

Taiwan Cement Corp. (1101)

Construction Materials | TW

Increasing investments in carbon mitigation to support stronger emissions reduction target

MSCI
ESG RATINGS

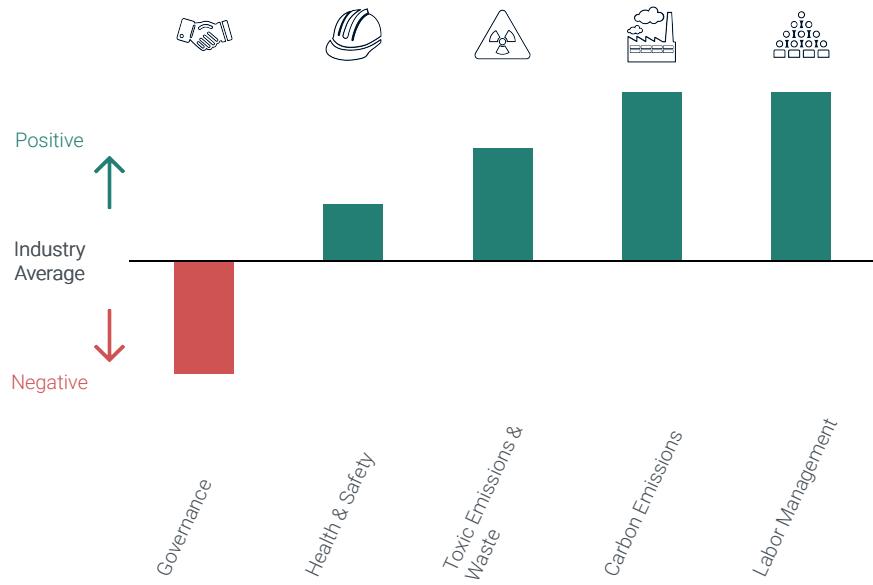


CCC B BB BBB A AA AAA

LAST UPDATE: November 19, 2021

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 November 19, 2021.



Last ESG Rating action

Rating action date: August 31, 2020

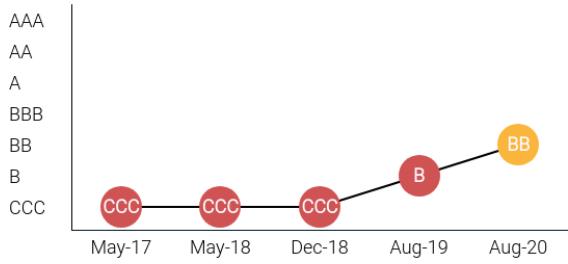
Taiwan Cement has been upgraded to 'BB' from 'B'.

In 2019, TCC formally adopted TCFD recommendations and set an SBTi-verified GHG emissions target of 10.8% reduction by 2025 vs. 2016 levels. For FY 2019, TCC reduced its GHG emissions by 34% against a 2013 baseline, meeting its 2030 target ahead of schedule. In addition to equipment upgrades and renewable energy sourcing, its emissions management is supported by life cycle modeling, R&D and programs in carbon capture, fuel-efficient shipping vessels, and product carbon footprint surveys.

- TCC has also refreshed its reduction targets for NOx (-50%), SOx (-30%), and particulate matter (-30%) come 2025 over 2016 figures. With its erstwhile target of 20% air emissions reduction by 2030 vs. 2013 levels, it recorded significant decreases for NOx (-13%), SOx (-29%), and particulate matter (-25%) as of 2019. Its waste strategy, certified to BS 8001 circular economy standard, is driven by co-processing of industrial by-products as alternative materials and fuels for manufacturing cement.
- In 2019, TCC broadened its labor management efforts to include engagement surveys and stock option plans. Further, with additional safety risks posed by COVID-19, it established a pandemic response center and enacted protocols, including shift staggering and deep-cleaning, across its sites.
- Even as a family firm, TCC has an independent-majority board, and neither has a controlling shareholder nor a special capital structure. However, potential board entrenchment and limited executive pay disclosures place it behind leading global peers.

Analyst: Kathryn Eunice Salonga

ESG Rating history



ESG Rating history shows five most recent rating actions

ESG Rating distribution

Universe: MSCI ACWI Index constituents, Construction Materials, n=27



Key scores

	Weight	Score (0-10)
Industry-Adjusted Score		4.0
Weighted-Average Key Issue Score		4.3
Environmental Pillar Score	39%	4.6
Social Pillar Score	28%	5.3
Governance Pillar Score	33%	3.1

Report table of contents

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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.

ESG Rating scorecard

As of November 19, 2021

KEY ISSUE	WEIGHT	INDUSTRY AVERAGE	SCORE (0-10)	CHANGE	EXPLANATION
Weighted-Average Key Issue Score		3.7	4.3		
> ENVIRONMENT	39%	3.5	4.6	▲0.9	
<u>Carbon Emissions</u>	20%	3.6	5.0	▲0.9	• Carbon Intensity 74% lower than industry average
<u>Toxic Emissions & Waste</u>	19%	3.2	4.2	▲0.9	• Initiatives to reduce toxic emissions and waste include aggressive targets
> SOCIAL	28%	4.0	5.3	▲0.8	
<u>Health & Safety</u>	14%	3.6	4.2	▲1.0	• Strong safety performance relative to peers
<u>Labor Management</u>	14%	4.5	6.3	▲0.5	• Evidence of employee engagement programs and initiatives including regular engagement surveys
> GOVERNANCE	33%	3.6	3.1	▼0.2	
<u>Corporate Governance</u>		4.8	3.6	▲0.3	• The company falls into the lower scoring range relative to global peers, reflecting key areas of concern related to the board and accounting practices.
<u>Corporate Behavior</u>		4.0	5.2	▲0.1	• 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 response

Response in last 12 months? _____ Yes

Date of last interaction _____ Oct 2021

Frequency of interactions* _____ High

All companies are provided the opportunity to review their data. For details, see [Appendix](#) in full ESG Rating report.

*Frequency of interactions represents interactions over the past two years: High = Ten or more incoming communications; Medium = Between 3 and 9 incoming communications; Low = Between 1 and 2 incoming communications

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	4.3		
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

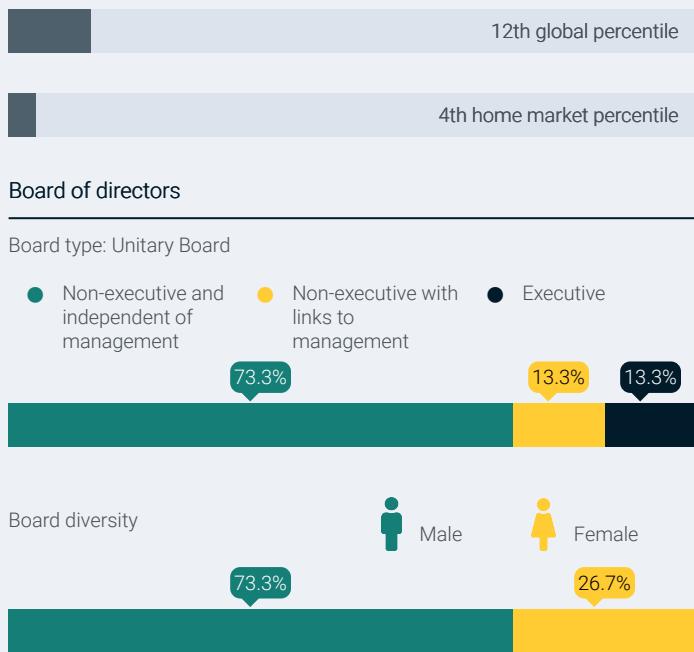
This table outlines the latest changes to specific data points that have occurred, the trigger for change (e.g. issuer feedback, data update or methodology enhancements) and the overall impact on the company's Weighted Average Key Issue Score. Companies are monitored on a continuous basis and significant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



Ownership summary

Capital structure	Multiple Equity Classes	Top shareholders Koo Family and Chang Family - 11.21% (Chinatrust Investment Co., Ltd. -4.00% via Tian-Yi Hsu - 0.14% Chia Hsin Cement Corporation-3.60% via Kang-Lung Chang, Chia Hsin International -1.75 via Kang-Lung Chang International CSRC Investment Holdings Co - 1.71%, via Kung-Yi Koo - 0.01%)
Ownership classification	Principal Shareholder	
Key Owner Types	Family Firm	
Complex Ownership Structures	Cross Shareholdings	
CEO		

Name: An Ping Chang
Tenure: 2 Years

Total realized pay*:N/A
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	● ● ●	● ●	● ● ●	●	● ● ● ●	● ●	A ▲
VULCAN MATERIALS COMPANY	● ● ●	● ● ● ●	● ● ● ●	● ● ●	● ● ●	● ● ●	BBB ▲
Taiwan Cement Corp.	● ● ●	● ● ● ●	● ● ●	● ● ● ●	● ●	● ● ●	BB ▲
ULTRATECH CEMENT LIMITED	● ●	●	● ● ● ●	● ●	●	●	B ▲ ▲
ANHUI CONCH CEMENT COMPANY 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 27 industry peers. Industry peers are constituents of the MSCI ACWI Index in the ESG Ratings Industry classified as Construction Materials, as of November 19, 2021. 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 and chemicals 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 a USD 350 million dollar investment to build a battery factory that can supply 24,000 electric vehicles a year in April 2021. NHOA's joint venture Atlante 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.

ESG Rating drill down

Description	As of last rating action date: Aug 31, 2020		As of last update date: Nov 19, 2021		Difference	
	Score	Weight	Score	Weight	Score	Weight
ESG Rating Letter Grade	BB		BB		-	-
Industry Adjusted Score	4.0		4.0		-	-
Industry Minimum Score	2.1		1.5		-0.6	-
Industry Maximum Score	6.6		6.4		-0.2	-
Weighted Average Key Issue Score	3.9		4.3		0.4	-
Environmental Pillar Score	3.7	44.0%	4.6	39.0%	0.9	-5.0%
Carbon Emissions Key Issue Score	4.1	22.0%	5.0	20.0%	0.9	-2.0%
Exposure Score	9.9		10.0		0.1	-
Business Segment Exposure Score	9.1		9.2		-	-
Geographic Exposure Score	5.9		5.9		-	-
Management Score	7.0		8.0		1.0	-
Management Score - Excluding Controversies	7.0		8.0		1.0	-
Practices Score	7.0		8.5		1.5	-
Performance Score	7.0		7.0		-	-
Toxic Emissions & Waste Key Issue Score	3.3	22.0%	4.2	19.0%	0.9	-3.0%
Exposure Score	9.4		9.4		-	-
Business Segment Exposure Score	9.4		9.4		-	-
Management Score	5.7		6.6		0.9	-
Management Score - Excluding Controversies	5.7		6.6		0.9	-
Practices Score	6.0		7.4		1.4	-
Performance Score	5.0		5.0		-	-
Controversy Deduction	0.0		0.0		-	-
Social Pillar Score	4.5	34.0%	5.3	28.0%	0.8	-6.0%
Health & Safety Key Issue Score	3.2	17.0%	4.2	14.0%	1.0	-3.0%
Exposure Score	8.3		8.3		-	-
Business Segment Exposure Score	7.1		7.1		-	-
Geographic Exposure Score	6.7		6.7		-	-
Management Score	4.5		5.5		1.0	-
Management Score - Excluding Controversies	4.5		5.5		1.0	-
Practices Score	4.3		5.8		1.5	-
Performance Score	5.0		5.0		-	-
Controversy Deduction	0.0		0.0		-	-
Labor Management Key Issue Score	5.8	17.0%	6.3	14.0%	0.5	-3.0%
Exposure Score	6.1		6.1		-	-
Business Segment Exposure Score	7.1		7.1		-	-
Geographic Exposure Score	6.2		6.2		-	-
Company-Specific Exposure Score	3.8		3.8		-	-
Management Score	4.9		5.4		0.5	-
Management Score - Excluding Controversies	4.9		5.4		0.5	-
Practices Score	4.9		5.4		0.5	-
Controversy Deduction	0.0		0.0		-	-

Description	As of last rating action date: Aug 31, 2020		As of last update date: Nov 19, 2021		Difference	
	Score	Weight	Score	Weight	Score	Weight
Governance Pillar Score*	3.3	22.0%	3.1	33.0%	-0.2	11.0%
Corporate Governance Key Issue Score	3.3	22.0%	3.6		0.3	-
Board	4.1				-	-
Pay	2.3				-	-
Ownership & Control	7.2				-	-
Accounting	5.5				-	-
Governance Pillar Deductions**			-6.9		-	-
Corporate Governance Deductions			-5.0		-	-
Board			-2.2		-	-
Pay			-1.3		-	-
Ownership & Control			-0.9		-	-
Accounting			-0.7		-	-
Corporate Behavior Deductions			-1.9		-	-
Business Ethics			-1.9		-	-
Tax Transparency			0.0		-	-

*Companies last rated prior to November 2020 will continue to show legacy Governance Key Issues (Corruption & Instability, Financial System Instability, Business Ethics & Fraud, and Anticompetitive Practices) in the ESG Rating drill down. These key issues will be removed from the drill down and replaced with Corporate Behavior and Corporate Governance Deductions at the next re-rating.

**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	4.3		
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
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



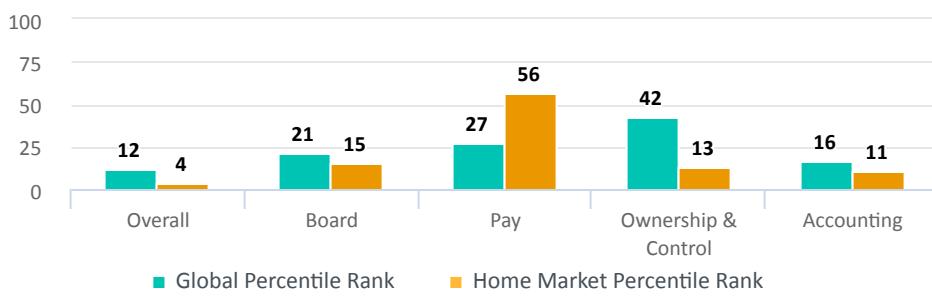
Market Cap: 10,690,706,259 USD

Home Market: Taiwan

Score	Change (since rating)	Quartile	As of
3.6	▲ 0.3	● ●	Nov 18, 2021

Last Data Update: Nov 18, 2021

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: the board and accounting and financial reporting practices.

KEY DATES

Financial Year End	December 31
Annual Filing Date	May 10, 2021
AGM Date	Jul 05, 2021

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

(-1.19)

Executive Pay Disclosure

Board Effectiveness

(-1.00)

Overboarded Non-Exec Directors

Overboarded Exec Directors

Accounting Variance

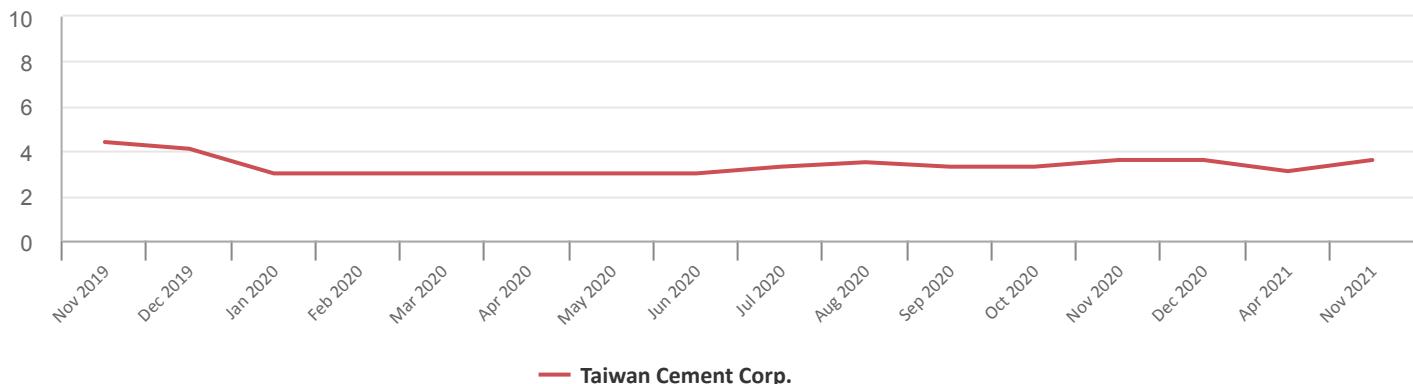
(-0.84)

Revenue Recognition

Expense Recognition

Asset-Liability Valuation

CORPORATE GOVERNANCE SCORE HISTORY



CHANGES TO FLAGGED KEY METRICS (SINCE JULY 2020)

Key Metric	Key Metric Change	Date	Score Change*	Change Notes
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	Following issuer feedback, subsequently verified
Entrenched Board	Flag Removed	Aug 31, 2021	0.80	Following issuer feedback, subsequently verified
Combined CEO/Chair	Flag Removed	Aug 31, 2021	0.20	Following issuer feedback, subsequently verified
CEO Equity Policy	Flag Removed	Aug 31, 2021	0.20	Following issuer feedback, subsequently verified
Significant Votes Against Directors	Flag Added	Aug 03, 2021	-0.50	
Multiple Equity Classes with Different Voting Rights	Flag Removed	Jun 15, 2021	0.45	
Multiple Equity Classes with Different Voting Rights	Flag Added	Jun 10, 2021	-0.45	
Business Combination Provision	Flag Removed	Jun 10, 2021	0.10	
Overboarded Exec Directors	Flag Added	Feb 26, 2021	-0.50	
Revenue Recognition	Flag Added	Aug 24, 2020	-0.60	Updates to data for accounting peer group member(s)
Revenue Recognition	Flag Removed	Aug 13, 2020	0.43	Updates to data for accounting peer group member(s)

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

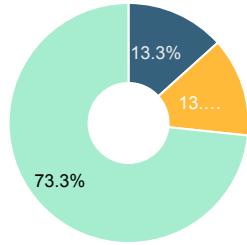
*Score change available in respect of changes dated on or after 13 December 2017.

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 ■Links to Management ■Independent of Management

BOARD

Certain aspects of the Taiwan Cement board may not be well aligned with sustainable shareholder interests. We have flagged this board for potential concerns regarding the presence of certain related party transactions, some non-executives may have too many other public board commitments and executives who serve on too many other boards of public companies.

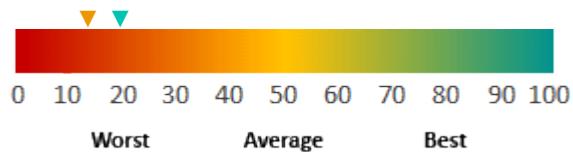
0-10 Score	Global Percentile Rank	Home Market Percentile Rank
5.2	21st (Below Average)	15th (Below Average)

KEY METRICS SCORING

Deduction	
AUDIT OVERSIGHT	
Audit Committee Industry Expert	-0.10
Overboarded Audit Committee Members	-0.10
Auditor Tenure	-0.10
BOARD EFFECTIVENESS	
Overboarded Non-Exec Directors	-0.50
Overboarded Exec Directors	-0.50
BOARD INDEPENDENCE	
Related Party Transactions	-0.50
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
PAY OVERSIGHT	
Pay Committee Concerns	-0.30
STRATEGIC OVERSIGHT	

BOARD PERFORMANCE VS.

▼ Global ▼ Home Market



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	

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: 11

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</small>	M		27	3	No	No	Family Firm Director; Executive	Taiwan
Chi Chia Hsieh	M		5	2	Yes	No	Special Shareholder Representative	Taiwan
Chi-Te Chen	M		< 1	1	Yes	Yes		Not Disclosed
Chien (James) Wen	M		3	1	Yes	No	Special Shareholder Representative	Taiwan
Chun Ying Liu	F	46	3	1	Yes	No	Special Shareholder Representative	Taiwan
Jong-Peir (John) Li	M		3	1	No	No	Special Shareholder Representative; Executive	Taiwan
Kang Lung (Jason) Chang	M		9	1	No	No	Family relationship; Family Firm Director	Taiwan
Kenneth C.M. Lo	M		16	1	Yes	No	Special Shareholder Representative	Taiwan
Kung Yi Koo	M		3	1	No	No	Non-Executive Employee; Family relationship; Family Firm Director	Hong Kong
Ling Tai (Lynette) Chou	F		3	1	Yes	Yes		Taiwan
Mei-Hwa Lin	F		< 1	1	Yes	Yes		Not Disclosed
Por-yuan Wang	M		12	1	Yes	No	Special Shareholder Representative	Taiwan
Shiou-Ling Lin	F		< 1	2	Yes	Yes		Taiwan
Victor Wang	M		9	1	Yes	Yes		Taiwan
Yu-Cheng (Arthur) Chiao	M		9	5	Yes	Yes		Taiwan
	F	# >= 70	# >= 15 yrs	# >= 4				
Total (of 15)	4	0	2	1	11	6		
Percentage	26.7%	0%	13.3%	6.7%	73.3%	40%		

Note: Board count includes the membership of this board.

- Financial Expert (6) - Industry Expert (2) - Chief Executive Officer - 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, 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
Dec 31, 2019	Other	2,574,739 TWD	0.002% of Total Revenue	Recurring income from related party
		4,797,365 TWD	0.005% of Expenses	Recurring purchases from related party

Sources : AR 2020 p. 155-158, 2019 AR p.70

BOARD EFFECTIVENESS

There appears to be director overboarding on this board, with both executive and non-executive directors sitting on too many boards. This may impact the company's audit committee's ability to provide effective oversight as a result. 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

No details on this committee has been identified

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.

AUDIT OVERSIGHT

Audit Committee - Number Of Meetings: 11

Name	M/F	Age	Board Tenure (Years)	Boards	Independent of Mgmt	of Other Interests	Committee Status
Ling Tai (Lynette) Chou	F		3	1	Yes	Yes	Member
Mei-Hwa Lin	F		< 1	1	Yes	Yes	Member
Shiou-Ling Lin	F		< 1	2	Yes	Yes	Member
Victor Wang	M		9	1	Yes	Yes	Chair
Yu-Cheng (Arthur) Chiao	M		9	5	Yes	Yes	Member

- Financial Expert (3)

Risk Committee - Number Of Meetings: 2

Name	M/F	Age	Board Tenure (Years)	Independent of Mgmt	of Other Interests	Committee Status
Ling Tai (Lynette) Chou	F		3	Yes	Yes	Member
Shiou-Ling Lin	F		< 1	Yes	Yes	Chair
Victor Wang	M		9	Yes	Yes	Member

- Financial Expert (3)

PAY OVERSIGHT

Pay Committee - Number Of Meetings: 6

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	of Other Interests	CEO Role?	Committee Status
Ling Tai (Lynette) Chou	F		3	Yes	Yes		Member
Mei-Hwa Lin	F		< 1	Yes	Yes		Member
Shiou-Ling Lin	F		< 1	Yes	Yes		Member
Victor Wang	M		9	Yes	Yes		Member
Yu-Cheng (Arthur) Chiao	M		9	Yes	Yes	Active	Chair

- Financial Expert (3)

CONTROVERSIES & EVENTS

No major relevant controversies have been uncovered.

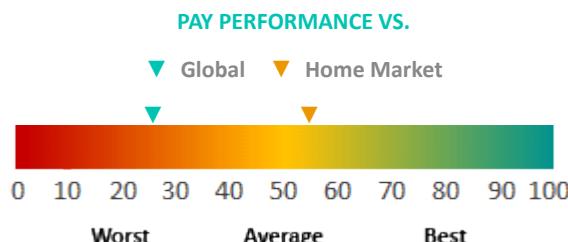
PAY

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	27th (Average)	56th (Average)

KEY METRICS SCORING

Deduction	
NON-EXECUTIVE DIRECTOR PAY	
Director Equity Policy	-0.10
PAY FIGURES	
Executive Pay Disclosure	-1.19
PAY PERFORMANCE ALIGNMENT	
CEO Equity Policy	-0.20
Clawbacks & Malus	-0.20



PAY FIGURES

DISCLOSURE

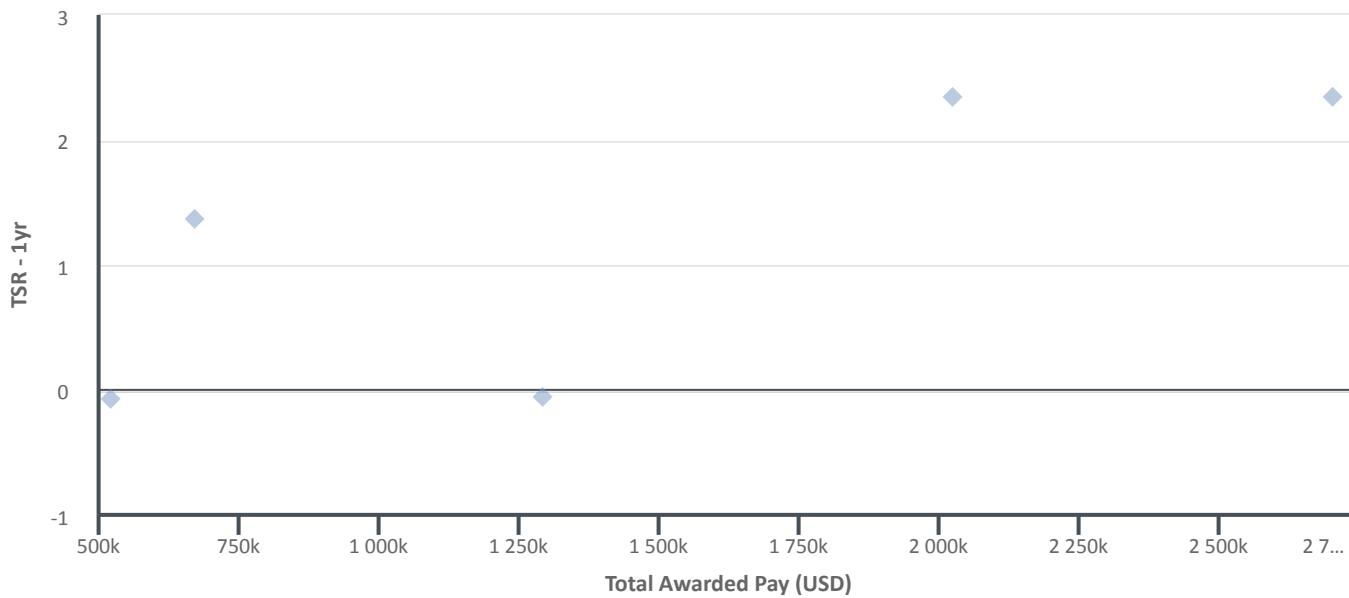
Disclosure should include, at minimum, pay for each executive member of the Board of Directors (or Management Board for companies with a two-tier board structure) on an individualized basis or in cases where there are no executive members, the CEO. The individualized disclosure should include separate 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 (10 COMPANIES)

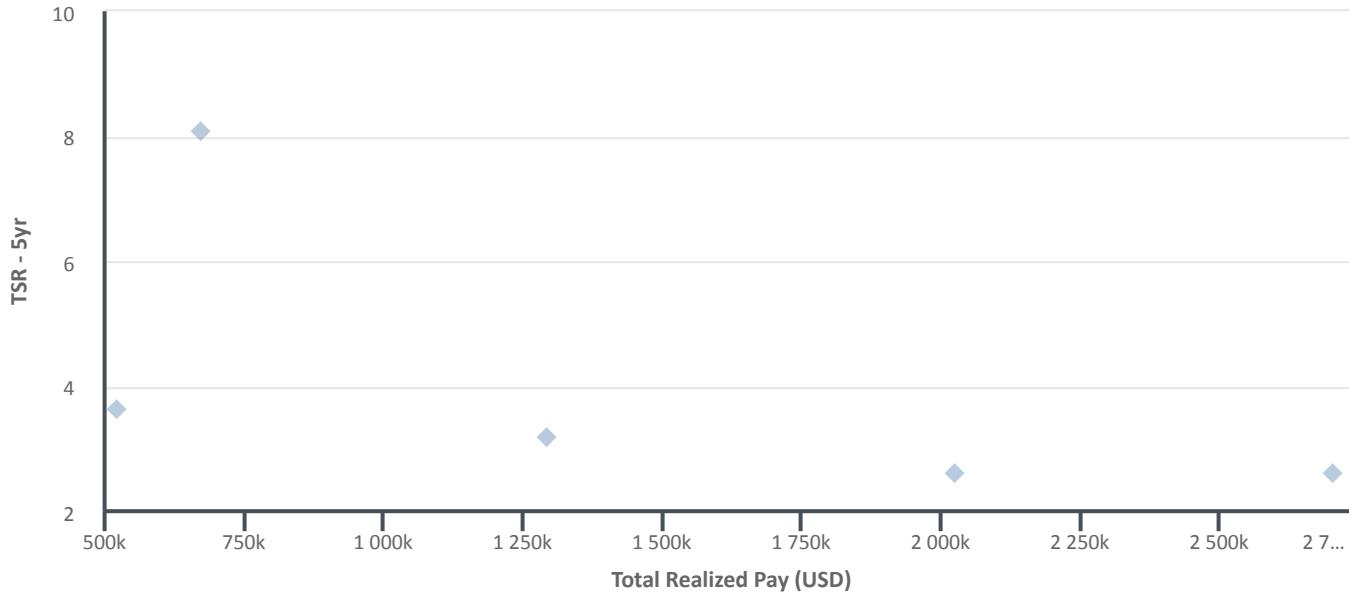
Company	Home Market	Market Cap (USD m)	Pay Year	1 Yr TSR	Total CEO Annual Pay (USD)	CEO Name	CEO Since
DALMIA BHARAT LIMITED	India	5,475	2021	2.35%	2,704,904	Dalmia	Oct 2018
DALMIA BHARAT LIMITED	India	5,475	2021	2.35%	2,026,322	Dalmia	Oct 2018
Huaxin Cement Co., Ltd.	China	5,297	2020	-0.06%	1,293,358	Li	Apr 2003
POSCO CHEMICAL CO., LTD.	Korea	9,772	2020	1.37%	672,466	Min	Mar 2019
CHINA RESOURCES CEMENT HOLDINGS LIMITED	China	6,625	2020	-0.07%	522,321	Ji	Sep 2016
BUA Cement PLC	Frontier	5,593	2020	3.10%		Binji	Dec 2019
LAFARGEHOLCIM MAROC SAS	Frontier	5,596	2020	-0.05%		Michos	May 2018
Asia Cement Corporation	Taiwan	5,616	2020	0.03%		Lee	Aug 2000
Taiwan Cement Corp.	Taiwan	10,446	2020	0.17%		Chang	Jul 2019
CEMEX, Sociedad Anonima Bursatil de Capital Variable	Mexico	9,771	2020	0.37%		Gonzalez Olivieri	May 2014

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.

No CEO equity policy found.

Executive	Tenure (Years)	Shares Held	YoY % Change	Shareholding As % of Salary
An Ping (Nelson) Chang	27	2,188,553		
Jong-Peir (John) Li	3	786,542		

- Financial Expert - 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	5	494,397
Chi-Wen Chang	N/A (Resigned)	3,376,895
Chin Jen Sheng	N/A (Resigned)	2,100
Kung Yi Koo	3	561,815
Ling Tai (Lynette) Chou	3	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

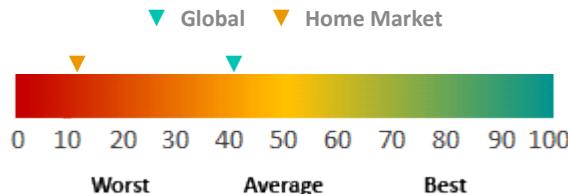
The company's ownership structure and shareholder rights at Taiwan Cement fall within the average scoring relative to global peers.

0-10 Score	Global Percentile Rank	Home Market Percentile Rank
6.2	42nd (Average)	13th (Below Average)

KEY METRICS SCORING

Deduction	
DIRECTOR ELECTIONS	
FLAG Annual Director Elections	-0.10
FLAG Majority Voting	-0.10
OWNERSHIP STRUCTURE	
FLAG Cross Shareholdings	-0.79
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	5,810,243,360
preferred shares	0.0	200,000,000

Two types of shares, Ordinary shares and preferred shares

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OWNERSHIP STRUCTURE

OWNERSHIP CATEGORIES

- Principal Shareholder
- Family Firm

NOTABLE SHAREHOLDERS

Koo Family and Chang Family - 11.21% (Chinatrust Investment Co., Ltd. 11.2% via Tian-Yi Huo - 0.14% Chia Hsin Cement Corporation-3.60% via Kang-Lung Chang, Chia Hsin International -1.75 via Kang-Lung Chang International CSRC Investment Holdings Co - 1.71%, via Kung-Yi Koo - 0.01%)

5%+ shareholders - Aggregate Voting Power
 Insider Voting Power

0%
11.2%

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 4.00% of Taiwan Cement Corp., Taiwan Cement Corp holds 9.36% of Chinatrust Investment Co., Ltd.

Chia Hsin Cement Corp. holds 3.6% 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 3.6% of the total voting rights in 'Taiwan Cement Corp.' as part of a cross-shareholding arrangement. Some 0.17% 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: 0.2 % Others: 99.8 %
Chinatrust Investment Co., Ltd. holds 4.0% of the total voting rights in 'Taiwan Cement Corp.' as part of a cross-shareholding arrangement. Some 13.95% 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: 96.0 %	Investment by Chinatrust Investment Co., Ltd.  Market Cap: 14.0 % Others: 86.1 %

FAMILY FIRM

Koo family collectively holds 11.21% 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%

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.

ACCOUNTING

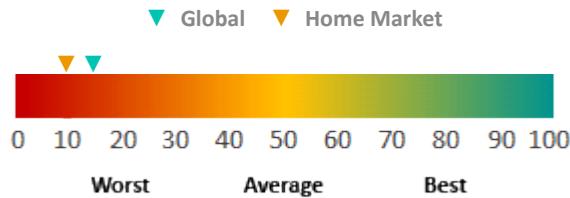
Based on the company's disclosures and other public information, accounting and financial reporting practices at Taiwan Cement may warrant close attention from shareholders. We have flagged this company for potential concerns regarding revenue recognition ratios (based on our quantitative assessment).

0-10 Score	Global Percentile Rank	Home Market Percentile Rank
5.0	16th (Below Average)	11th (Below Average)

KEY METRICS SCORING

	Deduction
ACCOUNTING VARIANCE	
Revenue Recognition	-0.53
Expense Recognition	-0.15
Asset-Liability Valuation	-0.16

ACCOUNTING PERFORMANCE VS.



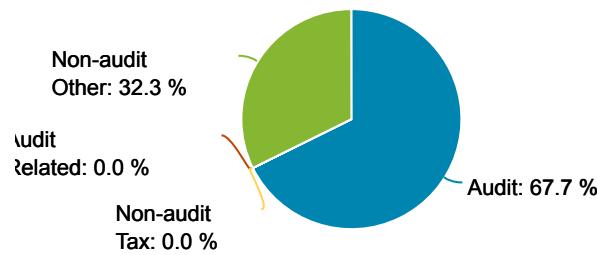
EXTERNAL AUDITORS

Type	Since	Firm	Most Recent Fiscal Year End Signed Off
Primary		Deloitte & Touche	2020

AUDITOR FEES

Fees paid to: Deloitte & Touche (Primary)

Fee	Dec 31, 2020 (TWD)	Dec 31, 2019 (TWD)	Dec 31, 2018 (TWD)
Audit	24,655,000	24,425,000	19,560,000
Audit Related			
Total Audit + Audit Related	24,655,000	24,425,000	19,560,000
Tax Compliance/ Advice			
Other Non-audit Services	11,767,000	8,269,000	3,430,000
Total Non-audit Fees	11,767,000	8,269,000	3,430,000
Total Fees	36,422,000	32,694,000	22,990,000



AUDITOR REPORT

	Dec 31, 2020	Dec 31, 2019	Dec 31, 2018
Report Disclosed	Yes	Yes	Yes
Opinion	Unqualified Opinion	Unqualified Opinion	Unqualified Opinion
Emphasis of Matter	No	No	No

CONTROVERSIES & EVENTS

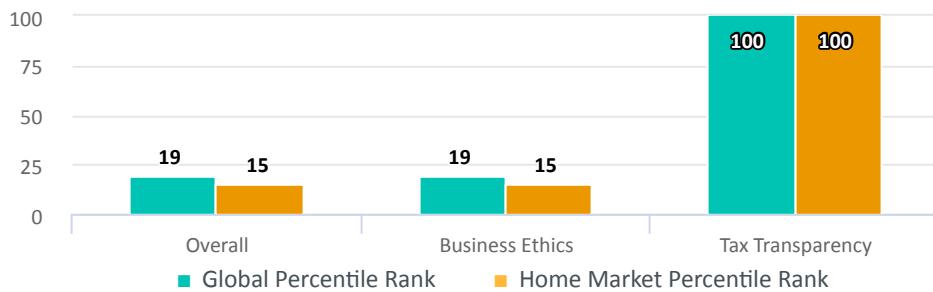
No major relevant controversies have been uncovered.



Corporate Behavior

0-10 Score	Change (since rating)	Quartile	As of
5.2	▲ 0.1	•••	Oct 20, 2021

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

(-2.80)

Regular Audits of Ethical Standards

Whistleblower Protection

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	-2.80
Regular Audits of Ethical Standards	-1.40
Whistleblower Protection	-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
5.1	▲ 5.1	19th (Below Average)	15th (Below Average)

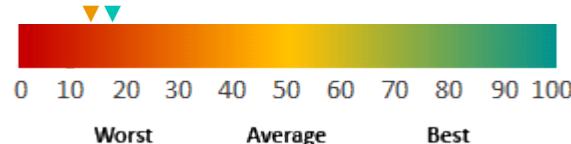
METHODOLOGY NOTE

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



Worst Average Best

BUSINESS ETHICS POLICIES & PRACTICES

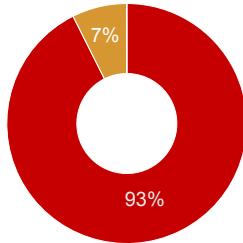
Indicators	Company Practice	Best Practice	Deduction
Oversight for Ethics Issues	C-suite or Executive committee	Board-level committee or C-suite or Executive committee	0.00
Bribery and Anti-Corruption Policy	Detailed formal policy on bribery and anti-corruption	Detailed formal policy on bribery and anti-corruption	0.00
Regular Audits of Ethical Standards	No evidence	Audits of all operations at least once every three years	-1.40
Whistleblower Protection	Whistleblower protection with no details on system or legal protection	Formal anonymous whistleblower system with legal protection	-0.70
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.

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

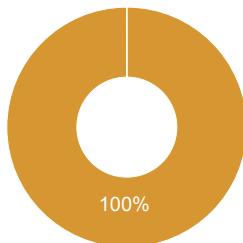
■ High Risk ■ Medium Risk ■ Low Risk



- Cement, Power generation
- Chemicals and chemical preparations
- 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
- No operations in markets with low risks

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	22.8%
Estimated Tax Gap	(-0.6%)
Tax Gap Assessment	Low Gap

Revenue

Foreign Revenue	56.9%
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Confidence

Confidence Level of Estimation	High
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Involvement in Controversies

Tax Gap Score*	8.0
----------------	-----

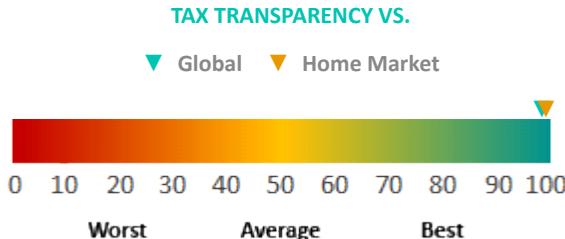
*The Tax Gap Score is based on the estimated tax gap, country revenue transparency, foreign revenues, controversies and whether a company is classified as a tax-favored structure such as a REIT. The score is derived on a 0-10 scale and can be used for cross-company comparisons but does not contribute to a company's overall ESG Rating.

0-10 score	Change (since rating)	Global Percentile Rank	Home Market Percentile Rank
10.0	▲ 8.0	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

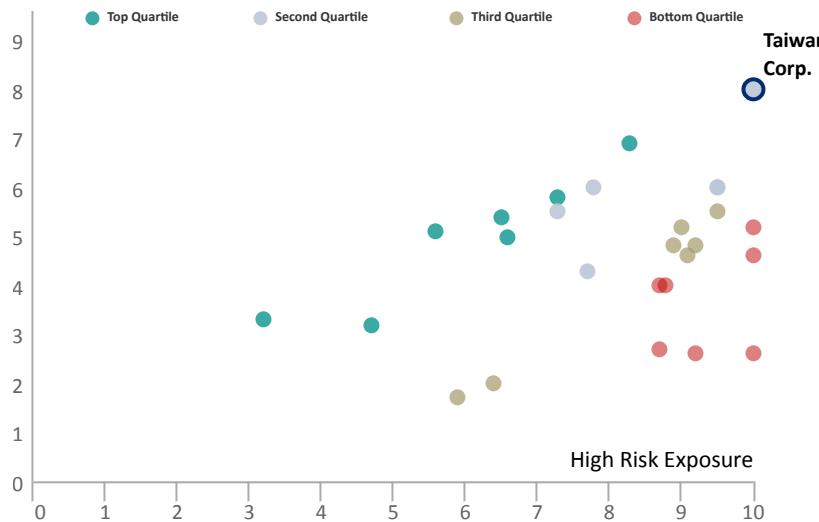
Tax related controversies are not considered for companies in Real Estate Management services or Mortgage REITs industries. Tax gap assessment is effectively low for companies with less than 5% of total revenue categorized as foreign.



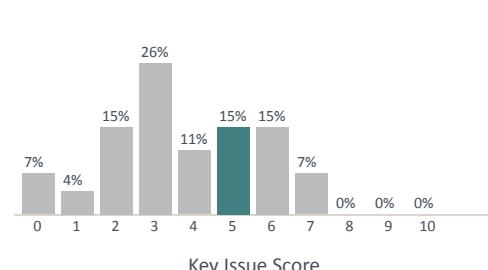
Carbon Emissions

Score	Change (since rating)	Quartile	Weight	As of
5.0	▲ 0.9	•••	20.0%	Jun 28, 2021

Strong Risk Management



KEY ISSUE SCORE DISTRIBUTION*



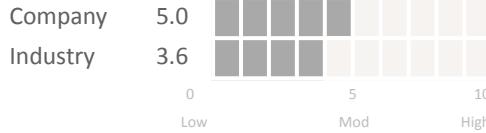
TOP 5 INDUSTRY LEADERS

LUCKY CEMENT LIMITED	7.1
The Siam Cement Public Company Limited	6.5
JAMES HARDIE INDUSTRIES PUBLIC LIMITED COMPANY	5.9
HeidelbergCement AG	5.6
BBMG Corporation	5.5

BOTTOM 5 INDUSTRY LAGGARDS

PT Semen Indonesia (Persero) Tbk	2.2
CHINA RESOURCES CEMENT HOLDINGS LIMITED	1.6
China National Building Material Company Limited	1.0
Huixin Cement Co., Ltd.	0.4
TANGSHAN JIDONG CEMENT CO.,LTD.	0.0

KEY ISSUE ASSESSMENT



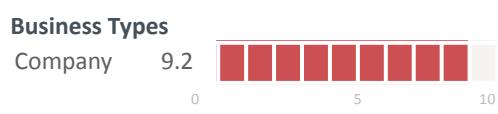
RISK EXPOSURE ASSESSMENT



RISK MANAGEMENT ASSESSMENT



Drivers of Risk Exposure



Drivers of Risk Management



Business Locations



Performance Score



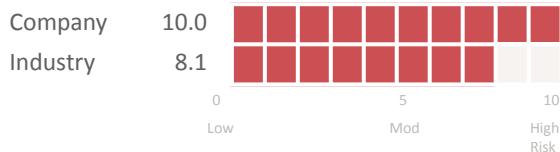
METHODOLOGY NOTE

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

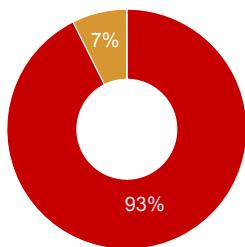
RISK EXPOSURE ASSESSMENT



Key Drivers of Risk Exposure

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

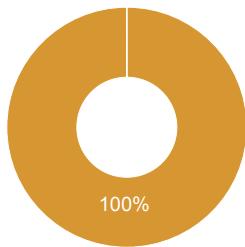
Business Types : Percentage of operations in business segments with high/moderate/low carbon intensity



- Cement, Power generation
- Chemicals and chemical preparations
- 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

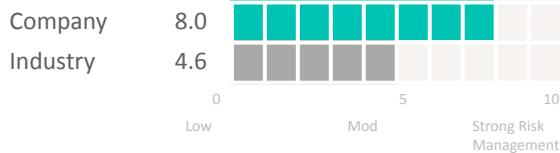


- No operations in markets with high risks
- China, Taiwan
- No operations in markets with low risks

Source: MSCI ESG Research; Refinitiv; company disclosure

MANAGEMENT

RISK MANAGEMENT ASSESSMENT



Description	Company Practice	Best Practice	Practices Score ²
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Targets

Aggressiveness of the company's reduction target in the context of its current performance

Aggressive target with a low base

- LOW MID TOP

Carbon Improvement Targets

Baseline Year	Target Year	Target Description	Target Reduction (%)
2020	2025	Reduce Scope 1 GHG emissions 11% per ton of cementitious materials by 2025 from a 2016 base year	11.00%
2016	2030	Reduction in carbon emissions intensity (Mainland China)	20.00%
2016	2025	10.8% reduction in our total GHG emissions	10.80%
2016	2021	Reduce carbon emission intensity by 2% of the 2016-2020 accumulative average in 2021	2.00%
2016	2025	Taiwan Cement also commits to reduce scope 2 GHG emissions 32% per ton of cementitious materials	32.00%
2016	2020	Reduce energy consumption by over 5% of the 2016-2020 accumulative consumption in 2021	5.00%
2016	2030	Reduction in carbon emissions intensity (Taiwan)	31.00%
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) 7.00

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
2019	4,267,805.0	Reported	230,040.0	Reported	4,497,845.0	21,083.0						Reported	
2018	4,230,680.0	Reported	255,802.0	Reported	4,486,482.0	15,041.0						Reported	
2017	4,144,669.0	Reported	241,691.0	Reported	4,386,360.0	8,873.0						Reported	

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 Estimate Key	GHG Emissions Details
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
2019	1,098.10			
2018	1,106.80			
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
2019	4,951,266.39	4,951,266.39			1,208.83	Annual energy consumption (plants and HQ): coal, diesel and electricity
2018	4,860,081.67	4,860,081.67			1,198.96	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

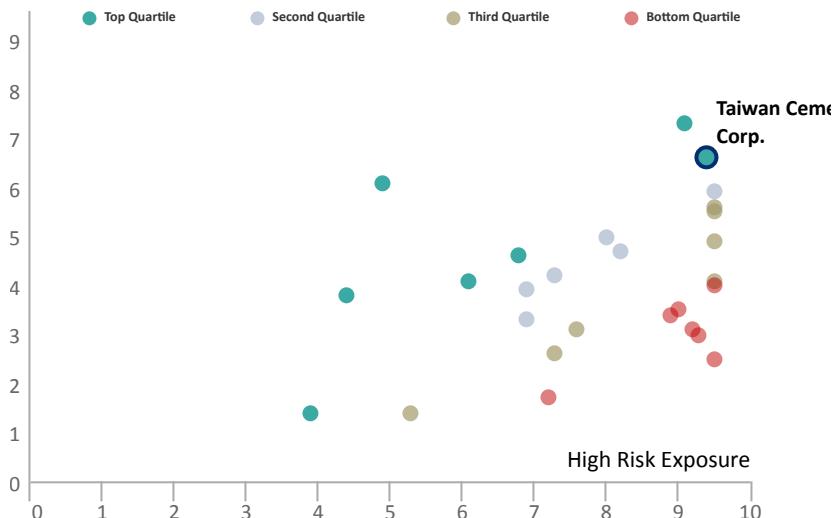
Year	Total energy consumption (reported)	Total energy consumption (MWh)	Energy intensity (reported)	Reported intensity details	Total energy consumption intensity	Energy consumption details
2013	12,603,016.40	12,603,016.40			3,238.48	Annual Energy Consumption



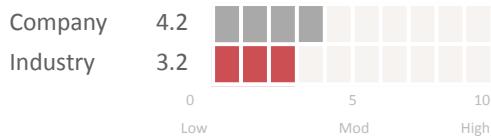
Toxic Emissions & Waste

Score	Change (since rating)	Quartile	Weight	As of
4.2	▲ 0.9	•••	19.0%	Sep 28, 2021

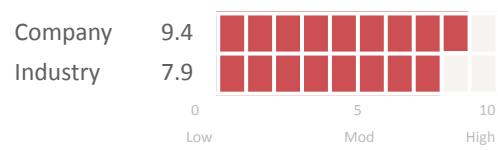
Strong Risk Management



KEY ISSUE ASSESSMENT

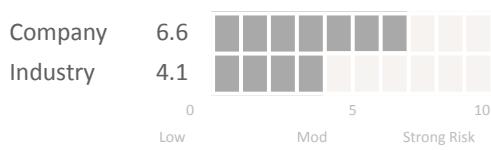


RISK EXPOSURE ASSESSMENT



Drivers of Risk Exposure

RISK MANAGEMENT ASSESSMENT



Drivers of Risk Management

Business Types



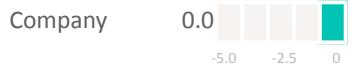
Practices Score



Performance Score



Controversy Deduction



KEY ISSUE SCORE DISTRIBUTION *



TOP 5 INDUSTRY LEADERS

CRH PUBLIC LIMITED COMPANY	8.2
BBMG Corporation	6.4
CHINA RESOURCES CEMENT HOLDINGS LIMITED	5.2
HeidelbergCement AG	5.0
CHINA JUSHI CO., LTD	4.8

BOTTOM 5 INDUSTRY LAGGARDS

JAMES HARDIE INDUSTRIES PUBLIC LIMITED COMPANY	1.5
ULTRATECH CEMENT LIMITED	1.5
PT Indocement Tunggal Prakarsa Tbk	0.9
ACC LIMITED	0.7
Saudi Cement Company SJSC	0.0

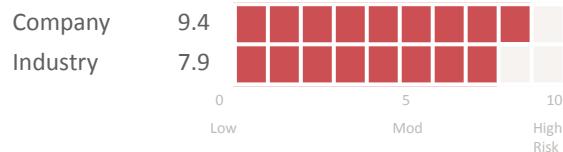
METHODOLOGY NOTE

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

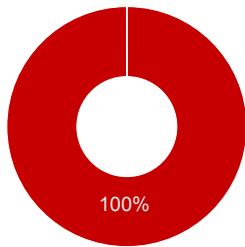
RISK EXPOSURE ASSESSMENT



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).

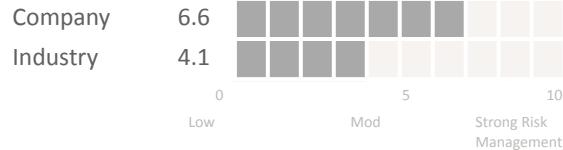


- Cement, Power generation , Chemicals and chemical preparations
- No exposure to medium risk segments
- No exposure to low risk segments

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	Met 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 157 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 30% 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) 5.00

Air Emissions: NOx Performance

3 Year Average Intensity	1.58
Average Annual % Change in Intensity	-10.30%

Air Emissions: NOx Performance

Year	NOx Emissions	NOx Emissions Intensity (tons/ USD million sales)
2020	6,164	1.51
2019	6,388	1.56
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	0.02
Average Annual % Change in Intensity	3.87%

Air Emissions: SOx Performance

Year	SOx Emissions	SOx Emissions Intensity (tons/ USD million sales)
2020	106	0.03
2019	79	0.02
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	0.10
Average Annual % Change in Intensity	-27.16%

Air Emissions: Particulate Matter Performance

Year	Quantities	Intensity
2020	249	0.06
2019	305	0.07
2018	643	0.16
2017	587	0.18
2016	433	0.16
2015	655	0.23

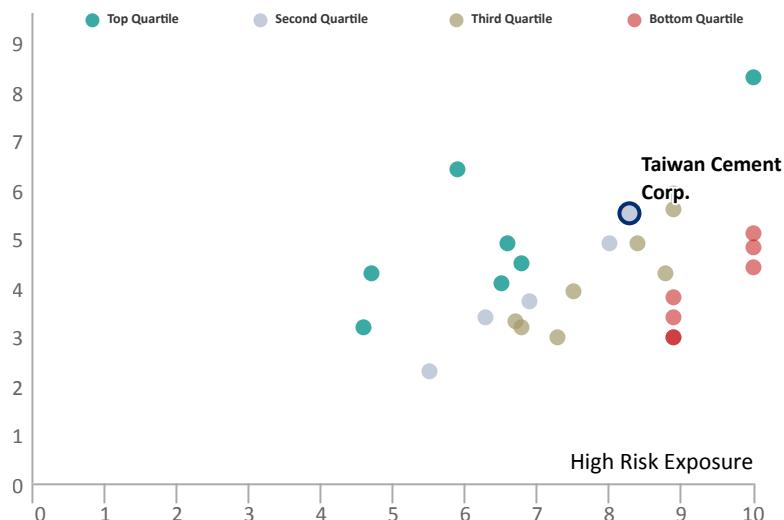
CONTROVERSIES

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

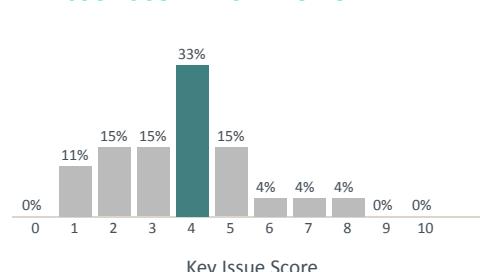


Strong Risk Management



Score	Change (since rating)	Quartile	Weight	As of
4.2	▲ 1.0	•••	14.0%	Sep 28, 2021

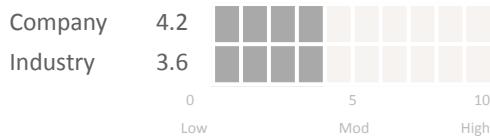
KEY ISSUE SCORE DISTRIBUTION *



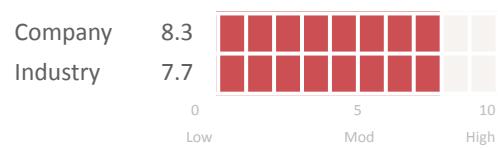
TOP 5 INDUSTRY LEADERS

CRH PUBLIC LIMITED COMPANY	7.5
The Siam Cement Public Company Limited	6.6
CHINA JUSHI CO., LTD	5.6
LUCKY CEMENT LIMITED	5.3
ULTRATECH CEMENT LIMITED	5.3

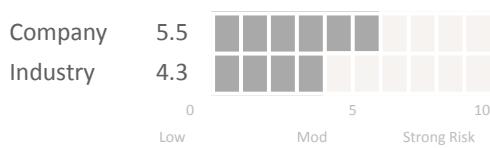
KEY ISSUE ASSESSMENT



RISK EXPOSURE ASSESSMENT



RISK MANAGEMENT ASSESSMENT



Drivers of Risk Exposure



Drivers of Risk Management



Business Types



Business Locations



Performance Score



Controversy Deduction



BOTTOM 5 INDUSTRY LAGGARDS

AMBUJA CEMENTS LIMITED	1.8
PT Indocement Tunggal Prakarsa Tbk	1.5
SHREE CEMENT LIMITED	1.4
Saudi Cement Company SJSC	1.1
TANGSHAN JIDONG CEMENT CO.,LTD.	1.1

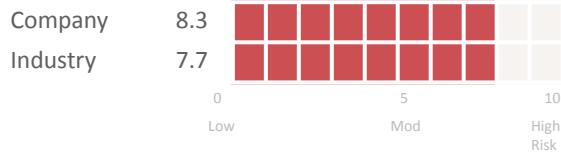
METHODOLOGY NOTE

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

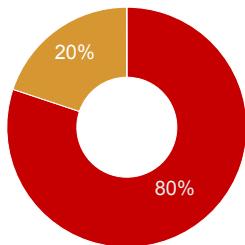
RISK EXPOSURE ASSESSMENT



Key Drivers of Risk Exposure

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

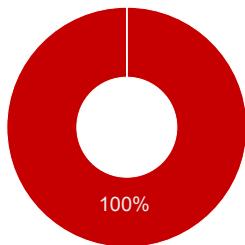
Business Types : Percentage of operations in business segments with high/moderate/low level of fatalities and industrial injuries



- Cement
- Power generation , Chemicals and chemical preparations
- 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)

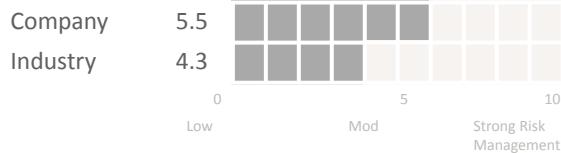


- China, Taiwan
- No operations in markets with medium risks
- No operations in markets with low risks

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		
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	
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
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
2020			0	
2019			0	
2018			0	
2017			0	
2016			0	

CONTROVERSIES

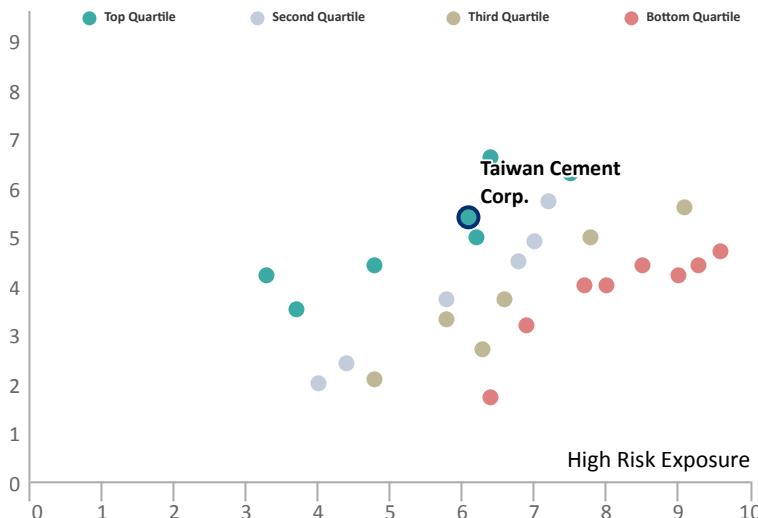
All controversies are assessed as part of the annual review of a company's ESG rating. MSCI ESG Research tracks controversies for all companies on a regular basis. There is no evidence of the Taiwan Cement's current involvement in prominent controversial events or alleged misconduct.



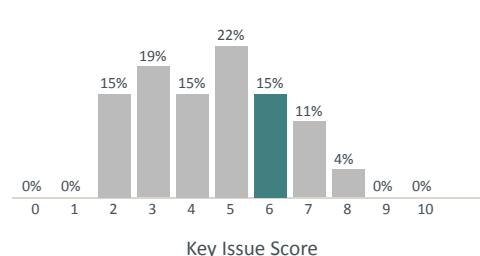
Labor Management

Score	Change (since rating)	Quartile	Weight	As of
6.3	▲ 0.5	•••	14.0%	Sep 28, 2021

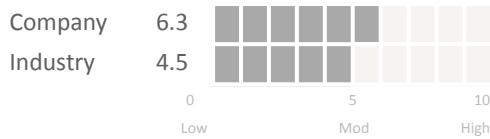
Strong Risk Management



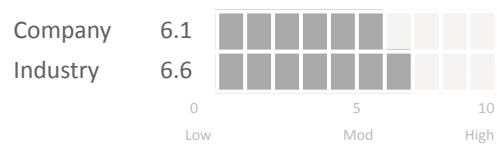
KEY ISSUE SCORE DISTRIBUTION *



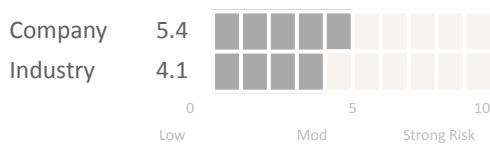
KEY ISSUE ASSESSMENT



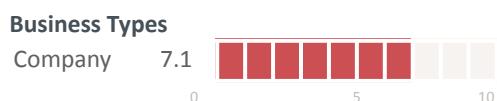
RISK EXPOSURE ASSESSMENT



RISK MANAGEMENT ASSESSMENT



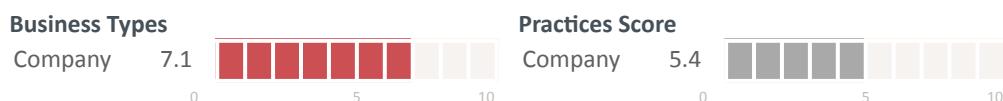
Drivers of Risk Exposure



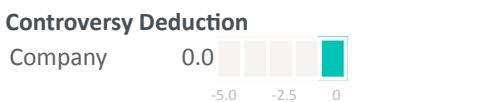
Drivers of Risk Management



Business Types



Business Locations



TOP 5 INDUSTRY LEADERS

LUCKY CEMENT LIMITED	7.9
CHINA JUSHI CO., LTD	7.2
PT Indocement Tunggal Prakarsa Tbk	6.8
The Siam Cement Public Company Limited	6.6
Taiwan Cement Corp.	6.3

BOTTOM 5 INDUSTRY LAGGARDS

GRASIM INDUSTRIES LTD	2.9
Saudi Cement Company SJSC	2.3
HeidelbergCement AG	2.2
China National Building Material Company Limited	2.1
Holcim AG	2.1

METHODOLOGY NOTE

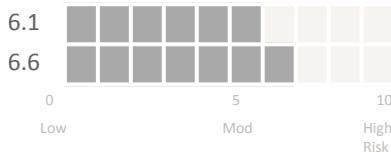
Companies are evaluated on the complexity of their workforce (size, labor intensity, and regions of operation), employee relations, strength of worker protections, and employee engagement efforts.

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

EXPOSURE

RISK EXPOSURE ASSESSMENT

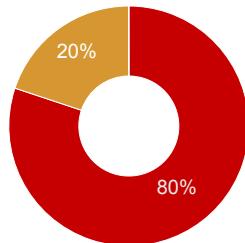
Company
Industry



Key Drivers of Risk Exposure

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

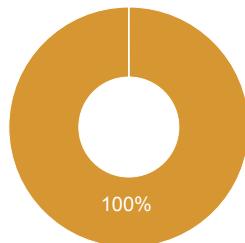
Business Types : Percentage of operations in business segments with high/moderate/low labor intensities, as measured by average sales per employee of industries



- Cement
- Power generation , Chemicals and chemical preparations
- 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)



- No operations in markets with high risks
- 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

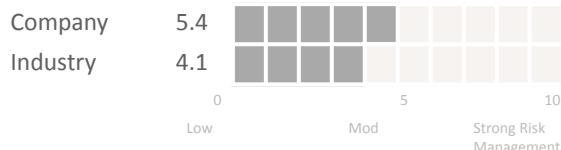
Number of Employees

Year	Number of employees	Part time workers (%)	Contract or temporary workers (%)	Estimated Part time/contract %
2020	10,858			
2019	10,618			

Year	Number of employees	Part time workers (%)	Contract or temporary workers (%)	Estimated Part time/contract %
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	96.20%		
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)	Only select 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	Selective performance-based incentive pay for non-officer staff	Strong performance-based incentive pay structure covers all employees	- LOW MID TOP
Non-compensation benefits including pension and retirement	Scope not determinable	Benefits cover all employees	- LOW MID TOP

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.

APPENDIX

CONTENTS

ISSUER COMMUNICATION

CONTROVERSIES DETAIL

ADDITIONAL CORPORATE GOVERNANCE CONTENT

KEY METRIC & SCORE CHANGES

CEO PAY CHARTS

SHAREHOLDER/MANAGEMENT PROPOSALS

GOVERNANCE STANDARDS

DIRECTOR PROFILES

ISSUER COMMUNICATION SUMMARY

COMPANY COMMUNICATION PAST 15 MONTHS

Direction	Method	Category	Research Product	Date
Outgoing	E-mail	Data Review - Feedback Provided	ESG GovernanceMetrics	Oct 08, 2021
Incoming	E-mail	Data Review - Feedback Provided	ESG GovernanceMetrics	Oct 08, 2021
Outgoing	E-mail	Feedback Notice	ESG Ratings	Sep 28, 2021
Incoming	Issuer Communication Portal	Data Review - Feedback Provided	ESG Ratings	Aug 25, 2021
Outgoing	E-mail	Data Review - Feedback Provided	ESG Ratings	Aug 24, 2021
Incoming	E-mail	Data Review - Feedback Provided	ESG Ratings	Aug 24, 2021
Incoming	Issuer Communication Portal	Data Review - Feedback Provided	ESG Ratings	Aug 23, 2021
Outgoing	E-mail	Engagement Process related	ESG Ratings	Aug 16, 2021
Outgoing	E-mail	Other	ESG Ratings	Aug 09, 2021
Outgoing	E-mail	Engagement Process related	ESG Ratings	Aug 04, 2021
Outgoing	E-mail	Other report clarification	ESG Ratings	Jun 22, 2021
Outgoing	E-mail	Other	ESG Ratings	May 11, 2021
Outgoing	E-mail	Other	ESG Ratings	May 11, 2021
Outgoing	E-mail	Updated ESG Rating	ESG Ratings	May 07, 2021
Outgoing	E-mail	Updated ESG Rating	ESG Ratings	May 07, 2021
Incoming	Issuer Communication Portal	Data Review - Feedback Provided	ESG Ratings	Apr 15, 2021
Incoming	E-mail	Other report clarification	ESG Ratings	Apr 09, 2021
Incoming	Issuer Communication Portal	Data Review - Feedback Provided	ESG Ratings	Jan 18, 2021
Incoming	Issuer Communication Portal	Data Review - Feedback Provided	ESG Ratings	Jan 18, 2021
Outgoing	E-mail	Data Review - Feedback Provided	ESG Ratings	Jan 08, 2021
Incoming	E-mail	Data Review - Feedback Provided	ESG Ratings	Dec 31, 2020
Outgoing	E-mail	Data Review - Feedback Provided	ESG Ratings	Sep 29, 2020
Incoming	E-mail	Data Review - Feedback Provided	ESG Ratings	Sep 29, 2020
Outgoing	E-mail	Updated ESG Rating	ESG Ratings	Aug 31, 2020

LEGEND

Direction	Category
Outgoing: MSCI ESG Research contacts issuer.	Data Review - Alert: Notification of pending annual update of ESG Rating, and invitation to engage MSCI.
Incoming: Query by corporate issuer.	Data Review - Report: MSCI ESG Research delivers report of updated ESG data
	Data Review - Feedback Provided: Feedback provided to MSCI ESG Research.
	Request for Information: Issuer inquiries; MSCI ESG Research queries.
	Published Report Sent: MSCI ESG Research delivers issuers' ESG product report that is posted to the MSCI ESG Manager platform.
	Other: Issuer notified of custom projects; Miscellaneous queries.

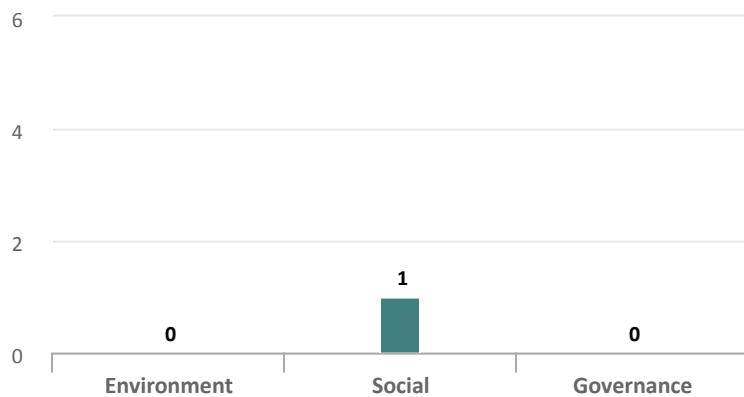
CONTROVERSIES DETAIL

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

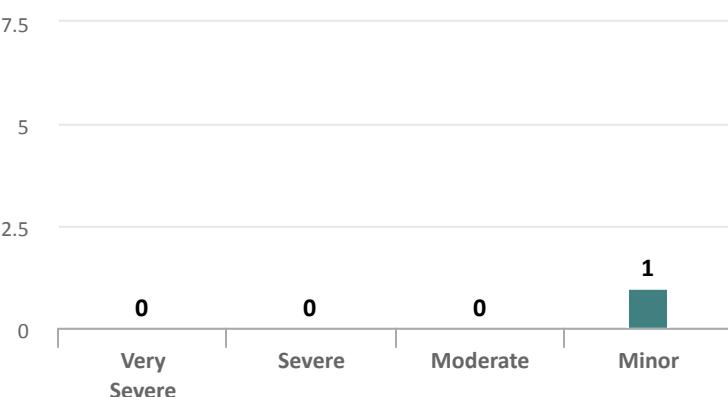
NUMBER OF CONTROVERSIES BY PILLAR



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



KEY METRIC & SCORE CHANGES

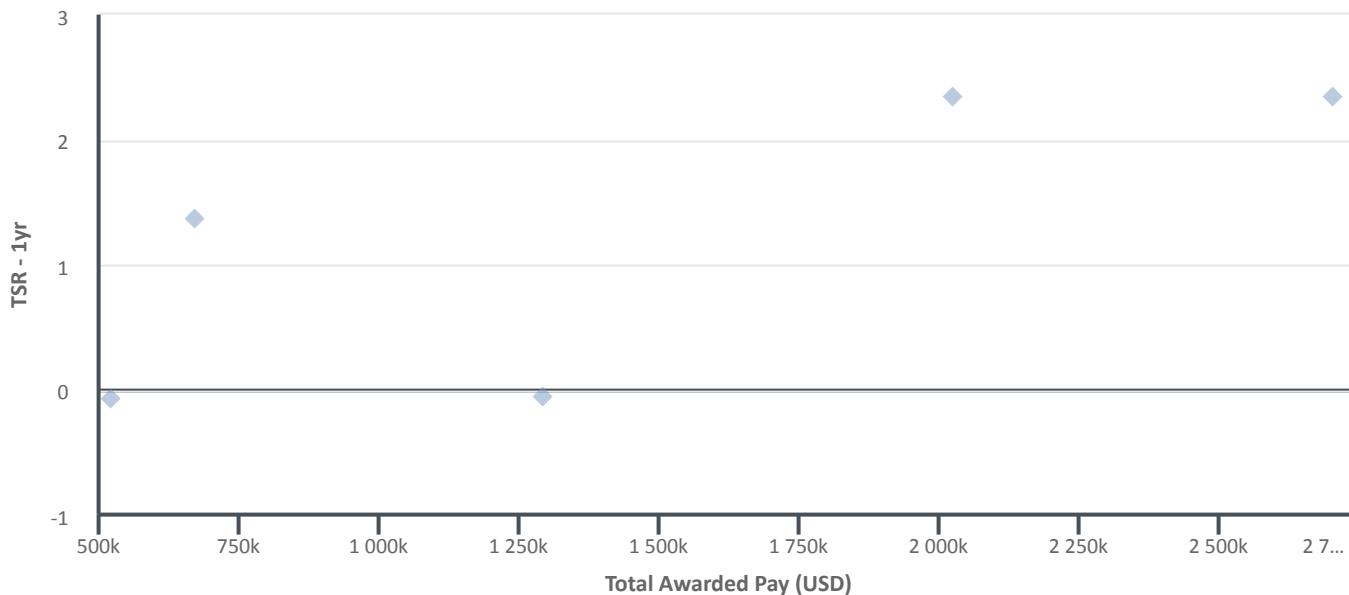
ALL KEY METRIC & SCORE CHANGES (SINCE JULY 2020)

Key Metric	Key Metric Change	Date	Score Change*	Change Notes
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	Following issuer feedback, subsequently verified
Entrenched Board	Flag Removed	Aug 31, 2021	0.80	Following issuer feedback, subsequently verified
Combined CEO/Chair	Flag Removed	Aug 31, 2021	0.20	Following issuer feedback, subsequently verified
CEO Equity Policy	Flag Removed	Aug 31, 2021	0.20	Following issuer feedback, subsequently verified
Asset-Liability Valuation	Score Change	Aug 20, 2021	0.02	Updates to data for accounting peer group member(s)
Significant Votes Against Directors	Flag Added	Aug 03, 2021	-0.50	
Entrenched Board	Score Change	Aug 03, 2021	0.20	
Revenue Recognition	Score Change	Jul 15, 2021	-0.14	Updates to data for accounting peer group member(s)
Asset-Liability Valuation	Score Change	Jul 15, 2021	-0.02	Updates to data for accounting peer group member(s)
Entrenched Board	Score Change	Jun 25, 2021	-0.41	
Multiple Equity Classes with Different Voting Rights	Flag Removed	Jun 15, 2021	0.45	
Multiple Equity Classes with Different Voting Rights	Flag Added	Jun 10, 2021	-0.45	
Cross Shareholdings	Score Change	Jun 10, 2021	-0.40	
Business Combination Provision	Flag Removed	Jun 10, 2021	0.10	
Asset-Liability Valuation	Score Change	Apr 08, 2021	0.02	Updates to data for accounting peer group member(s)
Overboarded Exec Directors	Flag Added	Feb 26, 2021	-0.50	
Revenue Recognition	Score Change	Oct 23, 2020	0.30	Updates to data for accounting peer group member(s)
Expense Recognition	Score Change	Oct 23, 2020	0.01	Updates to data for accounting peer group member(s)
Asset-Liability Valuation	Score Change	Oct 23, 2020	-0.02	Updates to data for accounting peer group member(s)
Revenue Recognition	Flag Added	Aug 24, 2020	-0.60	Updates to data for accounting peer group member(s)
Expense Recognition	Score Change	Aug 24, 2020	-0.17	Updates to data for accounting peer group member(s)
Asset-Liability Valuation	Score Change	Aug 24, 2020	0.00	Updates to data for accounting peer group member(s)
Revenue Recognition	Flag Removed	Aug 13, 2020	0.43	Updates to data for accounting peer group member(s)
Expense Recognition	Score Change	Aug 13, 2020	0.16	Updates to data for accounting peer group member(s)
Asset-Liability Valuation	Score Change	Aug 13, 2020	0.05	Updates to data for accounting peer group member(s)

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

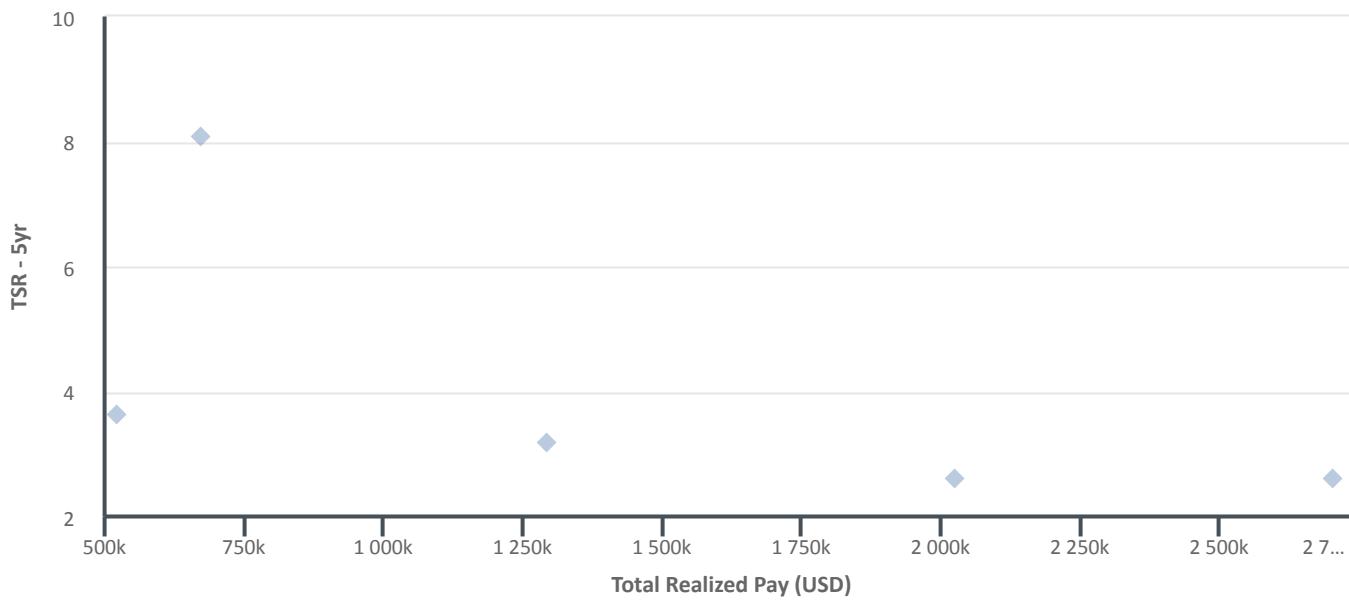
CEO PAY CHARTS

CEO TOTAL AWARDED PAY VERSUS PAY PEER GROUP



Pay Peers (♦) 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.

SHAREHOLDER/MANAGEMENT PROPOSALS

MANAGEMENT PROPOSALS

Proxy Year	Proposal	Proposal Summary	Outcome	Votes For	Votes Against	Abstain/Withheld%
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%
2019	Other	3 Approval Items (I) To approve 2018 Annual Business Report and Financial Statements.	Approved	90.4%	0%	9.6%
2019	Other	3 Approval Items (II) The proposal for distribution of 2018 profits (Proposed by the Board of Directors)	Approved	90.8%	0%	9.2%
2019	Other	4. Discussion Items (I) Proposal for a new share issue through capitalization of earnings. (Proposed by the Board of Directors)	Approved	89.3%	0.2%	10.5%
2019	Amend Certificate of Incorporation	4. Discussion Items (II)To approve the amendments on part of Article of Incorporation. (Proposed by the Board of Directors)	Approved	89%	0%	11%
2019	Other	4. Discussion Items (III)To approve the amendments on part of Procedures for Acquisition or Disposal of Fixed Assets. (Proposed by the Board of Directors)	Approved	89%	0%	11%
2019	Other	5. To approve the amendments on part of Procedures for Handling Endorsement/Guarantee. (Proposed by the Board of Directors)	Approved	89%	0%	11%

*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.

DIRECTOR PROFILES

AN PING (NELSON) CHANG

Age: _____
 Gender: M
 Nationality: Taiwan

Financial: Yes
 Risk: No
 Industry: Materials - Construction Materials

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	4	Jun 28, 2017		Yes	No	
O-Bank Co., Ltd.	Board Member	4	Feb 22, 2017		No	No	
Taiwan Cement Corp.	Executive, Board Member, Chairman, CEO	27	Apr 21, 1994		No	No	

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	5	Jun 22, 2016		Yes	No	
Innolux Corporation	Board Member	8	Jun 19, 2013		Yes	Yes	

BOARD COMMITTEES

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

DIRECTOR PAY (all values USD)

Company	Role	Tenure	Pay Year	Cash Fees	Total Awarded Pay	Shares Held
Innolux Corporation	Non-Executive	8	2020		35,590	0

CHI-TE CHEN

Age: _____
 Gender: M
 Nationality: Not Disclosed

Financial: No
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/10/2021

Director, Chia Hsin Cement Corp.

Vice Chairman, Chien Kuo Construction Co. Ltd.

Director, Chia Hsin Property Management and Development Corp.

CORPORATE BOARDS

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

CHIEN (JAMES) WEN

Age: **62**
 Gender: M
 Nationality: Taiwan

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

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/10/2021

Chien, Wen is a member of our board of directors. Prior to joining our company, Mr. Wen was the CFO of Winbond Electronics Corp. He also worked as a supervisor of Winbond Electronics Corp. and a general manager of Cathay Securities Investment Trust. Currently, Mr. Wen is also a director of Jiantan Temple Foundation and a supervisor of Chi Cheng Investment Corp., Chinatrust Investment Co., Ltd, and Ta-Ho. He received a master's degree in business administration from Wharton School of the University of Pennsylvania.

WINBOND ELECTRONICS CORP. - Audit Board Member Source Date: 06/04/2021

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	3	Jun 22, 2018		Yes	No	

CHUN YING LIU

Age: 46
 Gender: F
 Nationality: Taiwan

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

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/10/2021

Chun-Ying, Liu is a member of our board of directors. She is a partner at Tsar & Tsai Law Firm. Ms. Liu graduated from the EMBA program of National Taiwan University.

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	3	Jun 22, 2018		Yes	No	

JONG-PEIR (JOHN) LI

Age: Financial: No
 Gender: M Risk: No
 Nationality: Taiwan Industry: Materials - Construction Materials, Banks - Banks

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Executive, Board Member Source Date: 05/10/2021

Mr. Zhongpei (John) Li M.B.A., School of Business Administration, New York University ;Chairman, Taiwan Cement Corp. ;Chairman, Chia Hsin Cement Corp. ;Chairman, International CSRC Investment Holdings Co., Ltd. ;Chairman, Taiwan Prosperity Chemical Corporation

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Executive, Board Member	3	Jun 22, 2018		No	No	

KANG LUNG (JASON) CHANG

Age: _____
 Gender: M
 Nationality: Taiwan

Financial: No
 Risk: No
 Industry: _____

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/10/2021

Koo Jason Kung-Yi is the vice chairman of our board of directors. Prior to joining our company, Mr. Koo was a vice president at the Investment Banking Department of Morgan Stanley. He is also the chairman of TPCC, China Synthetic Rubber Corporation and E-ONE Moli Energy Corp., managing director of TCCIH and director of Ho-Ping Power. Mr. Koo received a bachelor's degree in economics from the National Central University and a master's degree in business administration from Wharton School of the University of Pennsylvania. Mr. Koo is the nephew of Mr. Chang An-Ping, Nelson

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	9	Jun 21, 2012		No	No	

KENNETH C.M. LO

Age: **65**
 Gender: M
 Nationality: Taiwan

Financial: Yes
 Risk: No
 Industry: Banks - Banks

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/10/2021

Kenneth C.M. Lo is a member of our board of directors. He is also the chairman of O-Bank Co., Ltd., and a director of Industrial Bank of Taiwan II VC Corp. He received a bachelor's degree in business from the University of Alabama

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	16	Feb 24, 2005		Yes	No	

KUNG YI KOO

Age: **56**
 Gender: M
 Nationality: Hong Kong

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

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/10/2021

Koo Jason Kung-Yi is the vice chairman of our board of directors. Prior to joining our company, Mr. Koo was a vice president at the Investment Banking Department of Morgan Stanley. He is also the chairman of TPCC, China Synthetic Rubber Corporation and E-ONE Moli Energy Corp., managing director of TCCIH and director of Ho-Ping Power. Mr. Koo received a bachelor's degree in economics from the National Central University and a master's degree in business administration from Wharton School of the University of Pennsylvania. Mr. Koo is the nephew of Mr. Chang An-Ping, Nelson

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	3	Jun 22, 2018		No	No	

LING TAI (LYNETTE) CHOU

Age: _____
 Gender: F
 Nationality: Taiwan

Financial: Yes
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/10/2021

Lynette Ling-Tai, Chou is an independent director of our company. Before joining the company, she was the dean of student affairs and vice dean of College of Commerce, National Chengchi University. She also worked as a supervisor in the Department of Accounting of National Chengchi University. Currently, she is also a professor of accounting at National Chengchi University. She received a doctor's degree in accounting from the University of Houston

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	3	Jun 22, 2018		Yes	Yes	

BOARD COMMITTEES

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

MEI-HWA LIN

Age: _____
 Gender: F
 Nationality: Not Disclosed

Financial: No
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/10/2021

Mei-Hwa Lin is appointed as director of the company

CORPORATE BOARDS

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

BOARD COMMITTEES

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

POR-YUAN WANG

Age: _____
 Gender: M
 Nationality: Taiwan

Financial: No
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/10/2021

Wang Por-Yuan is a member of our board of directors. He is also the chairman of SerComm Corporation, a director of Prosperity Dielectrics Corporation, independent director of UPC Technology Corporation and Taishin Holdings. He was the chairman of Pacific Venture Partners and Monte Jade Association. Mr. Wang received a doctor's degree from Carnegie-Mellon University

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	12	Jun 19, 2009		Yes	No	

SHIOU-LING LIN

Age: **61**
 Gender: F
 Nationality: Taiwan

Financial: Yes
 Risk: No
 Industry: Diversified Financial Services, Commercial & Professional Services - Professional Services

BIOGRAPHICAL INFORMATION

Accton Technology Corp. - Board Member Source Date: 05/31/2021

Mr. Lin is Independent Director and the Supervisor of Accton Technology Corp.

CATHAY REAL ESTATE DEVELOPMENT CO.,LTD. - Board Member Source Date: 05/25/2021

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		Jul 05, 2021		Yes	Yes	
CATHAY REAL ESTATE DEVELOPMENT CO.,LTD.	Board Member	7	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.	Risk	Chair

VICTOR WANG

Age: **65**
 Gender: M
 Nationality: Taiwan

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

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/10/2021

Victor Wang is an independent director of our company. Before joining our company, he was the vice chairman of Deloitte Taiwan. He is also a director of Chilisin Electronics Corp. and YAGEO Corporation, a supervisor of DIVA Laboratories, Ltd., and independent director of Taiwan Navigation Co., Ltd. Mr. Wang has a bachelor's degree in accounting from Soochow University and was graduated from the EMBA program in National Taiwan University.

CORPORATE BOARDS

Company	Role	Tenure	Appointed	Resigned	Independent of Management	Independent of Other Interests	Attendance
Taiwan Cement Corp.	Board Member	9	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

YU-CHENG (ARTHUR) CHIAO

Age: _____
 Gender: M
 Nationality: Taiwan

Financial: No
 Risk: No
 Industry: Capital Goods - Electrical 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	5	Jun 22, 2016		No	No	
Taiwan Cement Corp.	Board Member	9	Jun 21, 2012		Yes	Yes	
Nuvoton Technology Corporation	Board Member	13	Mar 14, 2008		No	No	
WINBOND ELECTRONICS CORP.	Executive, Board Member, Chairman, CEO	34	Sep 04, 1987		No	No	
WALSIN LIHWA CORPORATION	Board Member	40	Apr 10, 1981		No	No	

BOARD COMMITTEES

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

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.

GOVERNMENT SUPPORT RATING

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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