corporation - Audit Board Member Source Date: 05/13/2022

MBA, Wharton School in University of Pennsylvania President of Cathay Securities Investment Trust Co., Ltd.

CFO at Winbond Electronics Corp.

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	4	Jun 22, 2018		Yes	No	



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CHUN YING LIU

Age: 47
Gender: F
Nationality: Taiwan

Financial: No
Risk: No
Industry: Commercial & Professional Services - Professional Services

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 04/30/2022

Chun-Ying, Liu is a member of our board of directors.EMBA, College of Management, National Taiwan University; LLM, Northwestern University; LLB, National Taiwan University Partner, Tsar and Tsai Law Firm; Director, Chinatrust Investment Co., Ltd.; Independent Director, Jarly Technology Co., Ltd. and more

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	4	Jun 22, 2018		Yes	No	



KANG LUNG (JASON) CHANG

Age: _____
 Gender: M
 Nationality: Taiwan

Financial: No
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 04/30/2022

Kang Lung (Jason) Chang is the director of Taiwan Cement Corp.

MS in Management Studies, Sloan School of Management, Massachusetts Institute of Technology; President, Chia Hsin Cement Corporatio

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	10	Jun 21, 2012		No	No	



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KENNETH C.M. LO

Age: _____
 Gender: M
 Nationality: Taiwan

Financial: Yes
 Risk: No
 Industry: Banks - Banks

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 04/30/2022

Kenneth C.M. Lo is a member of our board of directors. MS in Finance, Manderson School of Business, The University of Alabama Managing Director, O-Bank

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	17	Feb 24, 2005		Yes	No	

BOARD COMMITTEES

Company	Committee Type	Position
Taiwan Cement Corp.	Nomination	Member



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KUNG YI KOO

Age:	No
Gender:	M
Nationality:	Taiwan
Financial:	No

Risk: No
Industry: Diversified Financials - Diversified Financial Services

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 04/30/2022

Kung Yi Koo is the director of the Taiwan Cement Corp. MBA, The Wharton School of University of Pennsylvania; Vice President, Morgan Stanley Investment Banking Department; Vice Chairman, Taiwan Cement Corporation Chairman, International CSRC Investment Holdings Co., Ltd.; Chairman, Linyuan Advanced Materials Technology Co., Ltd.; Chairman, Circular Commitment Company; Chairman, Yun Cheng Investment Corporation; Chairman, Chung Cheng Development Investment Co., Ltd.; Chairman, Consolidated Resource Company; Chairman, Taiwan Transport & Storage Corp.; Chairman, Synpac (North Carolina), Inc.; Chairman, Synpac GP Corporation; Chairman, CCC USA Corp.; Chairman, Continental Carbon Company; Director, CSRC (BVI) Ltd.; Director, CSRC (Singapore) Pte. Ltd.; Director, SYPAC Ltd.; Director, Continental Carbon Nanotechnologies, Inc.; Director, E-One Moli Energy Corp.; Director, TCC Recycle Energy Technology Company; Director, Ho-Ping Power Company; Director, China Steel Chemical Corporation; Director, Yingde Dragon Mountain Cement Co., Ltd.; Director, TCC International Holdings Limited; Director, TCC International Limited; Director, Chiefolk Company Limited; Director, Hong Kong Cement Company Limited; Director, Kong On Cement Holdings Ltd.; Supervisor, TCC New (Hangzhou) Management Company Limited; Manager, Synpac Venture Capital L.P.; Manager, SVC Management, LLC; Manager, SVC Services, LLC and more.

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	4	Jun 22, 2018		No	No	



CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
LAST REPORT UPDATE: December 20, 2022

LING TAI (LYNETTE) CHOU

Age: _____
 Gender: F
 Nationality: Taiwan

Financial: Yes
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 04/30/2022

Lynette Ling-Tai, Chou is an independent director of our company. Ph.D. of Accounting, University of Houston; Master of Accounting, University of Houston; BS in International Business, Department of Commerce, National Taiwan University; Chief of Student Affairs, National Cheng Chi University; Dean, Department of Accounting, National Cheng Chi University; Professor, Guanghua School of Management; Managing Supervisor, Taiwan Public Television Services; Independent Director, F-MStar Co., Ltd. Independent Director, Chief Telecom Co., Ltd.; Emeritus and Tenure Professor Department of Accounting, National Cheng Chi University and more

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	4	Jun 22, 2018		Yes	Yes	

BOARD COMMITTEES

Company	Committee Type	Position
Taiwan Cement Corp.	Audit	Member
Taiwan Cement Corp.	Pay	Member
Taiwan Cement Corp.	Nomination	Member
Taiwan Cement Corp.	Risk	Member



CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
LAST REPORT UPDATE: December 20, 2022

MEI-HWA LIN

Age: _____
 Gender: F
 Nationality: Not Disclosed

Financial: No
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 04/30/2022

Mei-Hwa Lin is appointed as director of the company. Ph.D. of Accounting, Drexel University; Dean and Professor, Department of Accounting, National Cheng Chi University Independent Director, Shin Kong Financial Holding Co., Ltd.

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	1	Jul 05, 2021		Yes	Yes	

BOARD COMMITTEES

Company	Committee Type	Position
Taiwan Cement Corp.	Audit	Member
Taiwan Cement Corp.	Pay	Member



CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
LAST REPORT UPDATE: December 20, 2022

POR-YUAN WANG

Age: _____
 Gender: M
 Nationality: Taiwan

Financial: No
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 04/30/2022

Wang Por-Yuan is a member of our board of directors. Ph.D., Carnegie Mellon University; Chairman, Taiwan Venture Capital Association; Chairman, Monte Jade Science & Technology Association of Taiwan Chairman, Sercomm Corporation; Chairman, Pacific Venture Partners; Director, Prosperity Dielectrics Co., Ltd.; Independent Director, UPC Technology Corporation; Chairman, K.T. Li Foundation Development of Science and Technology; Vice Chairman, Fairs Winds Foundation and more

TECO ELECTRIC & MACHINERY CO., LTD. - Inactive Source Date: 05/12/2022

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	13	Jun 19, 2009		Yes	No	



CCC B BB BBB A AA AAA

RATING ACTION DATE: December 05, 2022
LAST REPORT UPDATE: December 20, 2022

SHIOU-LING (SHERRY) LIN

Age: _____
Gender: F
Nationality: Taiwan

Financial: No
Risk: No
Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 04/30/2022

Ms. Lin Shiou Ling is the independent director of Taiwan Cement Corp

LLB, National Taiwan University; Director, Cathay Financial Holding Co., Ltd.; Director, Tong Lung Metal Industry Co., Ltd.; Independent Director, Accton Technology Corporation; Senior Consultant, Lee and Li, Attorneys-at-Law Special Senior Consultant, Lee and Li, Attorneys-at-Law; Chairman, Bar Koo Investment Corporation; Chairman, Bar Koo Consultation Corporation; Chairman, Cheng Yu Investment Corporation; Chairman, Cheng Yu Financial Consultation Corporation; Chairman, Cheng Yu Sheng Investment Corporation; Independence Director, Cathay Real Estate Development Co., Ltd.; Convener of Risk Management Committee and more

CATHAY REAL ESTATE DEVELOPMENT CO.,LTD. - Board Member Source Date: 05/27/2022

Ms. Shiou-Ling Lin is the Independent director of Cathay Real Estate Development Co Ltd .

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	1	Jul 05, 2021		Yes	Yes	
CATHAY REAL ESTATE DEVELOPMENT CO.,LTD.	Board Member	8	Jun 06, 2014		Yes	Yes	

BOARD COMMITTEES

Company	Committee Type	Position
CATHAY REAL ESTATE DEVELOPMENT CO.,LTD.	Audit	Chair
CATHAY REAL ESTATE DEVELOPMENT CO.,LTD.	Pay	Chair
Taiwan Cement Corp.	Audit	Member
Taiwan Cement Corp.	Pay	Member
Taiwan Cement Corp.	Nomination	Member
Taiwan Cement Corp.	Risk	Chair



CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
LAST REPORT UPDATE: December 20, 2022

SUN-TE (ERIC) CHEN

Age: 67
Gender: M
Nationality: China

Financial: Yes
Risk: No
Industry: Diversified Financials - Diversified Financial Services

BIOGRAPHICAL INFORMATION

UNI-PRESIDENT CHINA HOLDINGS LTD. - Board Member Source Date: 04/25/2022

Chen Sun-Te, was appointed as an independent non-executive director of the Company in August 2007. Mr. Chen has over 36 years of experience in the banking and financial industry and is currently the Chairman of Taipei Fubon Commercial Bank. He is also an independent director of Lion Travel Services Co., Ltd. and a director of Fubon Financial Holdings. Prior to that, Mr. Chen was an independent director of China Telecom Corporation from March 2012 to July 2019, the president of Fullerton Financial Holdings Pte. Ltd. (North Asia and Greater China regions) between 2005 and 2012, the president of Chinatrust Financial Holdings Co., Ltd. (now known as CTBC Financial Holding Co., Ltd) in 2005, the chairman of Chinatrust Securities Co., Ltd. between 2003 and 2005, the country officer and country head of the corporate bank in Taiwan of Citigroup between 2001 and 2003 and the regional head of financial markets in Asia Pacific of Citigroup between 1998 and 2001. He gained extensive financial management experience from various positions held with Citibank and Citigroup and has acquired general knowledge about the food and beverage industry through dealing with clients in such industry. Mr. Chen holds a master's degree in business administration from University of Missouri, the U.S.A. and a bachelor's degree in political science from National Chengchi University, Taiwan.

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member		Aug 12, 2022		Yes	No	
UNI-PRESIDENT CHINA HOLDINGS LTD.	Board Member	15	Aug 09, 2007		Yes	Yes	

BOARD COMMITTEES

Company	Committee Type	Position
UNI-PRESIDENT CHINA HOLDINGS LTD.	Audit	Member
UNI-PRESIDENT CHINA HOLDINGS LTD.	Pay	Chair

DIRECTOR PAY (all values USD)

Company	Role	Tenure	Pay Year	Cash Fees	Total Awarded Pay	Shares Held
UNI-PRESIDENT CHINA HOLDINGS LTD.	Non-Executive	15	2021	36,088	39,697	0



CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
LAST REPORT UPDATE: December 20, 2022

VICTOR WANG

Age: _____
Gender: M
Nationality: Taiwan

Financial: Yes
Risk: No
Industry: Diversified Financials - Diversified Financial Services

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 04/30/2022

Victor Wang is an independent director of our company.BA in Accounting, Soochow University; EMBA, National Taiwan University; Vice Chairman of Auditing Service Division, Deloitte Taiwan Director, Yageo Corporation; Director, YFY Investment Holding Co., Ltd.; Independent Director, Fulin Plastic Industry (Cayman) Holding Co., Ltd.; Independent Director, Taiwan Navigation Co., Ltd.; Independent Director, DACIN Construction Co., Ltd.; Convener of Audit Committee and more

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	10	Jun 21, 2012		Yes	Yes	

BOARD COMMITTEES

Company	Committee Type	Position
Taiwan Cement Corp.	Audit	Chair
Taiwan Cement Corp.	Pay	Member
Taiwan Cement Corp.	Risk	Member



CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
LAST REPORT UPDATE: December 20, 2022

YU-CHENG (ARTHUR) CHIAO

Age: **56**
Gender: M
Nationality: Taiwan

Financial: No
Risk: No
Industry: Semiconductors & Semiconductor Equipment - Semiconductors & Semiconductor Equipment

BIOGRAPHICAL INFORMATION

Walsin Lihwa Corp., Source Date:

Mr. Jiao Youjun has been Vice Chairman of the Board and Deputy Chief Executive Officer in Walsin Lihwa Corporation since May 31, 2005. He used to be Chairman of the Board in the Company. He holds a Master's degree in Electrical Engineering from Washington University, the United States. He also serves as Chairman of the Board and Director in other companies, including Baystar Holding Ltd., Marketplace Management Limited, Newfound Asia Corporation and Peaceful River Corporation.

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
WALSIN TECHNOLOGY CORPORATION	Board Member	6	Jun 22, 2016		No	No	
Taiwan Cement Corp.	Board Member	10	Jun 21, 2012		Yes	Yes	
Nuvoton Technology Corporation	Board Member	14	Mar 14, 2008		No	No	
Winbond Electronics Corporation	Executive, Board Member, Chairman, CEO	35	Sep 04, 1987		No	No	
WALSIN LIHWA CORPORATION	Board Member	41	Apr 10, 1981		No	No	

BOARD COMMITTEES

Company	Committee Type	Position
Taiwan Cement Corp.	Audit	Member
Taiwan Cement Corp.	Pay	Chair
Taiwan Cement Corp.	Nomination	Member



GLOSSARY

MSCI ESG RATINGS AND SCORES

FINAL ESG RATING

- Letter ratings are relative within each MSCI ESG Ratings industry. Each Final Industry-Adjusted Company Score is converted to an equivalent rating on the AAA-CCC scale.

ESG PILLARS

- the **Environment Score** represents the weighted average of all Key Issues that fall under the Environment Pillar
- the **Social Score** represents the weighted average of all Key Issues that fall under the Social Pillar
- the **Governance Score** represents the sum of score deductions derived from Key Metrics included in Corporate Governance (including Board, Pay, Ownership & Control, and Accounting) and Corporate Behavior (including Business Ethics and Tax Transparency)
- the **Environment Weight** represents the sum of the weights of all Key Issues that fall under the Environment Pillar
- the **Social Weight** represents the sum of the weights of all Key Issues that fall under the Social Pillar
- the **Governance Weight** represents the sum of the weights of Corporate Governance and Corporate Behavior, with a minimum weight set at 33% for all rated issuers

KEY ISSUES

For each industry and Company-Specific Key Issue that contributes to the final rating:

- Weight** contribution to the final rating
- Exposure Score** (available for companies published since June 2011; excluding Raw Material Sourcing – Environmental)
- Management Score** (available for companies published since June 2011; excluding Raw Material Sourcing – Environmental)
- Overall **Key Issue Score**

WEIGHTED-AVERAGE KEY ISSUE SCORE VS. INDUSTRY RELATIVE SCORE

- the **Weighted-Average Key Issue Score** is dynamic, reflecting changes in any underlying scores as of the Last Update date, while the **Industry Relative Score** is more static and corresponds to the Rating Date. Issues that we determine do not present material risks or opportunities to companies in a given industry receive 0% weight and do not impact the overall ESG rating.

SCORES AND CALCULATION OF AVERAGE, PERCENTILE AND RATING DISTRIBUTION

All averages, percentiles, and rating distributions found in the report are based on companies in the relevant MSCI ESG Ratings Industry that are constituents of the MSCI ACWI and are calculated based on industry scores as of the date of publication of this report.

ESTIMATED CARBON EMISSIONS

Carbon estimates are based on carbon intensity (carbon emissions/sales). The Estimate Key represents the source of the estimated carbon emissions data. E.CSI represents Company-Specific Intensity estimates based on previously disclosed data. E.GICSSI represents estimates based on the GICS Sub-Industry average. For E.GICSSI we set five levels of confidence (High, Moderately High, Moderate, Moderately Low, and Low). The Carbon Estimation Methodology document, available on ESG Manager, describes the estimation model in greater detail.



CCC | B | BB | BBB | **A** | AA | AAA

RATING ACTION DATE: December 05, 2022
LAST REPORT UPDATE: December 20, 2022

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We calculate the 'government support rating' for Supranationals and Development Banks based on the weighted average of member countries' Governance scores using the MSCI ESG Government Ratings methodology. These scores are based on measures of political governance (strength of institutions, corruption control, civil liberties, and human rights) and financial accountability.

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