

Taiwan Cement Corp. (1101)

Construction Materials | TW

Increasing investments in carbon mitigation to support stronger emissions reduction target

MSCI
ESG RATINGS

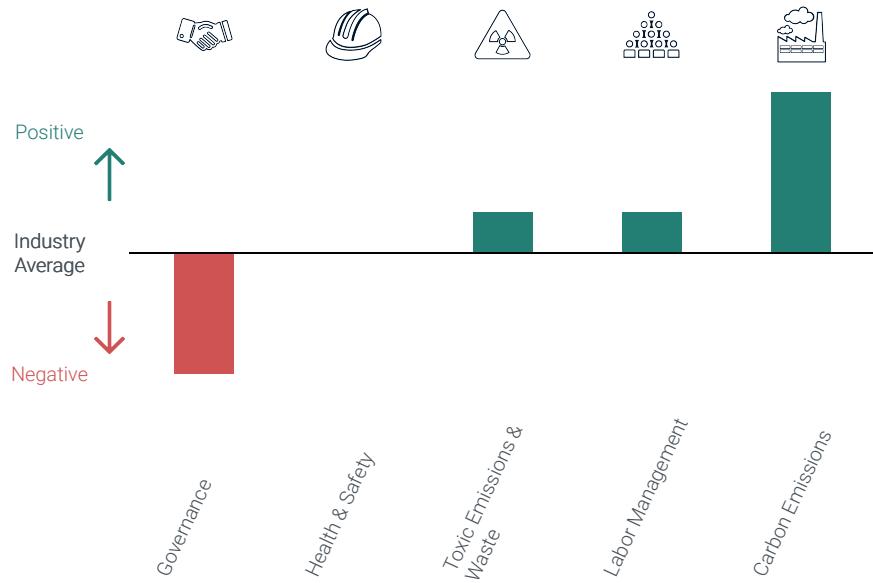


CCC B BB BBB A AA AAA

LAST UPDATE: February 11, 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 February 11, 2021.



Last ESG Rating action

Rating action date: August 31, 2020

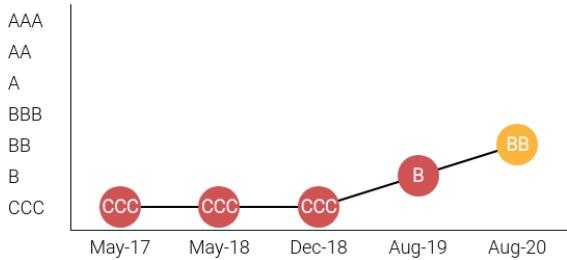
Taiwan Cement has been upgraded to 'BB' from 'B'.

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

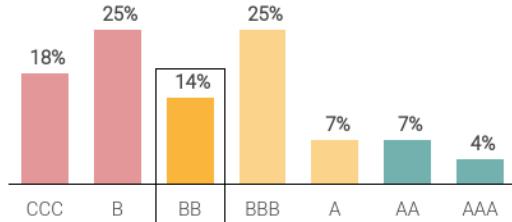
ESG Rating history



ESG Rating history shows five most recent rating actions

ESG Rating distribution

Universe: MSCI ACWI Index constituents, Construction Materials, n=28



Key scores

| | Weight | Score (0-10) |
|------------------------------------|--------|--------------|
| Industry-Adjusted Score | | 4.0 |
| ► Weighted-Average Key Issue Score | | 3.9 |
| ► Environmental Pillar Score | 39% | 4.4 |
| ► Social Pillar Score | 28% | 4.6 |
| ► Governance Pillar Score | 33% | 2.7 |

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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 February 11, 2021

| Key issue | Weight | Industry average | Score (0-10) | Change | Explanation |
|----------------------------------|--------|------------------|--------------|--------|--|
| Weighted-Average Key Issue Score | | 3.6 | 3.9 | | |
| Governance | 33% | 3.5 | 2.7 | ▼0.6 | <ul style="list-style-type: none"> The company falls into the lower scoring range relative to global peers, reflecting key areas of concern related to the board. |
| <u>Corporate Governance</u> | | 4.9 | 3.6 | ▲0.3 | <ul style="list-style-type: none"> Involved in moderate <u>controversy</u> Evidence of detailed policies on business ethics and corruption |
| <u>Corporate Behavior</u> | | 3.5 | 4.0 | ▼1.1 | <ul style="list-style-type: none"> Carbon Intensity 73% lower than industry average |
| Carbon Emissions | 20% | 3.2 | 5.1 | ▲1.0 | <ul style="list-style-type: none"> Initiatives to reduce toxic emissions and waste include aggressive targets |
| Toxic Emissions & Waste | 19% | 3.3 | 3.6 | ▲0.3 | <ul style="list-style-type: none"> 100% of revenues from regions with historically high rates of industrial fatalities |
| Health & Safety | 14% | 3.5 | 3.5 | ▲0.3 | <ul style="list-style-type: none"> Robust compensation practices including variable performance-based components to pay |
| Labor Management | 14% | 4.9 | 5.8 | | |

* 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 _____ Jan 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. (*Score changes will be captured starting 06 November 2019)

| Date ▲ | Type | Score (0-10) | Change | Explanation |
|--------------|--|--------------|--------|--|
| | Current Weighted-Average Key Issue Score | 3.9 | | |
| 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 |

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

| Last update | Headline | Assessment | Type |
|-------------|--|------------|---------------------------|
| Sep-20 | China: CNY 300,000 SAMR penalty for the alleged failure to declare joint venture with OYAK | Moderate | Anticompetitive Practices |

This table shows the most recently updated controversies facing the company. Controversies are considered alongside other factors when assessing a company and may or may not impact the company's ESG Rating. For further details, See [Controversies Detail section](#) in full ESG Rating report appendix.

Corporate governance summary



Board of directors

Board type: Unitary Board



Board diversity



Male



Female



Ownership summary

| | | |
|------------------------------|-----------------------|---|
| Capital structure | Single Equity Class | Top shareholders |
| Ownership classification | Principal Shareholder | Koo Family and Chang Family -9.8% (1.78% through Heng Qiang Investment Co., Ltd.; 4.22% through Chinatrust Investment Co., Ltd. Chia Hsin Cement Corporation-3.80%, Chia Hsin International -1.85) |
| Key Owner Types | Family Firm | |
| Complex Ownership Structures | Cross Shareholdings | |
| CEO | | |
| Name: An Ping Chang | | Total realized pay*:N/A |
| Tenure: 1 Year | | 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 ▲▲ |
| LafargeHolcim Ltd | ●●●● | ●●●● | ●●●● | ● | ●●●● | ●● | BBB ▲▲ |
| VULCAN MATERIALS COMPANY | ●● | ●●●● | ●●●● | ●●● | ●●● | ●●●●● | BB ▲▲ |
| Taiwan Cement Corp. | ●●●● | ●●●● | ●●●● | ●●● | ● | ●●●● | BB ▲ |
| ULTRATECH CEMENT LIMITED | ● | ●●● | ●●● | ●●● | ● | ●● | B ▲▲ |
| ANHUI CONCH CEMENT COMPANY LIMITED | ● | ● | ● | ● | ●●● | ●● | CCC ▲▲ |

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 the largest MSCI ACWI Index constituents in the Construction Materials ESG Ratings Industry based on market capitalization, sorted by ESG Ratings (best to worst), as of February 11, 2021.

Analyst insights

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: Feb 11, 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 | | 3.9 | | - | - |
| Environmental Pillar Score | 3.7 | 44.0% | 4.4 | 39.0% | 0.7 | -5.0% |
| Carbon Emissions Key Issue Score | 4.1 | 22.0% | 5.1 | 20.0% | 1.0 | -2.0% |
| Exposure Score | 9.9 | | 9.9 | | - | - |
| Business Segment Exposure Score | 9.1 | | 9.1 | | - | - |
| 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% | 3.6 | 19.0% | 0.3 | -3.0% |
| Exposure Score | 9.4 | | 9.4 | | - | - |
| Business Segment Exposure Score | 9.4 | | 9.4 | | - | - |
| Management Score | 5.7 | | 6.0 | | 0.3 | - |
| Management Score - Excluding Controversies | 5.7 | | 6.0 | | 0.3 | - |
| Practices Score | 6.0 | | 6.6 | | 0.6 | - |
| Performance Score | 5.0 | | 5.0 | | - | - |
| Controversy Deduction | 0.0 | | 0.0 | | - | - |
| Social Pillar Score | 4.5 | 34.0% | 4.6 | 28.0% | 0.1 | -6.0% |
| Health & Safety Key Issue Score | 3.2 | 17.0% | 3.5 | 14.0% | 0.3 | -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 | | 4.8 | | 0.3 | - |
| Management Score - Excluding Controversies | 4.5 | | 4.8 | | 0.3 | - |
| Practices Score | 4.3 | | 4.8 | | 0.5 | - |
| Performance Score | 5.0 | | 5.0 | | - | - |
| Controversy Deduction | 0.0 | | 0.0 | | - | - |
| Labor Management Key Issue Score | 5.8 | 17.0% | 5.8 | 14.0% | - | -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 | | 4.9 | | - | - |
| Management Score - Excluding Controversies | 4.9 | | 4.9 | | - | - |
| Practices Score | 4.9 | | 4.9 | | - | - |
| Controversy Deduction | 0.0 | | 0.0 | | - | - |

| Description | As of last rating action date: Aug 31, 2020 | | As of last update date: Feb 11, 2021 | | Difference | |
|---------------------------------------|---|--------|--------------------------------------|--------|------------|--------|
| | Score | Weight | Score | Weight | Score | Weight |
| Governance Pillar Score* | 3.3 | 22.0% | 2.7 | 33.0% | -0.6 | 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** | | | -7.3 | | - | - |
| Corporate Governance Deductions | | | -5.0 | | - | - |
| Board | | | -2.7 | | - | - |
| Pay | | | -1.3 | | - | - |
| Ownership & Control | | | -0.6 | | - | - |
| Accounting | | | -0.4 | | - | - |
| Corporate Behavior Deductions | | | -2.3 | | - | - |
| Business Ethics | | | -2.3 | | - | - |
| 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 | 3.9 | | |
| 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

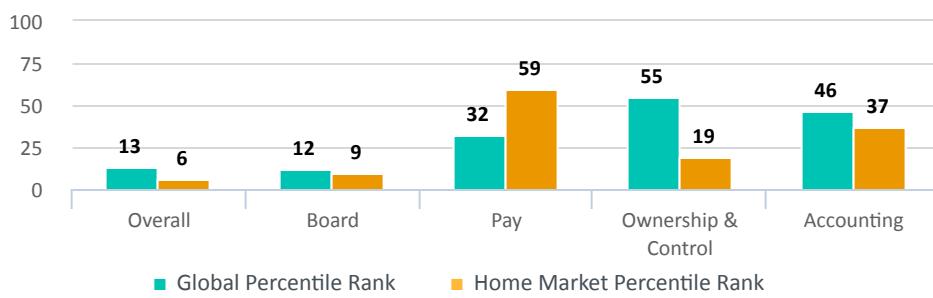
Market Cap: 8,380,633,523 USD

Home Market: Taiwan

| Score | Change (since rating) | Quartile | As of |
|-------|--------------------------|----------|--------------|
| 3.6 | ▲ 0.3 | ● | Nov 05, 2020 |

Oct 22, 2020

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.

KEY DATES

| | |
|--------------------|--------------|
| Financial Year End | December 31 |
| Annual Filing Date | May 29, 2020 |
| AGM Date | Jun 09, 2020 |

WEBSITE

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

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

KEY AREAS OF CONCERN*

SCORING DEDUCTIONS

Pay Figures

(-1.20)

🚩 Executive Pay Disclosure

Board Independence

(-1.00)

🚩 Related Party Transactions

Board Skills & Diversity

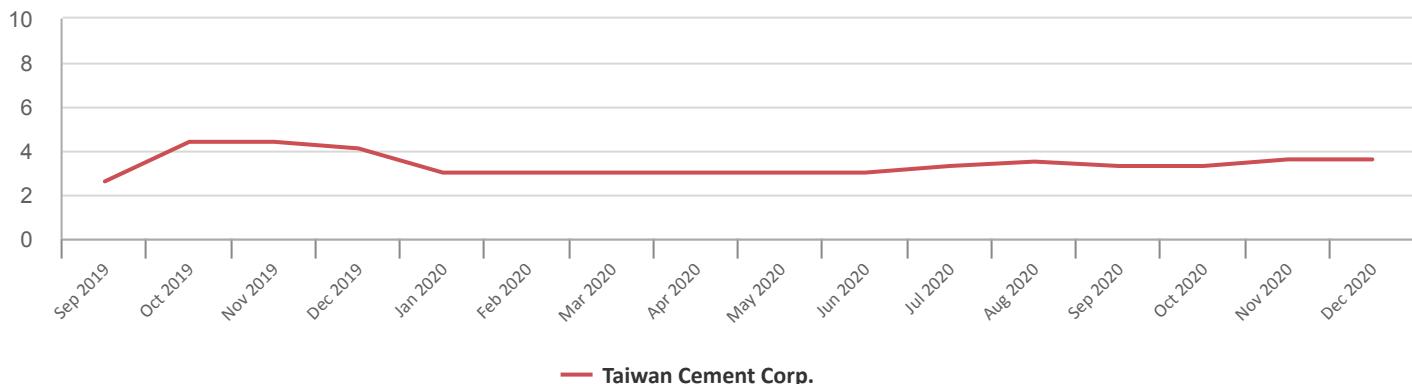
(-0.90)

🚩 Entrenched Board

🚩 Risk Management Expertise

🚩 Not 30% Female Directors

CORPORATE GOVERNANCE SCORE HISTORY



CHANGES TO FLAGGED KEY METRICS (SINCE OCTOBER 2019)

| Key Metric | Key Metric Change | Date | Score Change* | Change Notes |
|-------------------------------------|-------------------|--------------|---------------|---|
| 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) |
| Pay Linked to Sustainability | Flag Removed | Jul 10, 2020 | 0.20 | |
| Expense Recognition | Flag Removed | Jun 25, 2020 | -0.16 | Updates to data for accounting peer group member(s) |
| Asset-Liability Valuation | Flag Removed | Jun 25, 2020 | -0.05 | Updates to data for accounting peer group member(s) |
| Leadership Concerns | Flag Removed | Jun 22, 2020 | 0.30 | |
| Expense Recognition | Flag Added | Jun 22, 2020 | 0.16 | Updates to data for accounting peer group member(s) |
| Asset-Liability Valuation | Flag Added | Jun 22, 2020 | 0.05 | Updates to data for accounting peer group member(s) |
| Leadership Concerns | Flag Added | Jun 18, 2020 | -0.30 | |
| Leadership Concerns | Flag Removed | Jun 05, 2020 | 0.30 | |
| Director Removal Without Cause | Flag Removed | Jun 05, 2020 | 0.10 | |
| Combined CEO/Chair | Flag Added | Jun 05, 2020 | -0.20 | |
| Business Combination Provision | Flag Added | Jun 05, 2020 | -0.10 | |
| Audit Committee Industry Expert | Flag Added | Jun 05, 2020 | -0.10 | |
| Overboarded Non-Exec Directors | Flag Added | Dec 17, 2019 | -0.50 | |
| Overboarded Audit Committee Members | Flag Added | Dec 17, 2019 | -0.10 | |
| Pay Committee Concerns | Flag Added | Dec 03, 2019 | -0.30 | |

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

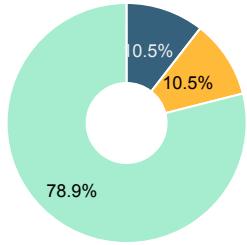
*Score change available in respect of changes dated on or after 13 December 2017.

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, possible board entrenchment and some non-executives may have too many other public board commitments.

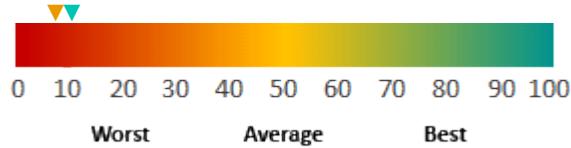
| 0-10 Score | Global Percentile Rank | Home Market Percentile Rank |
|------------|------------------------|-----------------------------|
| 4.1 | 12th (Below Average) | 9th (Below Average) |

KEY METRICS SCORING

| | Deduction |
|---|-----------|
| AUDIT OVERSIGHT | |
| Flag Audit Committee Industry Expert | -0.10 |
| Flag Overboarded Audit Committee Members | -0.10 |
| Auditor Tenure | -0.10 |
| BOARD EFFECTIVENESS | |
| Flag Overboarded Non-Exec Directors | -0.50 |
| BOARD INDEPENDENCE | |
| Flag Related Party Transactions | -1.00 |
| BOARD LEADERSHIP | |
| Flag Combined CEO/Chair | -0.20 |
| Flag Independent Chair | -0.10 |
| Flag Chair not Independent & No Independent Lead Director | -0.10 |
| BOARD SKILLS & DIVERSITY | |
| Flag Entrenched Board | -0.60 |
| Flag Risk Management Expertise | -0.20 |
| Flag Not 30% Female Directors | -0.10 |
| PAY OVERSIGHT | |
| Flag 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 | 69 |
| 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 | 69 |
| 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: 19

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 | 69 | 26 | 1 | No | No | Family Firm Director; Executive | Taiwan |
| Chi Chia Hsieh | M | 77 | 4 | 2 | Yes | No | Special Shareholder Representative | Taiwan |
| Chi-Wen Chang \$ | M | 63 | 5 | 1 | Yes | No | Special Shareholder Representative | Taiwan |
| Chien (James) Wen \$ | M | 70 | 2 | 1 | Yes | No | Special Shareholder Representative | Taiwan |
| Chih-Chung Tsai \$ | M | 53 | 2 | 1 | Yes | No | Special Shareholder Representative | Taiwan |
| Chin Jen Sheng | M | 53 | 3 | 1 | Yes | Yes | | Taiwan |
| Chun Ying Liu | F | 45 | 2 | 1 | Yes | No | Special Shareholder Representative | Taiwan |
| Jong-Peir (John) Li ! | M | 57 | 2 | 1 | No | No | Special Shareholder Representative; Executive | Taiwan |
| Kang Lung (Jason) Chang | M | 38 | 8 | 1 | No | No | Family relationship; Family Firm Director | Taiwan |
| Kenneth C.M. Lo \$ | M | 79 | 15 | 1 | Yes | No | Special Shareholder Representative | Taiwan |
| Kung Yi Koo | M | 38 | 2 | 1 | No | No | Non-Executive Employee; Family relationship; Family Firm Director | Hong Kong |
| Ling Tai Chou \$ | F | 66 | 2 | 1 | Yes | Yes | | Taiwan |
| Nan-Chou Lin | M | 50 | 22 | 1 | Yes | No | Special Shareholder Representative | Taiwan |
| Por-yuan Wang | M | 79 | 11 | 1 | Yes | No | Special Shareholder Representative | Taiwan |
| Qi-De Chen | M | | 4 | 1 | Yes | No | Special Shareholder Representative | Taiwan |
| Tung Sheng (Eric) Wu | M | 68 | 35 | 1 | Yes | No | Special Shareholder Representative | Taiwan |
| Tzun-yen Yu | M | 73 | 18 | 1 | Yes | No | Special Shareholder Representative | Taiwan |
| Victor Wang \$ | M | 71 | 8 | 1 | Yes | Yes | | Taiwan |
| Yu-Cheng (Arthur) Chiao | M | 65 | 8 | 5 | Yes | Yes | | Taiwan |
| | F | # >= 70 | # >= 15 yrs | # >= 4 | | | | |
| Total (of 19) | 2 | 6 | 5 | 1 | 15 | 4 | | |
| Percentage | 10.5% | 31.6% | 26.3% | 5.3% | 78.9% | 21.1% | | |

Note: Board count includes the membership of this board.

\$ - Financial Expert (6) ! - Industry Expert (2) CEO - Chief Executive Officer cob - Chair of the Board

RELATED PARTY TRANSACTIONS

The risk to minority shareholders arising from related party transactions is a function of the nature of the related party, the relative size of the transaction and the pricing of the transaction. The board, and in particular the independent directors or audit committee, should play a key role in the protection of minority shareholders, 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, purchase

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, 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 |
| Dec 31, 2018 | Other | 2,288,062 TWD | 0.002% of Total Revenue | Recurring income from related party |
| | | 4,180,669 TWD | 0.004% of Expenses | Recurring purchases from related party |
| | | 25,000 TWD | 0.000% of Total Assets | Purchase of assets from related party |

Sources : 2019 AR p.70, 2018 AR p.164

BOARD EFFECTIVENESS

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

Nomination Committee

No details on this committee has been identified

BOARD SKILLS & DIVERSITY

MSCI ESG Research has flagged the board as potentially entrenched due to a high number of long-serving directors. Of particular importance during periods of extended underperformance, the impact of an entrenched board can be particularly damaging to sustainable shareholder interests and we do see the potential for such entrenchment at this firm due to a significant number of long-serving directors. These concerns are aggravated due to additional factors, e.g. all board members do not stand for annual re-elections and the lack of an independent chairman, which together with the high number of long-tenured directors raises concerns about whether the board is able to provide an effective counterbalance to management. We note that 35% in Taiwan have been flagged for having an entrenched board.

We have flagged the Taiwan Cement board for gender diversity concerns. Several recent studies have shown that companies with too few female directors tend to be less effective and even underperform those whose boards are more diverse.

A board with one or more active CEOs and overboarded directors may not be able to provide effective oversight of management. External distractions can limit the time and attention required to fulfill their fiduciary duties.

AUDIT OVERSIGHT

Audit Committee - Number Of Meetings: 9

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

| Name | M/F | Age | Board Tenure (Years) | Boards | Independent of Mgmt | of Other Interests | Committee Status |
|--|-----|-----|----------------------|--------|---------------------|--------------------|------------------|
| Chin Jen Sheng | M | 53 | 3 | 1 | Yes | Yes | Member |
| Ling Tai Chou \$ | F | 66 | 2 | 1 | Yes | Yes | Member |
| Victor Wang \$ | M | 71 | 8 | 1 | Yes | Yes | Chair |
| Yu-Cheng (Arthur) Chiao | M | 65 | 8 | 5 | Yes | Yes | Member |

\$ - Financial Expert (2)

PAY OVERSIGHT

Pay Committee - Number Of Meetings: 6

The Taiwan Cement board includes an independent pay committee, considered best practice for oversight of executive pay.

| Name | M/F | Age | Board Tenure (Years) | Independent of Mgmt | of Other Interests | CEO Role? | Committee Status |
|--|-----|-----|----------------------|---------------------|--------------------|-----------|------------------|
| Chin Jen Sheng | M | 53 | 3 | Yes | Yes | | Member |
| Ling Tai Chou \$ | F | 66 | 2 | Yes | Yes | | Member |
| Victor Wang \$ | M | 71 | 8 | Yes | Yes | | Member |
| Yu-Cheng (Arthur) Chiao | M | 65 | 8 | Yes | Yes | Active | Chair |

\$ - Financial Expert (2)

CONTROVERSY CASES

Category: Executive Misconduct

Last Reviewed:

Date Initiated: September 2017

Assessment:

Status: Ongoing

Hong Kong: Directors Reprimand by Regulator for Violating Code on Takeovers and Mergers over Failure to Disclose Transactions during TCC International Privatization

Hong Kong Securities and Futures Commission (SFC) reprimanded two Board Directors of Taiwan Cement in September for their violation of Code on Takeovers and Mergers. According to the SFC, the two directors failed to disclose their transactions on TCC International and Taiwan Cement during the company's privatization process.

PAY

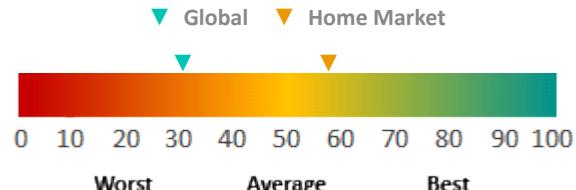
Executive pay practices at Taiwan Cement fall into the average scoring range relative to global peers. Areas of particular concern include poor disclosure in relation to executive pay.

| 0-10 Score | Global Percentile Rank | Home Market Percentile Rank |
|------------|------------------------|-----------------------------|
| 2.3 | 32nd (Average) | 59th (Average) |

KEY METRICS SCORING

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

PAY PERFORMANCE VS.



PAY FIGURES

DISCLOSURE

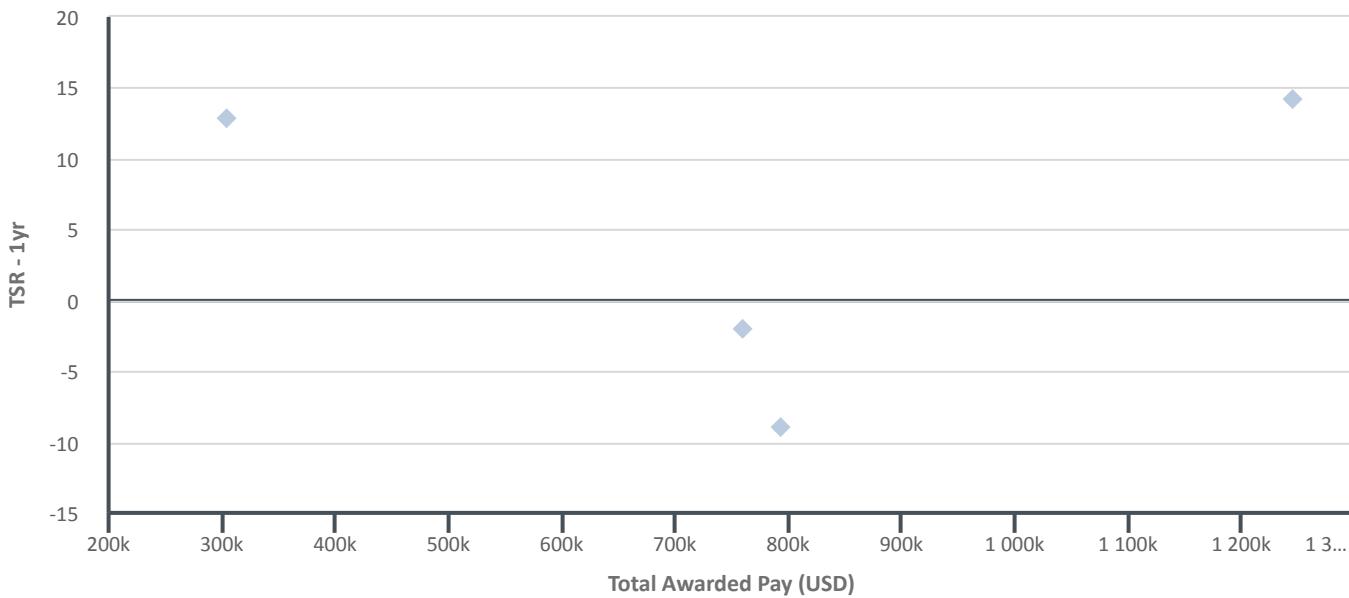
Disclosure should include, at minimum, pay for each executive member of the Board of Directors (or Management Board for companies with a two-tier board structure) on an individualized basis or in cases where there are no executive members, the CEO. The individualized disclosure should include separate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

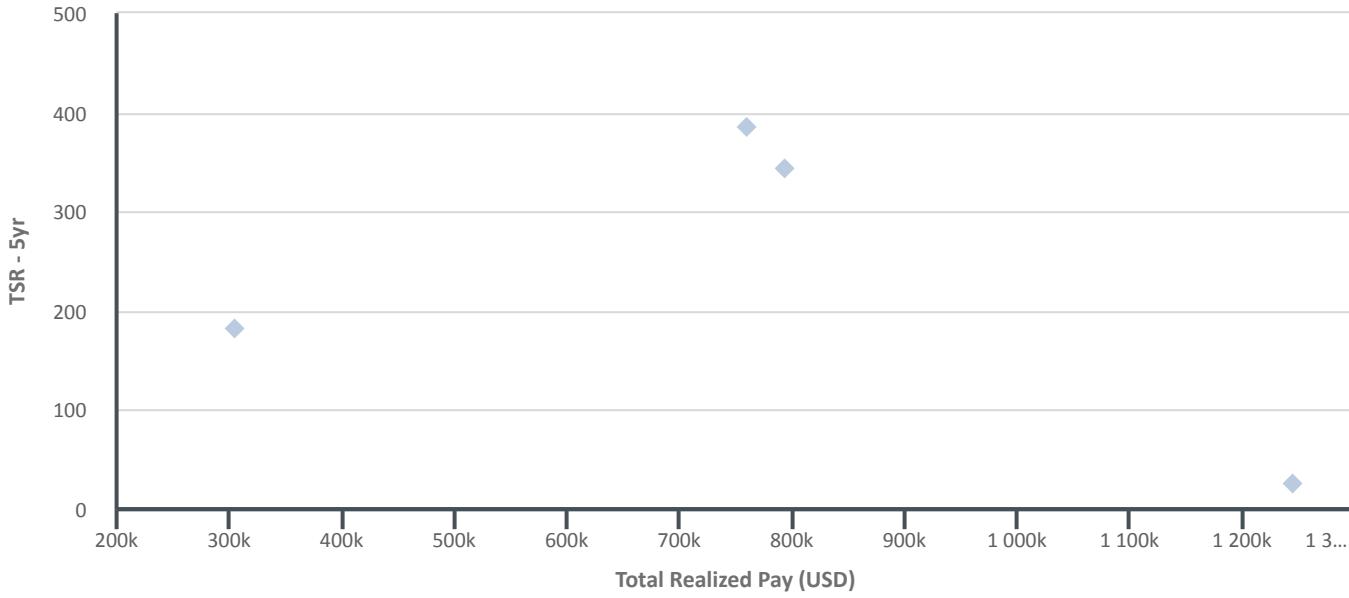
| Company | Home Market | Market Cap (USD m) | Pay Year | 1 Yr TSR | Total CEO Annual Pay (USD) | CEO Name | CEO Since |
|--|-------------|--------------------|----------|----------|----------------------------|------------------------|-----------|
| ACC LIMITED | India | 4,447 | 2019 | 14.20% | 1,246,572 | Akhoury | Feb 2017 |
| Huaxin Cement Co., Ltd. | China | 5,617 | 2019 | -8.95% | 793,790 | Li | Apr 2003 |
| CHINA RESOURCES CEMENT HOLDINGS LIMITED | China | 7,901 | 2019 | -2.01% | 760,286 | Ji | Sep 2016 |
| China National Building Material Company Limited | China | 10,727 | 2019 | 12.85% | 305,066 | Peng | Jun 2018 |
| PT Semen Indonesia (Persero) Tbk | Indonesia | 4,631 | 2019 | -3.97% | | Santoso | Sep 2017 |
| LAFARGEHOLCIM MAROC SAS | Frontier | 4,301 | 2019 | -9.75% | | Michos | May 2018 |
| DANGOTE CEMENT PLC | Frontier | 10,162 | 2018 | 43.30% | | Makaju | Jan 2018 |
| Asia Cement Corporation | Taiwan | 4,911 | 2019 | -3.68% | | Lee | Aug 2000 |
| CEMEX, Sociedad Anonima Bursatil de Capital Variable | Mexico | 9,401 | 2019 | 51.98% | | Gonzalez Olivieri | May 2014 |
| Taiwan Cement Corp. | Taiwan | 8,381 | | | | An Ping (Nelson) Chang | Jul 2019 |

CEO TOTAL AWARDED PAY VERSUS PAY PEER GROUP



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

CEO TOTAL REALIZED PAY VERSUS PAY PEER GROUP



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

PAY PERFORMANCE ALIGNMENT

CEO & EXECUTIVE EQUITY

No effective stock ownership guidelines have been identified.

| Executive | Tenure (Years) | Shares Held | YoY % Change | Shareholding As % of Salary |
|------------------------|-------------------|-------------|-----------------|-----------------------------------|
| An Ping (Nelson) Chang | 26 | 184,304 | | |
| Jong-Peir (John) Li | 2 | 749,076 | | |

- 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 | 4 | 470,874 |
| Chi-Wen Chang | 5 | 3,216,041 |
| Chin Jen Sheng | 3 | 2,000 |
| Kung Yi Koo | 2 | 535,054 |
| Ling Tai Chou | 2 | 1 |
| Nan-Chou Lin | 22 | 2,684,588 |
| Qi-De Chen | 4 | 193,888,706 |
| Tung Sheng (Eric) Wu | 35 | 71,129 |

- Financial Expert (2)

NON-EXECUTIVE PAY TABLES

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

CONTROVERSY CASES

No major relevant controversies have been uncovered.

OWNERSHIP & CONTROL

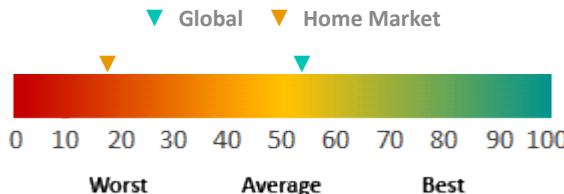
The company's ownership structure and shareholder rights at Taiwan Cement fall within the average scoring relative to global peers.

| 0-10 Score | Global Percentile Rank | Home Market Percentile Rank |
|------------|------------------------|-----------------------------|
| 7.2 | 55th (Average) | 19th (Below Average) |

KEY METRICS SCORING

| | Deduction |
|-------------------------------------|-----------|
| DIRECTOR ELECTIONS | |
| Flag Annual Director Elections | -0.10 |
| Flag Majority Voting | -0.10 |
| OWNERSHIP STRUCTURE | |
| Flag Cross Shareholdings | -0.40 |
| SHAREHOLDER RIGHTS | |
| Flag Say on Pay Policy | -0.10 |
| TAKEOVER PROVISIONS | |
| Flag Business Combination Provision | -0.10 |

OWNERSHIP & CONTROL PERFORMANCE VS.



CORPORATE STRUCTURE

Public Company

CAPITAL STRUCTURE

| Capital Type | Votes Per Share | Shares Outstanding |
|---------------|-----------------|--------------------|
| Common shares | 1.0 | 5,665,619,204 |

OWNERSHIP STRUCTURE

OWNERSHIP CATEGORIES

- Principal Shareholder
- Family Firm

NOTABLE SHAREHOLDERS

| | |
|--|--------------|
| Koo Family and Chang Family -9.8% (1.78% through Heng Qiang Investment Co., Ltd.; 4.22% through Chinatrust Investment Co., Ltd. Chia Hsin Cement Corporation-3.80%, Chia Hsin International -1.85) | 11.7% |
| 5%+ shareholders - Aggregate Voting Power | 11.7% |
| Insider Voting Power | 11.7% |

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.

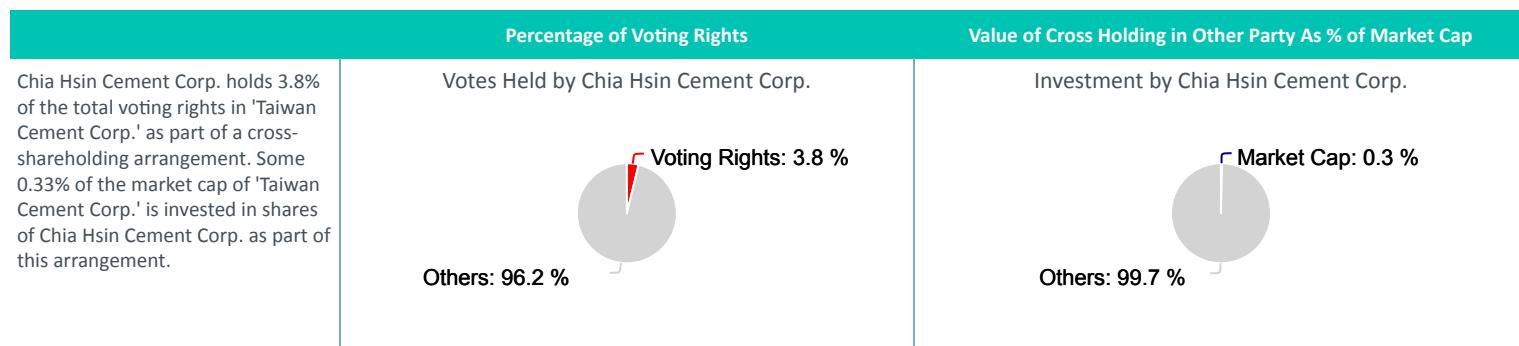
CROSS SHAREHOLDINGS

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 4.22% of Taiwan Cement Corp., Taiwan Cement Corp holds 9.36% of Chinatrust Investment Co., Ltd.

Chia Hsin Cement Corp. holds 3.8% of Taiwan Cement Corp, Taiwan Cement Corp holds 3.54% of Chia Hsin Cement Corp.

CROSS-SHAREHOLDINGS



FAMILY FIRM

Koo family collectively holds 11.65% of company shares through direct and indirect holdings

TAKEOVER PROVISIONS

| Fair Price Provision | Mandatory Bid Provision | Mandatory Bid Ownership Threshold |
|----------------------|-------------------------|-----------------------------------|
| Yes | Yes | 33.3 |

% of Votes to Approve a Merger

67%

GOVERNING DOCUMENTS

MAJORITY REQUIREMENTS

| Default percentage of votes required to amend a provision | Bylaws | Charter |
|---|--------|---------|
| | | 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

Investors should be aware of governance risks in relation to shareholder rights and management-controlled takeover defence mechanisms currently applicable in the governing documents or applicable regulation at Taiwan Cement including:

- business combination provisions that fail to include protections of shareholder interests
- 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 significant 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

All board members are not subject to annual re-election. While often touted as a means of ensuring board continuity, a classified board structure severely limits the ability of shareholders to hold directors accountable and serves 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

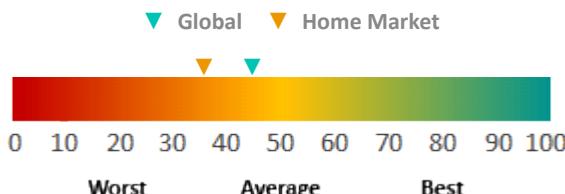
Based on the company's disclosures and other public information, accounting and financial reporting practices at Taiwan Cement appear to be generally appropriate and effective relative to global peers. We have flagged this company for potential concerns regarding revenue recognition ratios (based on our quantitative assessment).

| 0-10 Score | Global Percentile Rank | Home Market Percentile Rank |
|------------|------------------------|-----------------------------|
| 7.2 | 46th (Average) | 37th (Average) |

KEY METRICS SCORING

| Deduction | |
|---------------------------|-------|
| ACCOUNTING RISK | |
| Revenue Recognition | -0.30 |
| Expense Recognition | -0.16 |
| Asset-Liability Valuation | -0.02 |

ACCOUNTING PERFORMANCE VS.



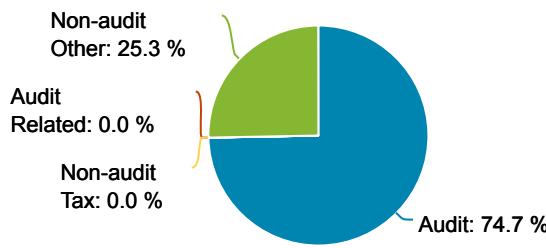
EXTERNAL AUDITORS

| Type | Since | Firm | Most Recent Fiscal Year End Signed Off |
|---------|-------|-------------------|--|
| Primary | | Deloitte & Touche | 2019 |

AUDITOR FEES

Fees paid to: Deloitte & Touche (Primary)

| Fee | Dec 31, 2019 (TWD) | Dec 31, 2018 (TWD) | Dec 31, 2016 (TWD) |
|------------------------------------|-----------------------|-----------------------|-----------------------|
| Audit | 24,425,000 | 19,560,000 | 19,480,000 |
| Audit Related | | | |
| Total Audit + Audit Related | 24,425,000 | 19,560,000 | 19,480,000 |
| Tax Compliance/Advice | | | |
| Other Non-audit Services | 8,269,000 | 3,430,000 | 2,789,000 |
| Total Non-audit Fees | 8,269,000 | 3,430,000 | 2,789,000 |
| Total Fees | 32,694,000 | 22,990,000 | 22,269,000 |



AUDITOR REPORT

| | Dec 31, 2019 | Dec 31, 2018 | Dec 31, 2017 |
|--------------------|---------------------|---------------------|---------------------|
| Report Disclosed | Yes | Yes | Yes |
| Opinion | Unqualified Opinion | Unqualified Opinion | Unqualified Opinion |
| Emphasis of Matter | No | No | No |

CONTROVERSY CASES

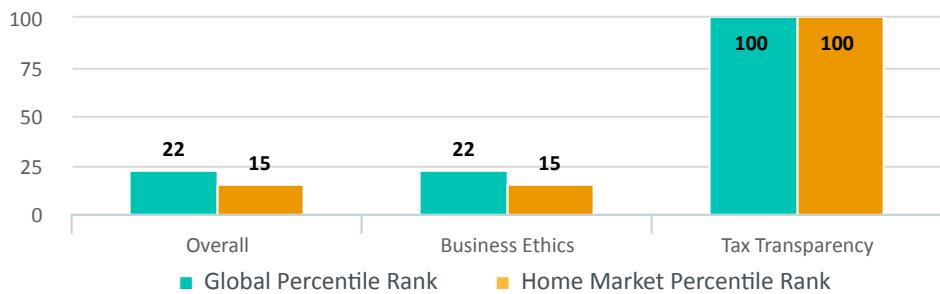
No major relevant controversies have been uncovered.



Corporate Behavior

| 0-10 Score | Change (since rating) | Quartile | As of |
|------------|-----------------------|----------|--------------|
| 4.0 | ▼ -1.1 | ••• | Sep 05, 2020 |

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

(-3.20)

Corruption Risk Exposure & Controversies

Business Ethics Controversies

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

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 | -3.20 |
| Corruption Risk Exposure & Controversies | -2.00 |
| Business Ethics Controversies | -1.20 |

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 |
|------------|-----------------------|----------------------------------|----------------------------------|
| 3.9 | ▲ 3.9 | 22 nd (Below Average) | 15 th (Below Average) |

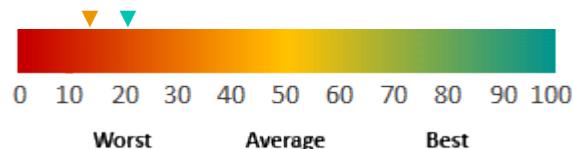
METHODOLOGY NOTE

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



BUSINESS ETHICS POLICIES & PRACTICES

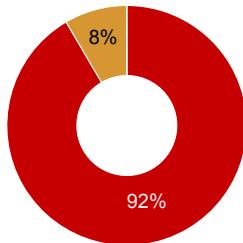
| Indicators | Company Practice | Best Practice | Deduction |
|---|---|---|-----------|
| Oversight for Ethics Issues | C-suite or Executive committee | Board-level committee or C-suite or Executive committee | 0.00 |
| Bribery and Anti-Corruption Policy | Detailed formal policy on bribery and anti-corruption | 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

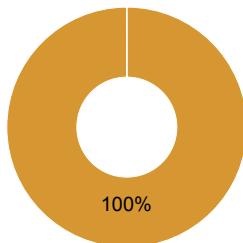
■ High Risk ■ Medium Risk ■ Low Risk



- 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 | Moderate | China: CNY 300,000 SAMR penalty for the alleged failure to declare joint venture with OYAK | Concluded | February 2021 | -1.2 |
| Corruption & Instability | -- | 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 | 23.3% |
| Estimated Corporate Income Tax Rate | 23.0% |
| Estimated Tax Gap | (-0.3%) |
| Tax Gap Assessment | Low Gap |

Revenue

| | |
|-----------------|-------|
| Foreign Revenue | 59.8% |
|-----------------|-------|

Confidence

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

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) |

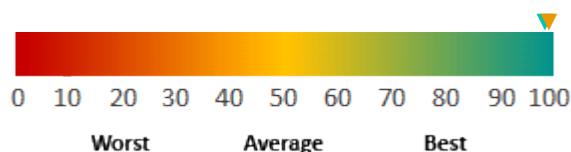
METHODOLOGY NOTE

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 TRANSPARENCY VS.

▼ Global ▼ Home Market



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 |

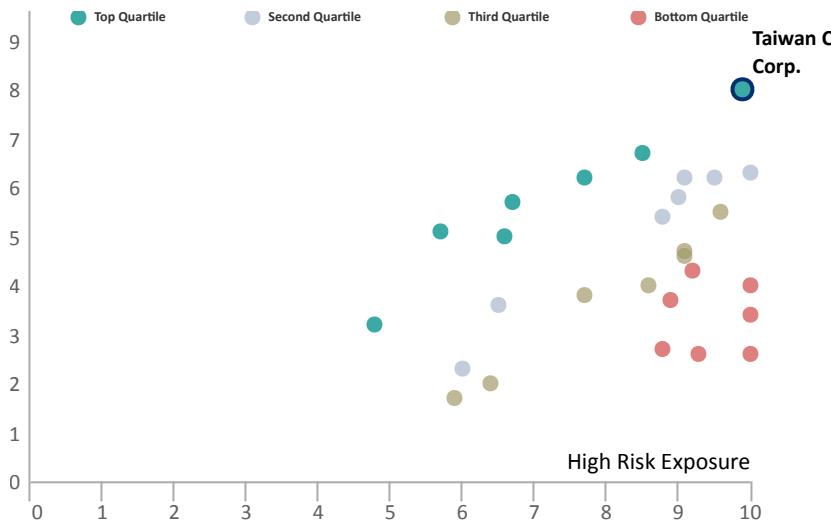
Tax related controversies are not considered for companies in Real Estate Management services or Mortgage REITs industries. Tax gap assessment is effectively low for companies with less than 5% of total revenue categorized as foreign.



Carbon Emissions

| Score | Change (since rating) | Quartile | Weight | As of |
|-------|-----------------------|----------|--------|--------------|
| 5.1 | ▲ 1.0 | •••• | 20.0% | Feb 11, 2021 |

Strong Risk Management



KEY ISSUE SCORE DISTRIBUTION*



TOP 5 INDUSTRY LEADERS

| | |
|--|-----|
| The Siam Cement Public Company Limited | 6.4 |
| CRH PUBLIC LIMITED COMPANY | 6.0 |
| MARTIN MARIETTA MATERIALS, INC. | 5.5 |
| BBMG Corporation | 5.4 |
| GRASIM INDUSTRIES LTD | 5.4 |

BOTTOM 5 INDUSTRY LAGGARDS

| | |
|--|-----|
| ANHUI CONCH CEMENT COMPANY LIMITED | 1.0 |
| China National Building Material Company Limited | 0.9 |
| CHINA RESOURCES CEMENT HOLDINGS LIMITED | 0.4 |
| Huixin Cement Co., Ltd. | 0.3 |
| TANGSHAN JIDONG CEMENT CO.,LTD. | 0.0 |

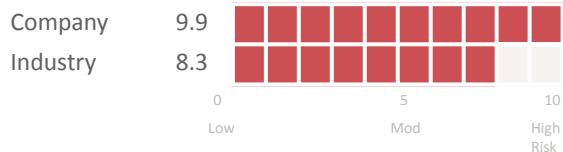
METHODOLOGY NOTE

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

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

EXPOSURE

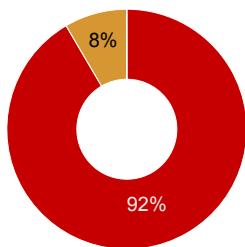
RISK EXPOSURE ASSESSMENT



Key Drivers of Risk Exposure

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

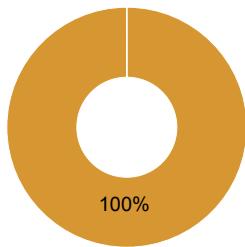
Business Types : Percentage of operations in business segments with high/moderate/low carbon intensity



- Cement, Power generation
- 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

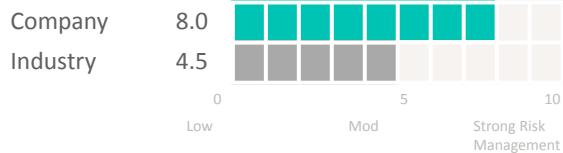


- No operations in markets with high risks
- China, Taiwan
- No operations in markets with low risks

Source: MSCI ESG Research; Refinitiv; company disclosure

MANAGEMENT

RISK MANAGEMENT ASSESSMENT



Description

Company Practice

Best Practice

Practices Score²

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

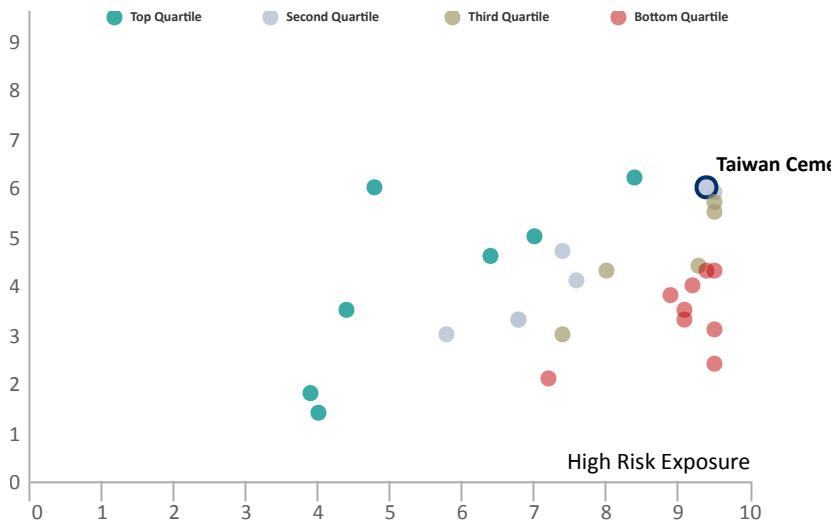
| Year | Total energy consumption (reported) | Total energy consumption (MWh) | Energy intensity (reported) | Reported intensity details | Total energy consumption intensity | Energy consumption details |
|------|-------------------------------------|--------------------------------|-----------------------------|----------------------------|---------------------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



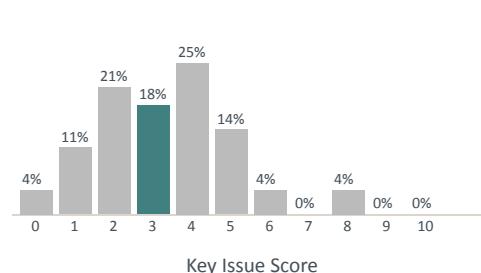
Toxic Emissions & Waste

| Score | Change (since rating) | Quartile | Weight | As of |
|-------|-----------------------|----------|--------|--------------|
| 3.6 | ▲ 0.3 | ••• | 19.0% | Feb 08, 2021 |

Strong Risk Management



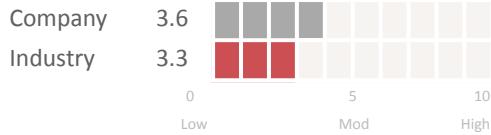
KEY ISSUE SCORE DISTRIBUTION *



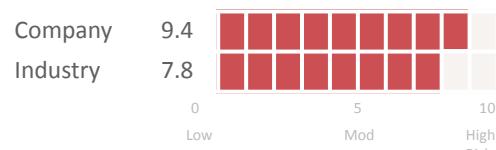
TOP 5 INDUSTRY LEADERS

| | |
|----------------------------|-----|
| CRH PUBLIC LIMITED COMPANY | 8.2 |
| BBMG Corporation | 6.1 |
| HeidelbergCement AG | 5.2 |
| POSCO CHEMICAL CO., LTD. | 5.0 |
| VULCAN MATERIALS COMPANY | 4.9 |

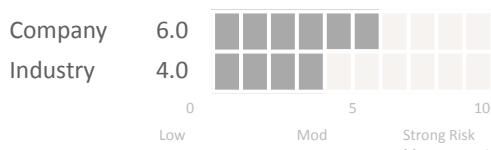
KEY ISSUE ASSESSMENT



RISK EXPOSURE ASSESSMENT



RISK MANAGEMENT ASSESSMENT



Drivers of Risk Exposure



Drivers of Risk Management



Business Types



Practices Score



Performance Score



Controversy Deduction



BOTTOM 5 INDUSTRY LAGGARDS

| | |
|---|-----|
| CHINA RESOURCES CEMENT HOLDINGS LIMITED | 1.8 |
| PT Indocement Tunggal Prakarsa Tbk | 1.4 |
| Asia Cement Corporation | 1.2 |
| TANGSHAN JIDONG CEMENT CO.,LTD. | 0.6 |
| Saudi Cement Company SJSC | 0.0 |

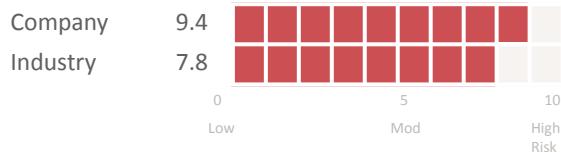
METHODOLOGY NOTE

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

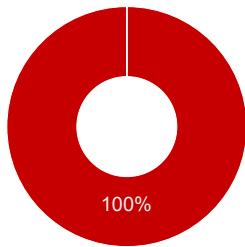
RISK EXPOSURE ASSESSMENT



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).

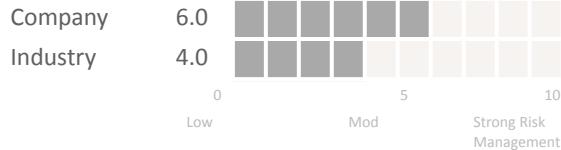


- Cement, Chemicals and chemical preparations, Power generation
- No exposure to medium risk segments
- No exposure to low risk segments

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

MANAGEMENT

RISK MANAGEMENT ASSESSMENT



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

| Targets | | | |
|---|---------------------|----------------------|---------------|
| Aggressiveness of Toxic Emissions Reduction Target (0-10 Score, 0=worst, 10=best) | 8 | | |
| Demonstrated track record of achieving its toxic emissions targets | No previous targets | Met previous targets | - LOW MID TOP |

Toxic Emissions and Waste Reduction Targets

| Baseline Year | Target Year | Target Description | Target Reduction (%) |
|---------------|-------------|--|----------------------|
| 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 | 1.78 |
| Average Annual % Change in Intensity | -15.80% |

Air Emissions: NOx Performance

| Year | NOx Emissions | NOx Emissions Intensity (tons/ USD million sales) |
|------|---------------|---|
| 2019 | 6,388 | 1.56 |

| Year | NOx Emissions | NOx Emissions Intensity (tons/ USD million sales) |
|------|---------------|---|
| 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 | -20.45% |

Air Emissions: SOx Performance

| Year | SOx Emissions | SOx Emissions Intensity (tons/ USD million sales) |
|------|---------------|---|
| 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 | 0.14 |
| Average Annual % Change in Intensity | -16.59% |

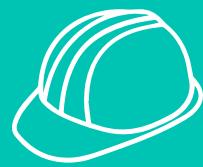
Air Emissions: Particulate Matter Performance

| Year | Quantities | Intensity |
|------|------------|-----------|
| 2019 | 305 | 0.07 |
| 2018 | 643 | 0.16 |
| 2017 | 587 | 0.18 |
| 2016 | 433 | 0.16 |
| 2015 | 655 | 0.23 |

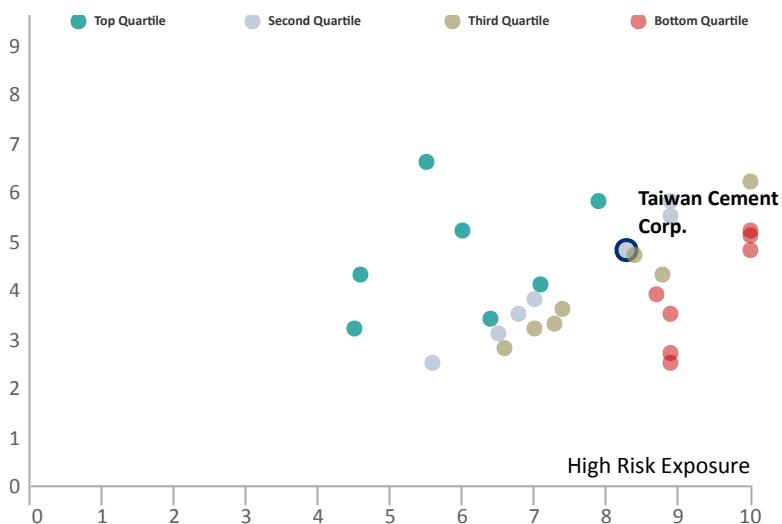
CONTROVERSIES

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

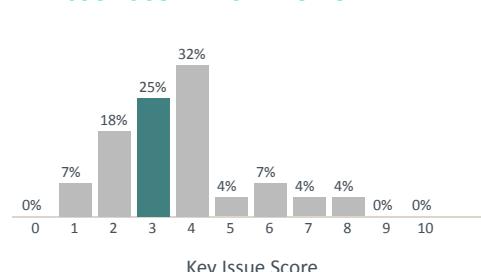


Strong Risk Management



| Score | Change (since rating) | Quartile | Weight | As of |
|-------|-----------------------|----------|--------|--------------|
| 3.5 | ▲ 0.3 | ••• | 14.0% | Feb 08, 2021 |

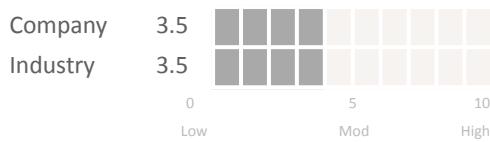
KEY ISSUE SCORE DISTRIBUTION *



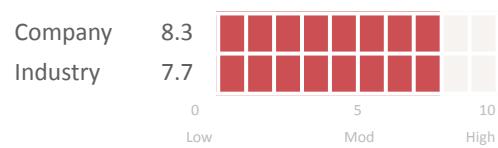
TOP 5 INDUSTRY LEADERS

| | |
|--|-----|
| CRH PUBLIC LIMITED COMPANY | 8.1 |
| The Siam Cement Public Company Limited | 6.7 |
| TAIHEIYO CEMENT CORPORATION | 6.2 |
| CHINA JUSHI CO., LTD | 5.7 |
| GRASIM INDUSTRIES LTD | 4.9 |

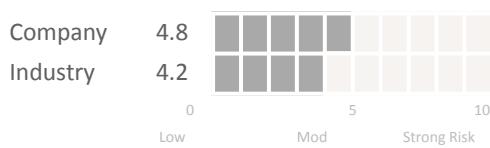
KEY ISSUE ASSESSMENT



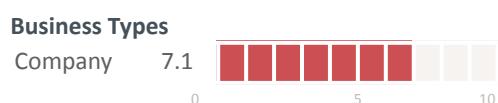
RISK EXPOSURE ASSESSMENT



RISK MANAGEMENT ASSESSMENT



Drivers of Risk Exposure



Drivers of Risk Management



Business Types



Business Locations



Controversy Deduction



BOTTOM 5 INDUSTRY LAGGARDS

| | |
|-------------------------------------|-----|
| ACC LIMITED | 2.1 |
| AMBUJA CEMENTS LIMITED | 1.8 |
| PT Indo cement Tunggal Prakarsa Tbk | 1.6 |
| TANGSHAN JIDONG CEMENT CO.,LTD. | 0.8 |
| Saudi Cement Company SJSC | 0.6 |

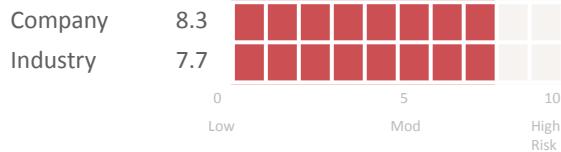
METHODOLOGY NOTE

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

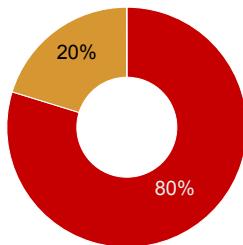
RISK EXPOSURE ASSESSMENT



Key Drivers of Risk Exposure

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

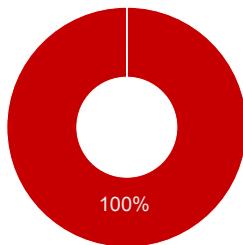
Business Types : Percentage of operations in business segments with high/moderate/low level of fatalities and industrial injuries



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

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

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

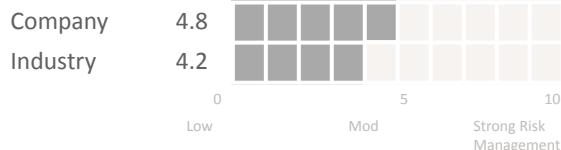


- China, Taiwan
- No operations in markets with medium risks
- No operations in markets with low risks

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 not 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 | | |
| 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 |
|------|-----------------------|---------------------|------------|---------|
| 2019 | | | 0 | |
| 2018 | | | 0 | |
| 2017 | | | 0 | |
| 2016 | | | 0 | |

CONTROVERSIES

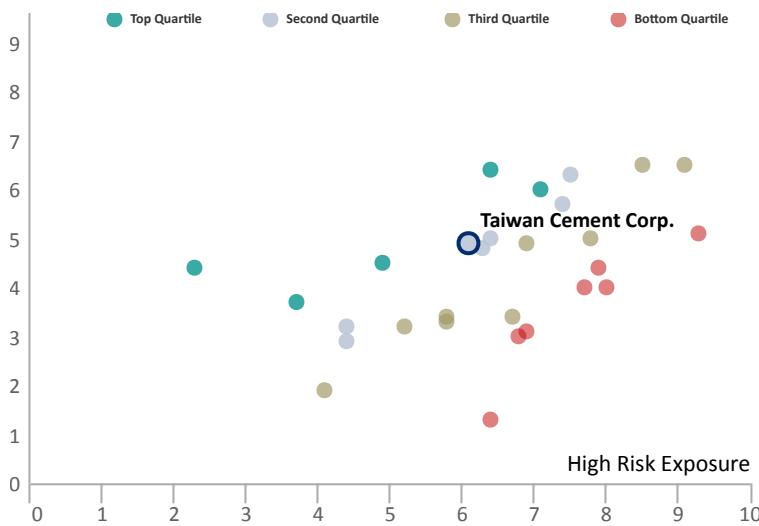
All controversies are assessed as part of the annual review of a company's ESG rating. MSCI ESG Research tracks controversies for all companies on a regular basis. There is no evidence of the Taiwan Cement's current involvement in prominent controversial events or alleged misconduct.



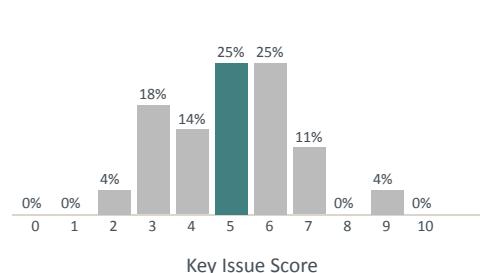
Labor Management

| Score | Change (since rating) | Quartile | Weight | As of |
|-------|-----------------------|----------|--------|--------------|
| 5.8 | 0.0 | ••• | 14.0% | Aug 31, 2020 |

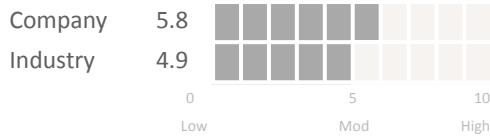
Strong Risk Management



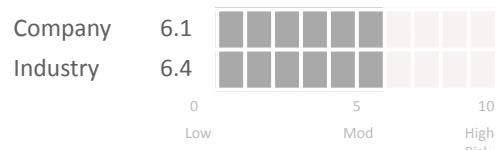
KEY ISSUE SCORE DISTRIBUTION *



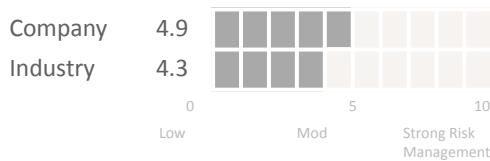
KEY ISSUE ASSESSMENT



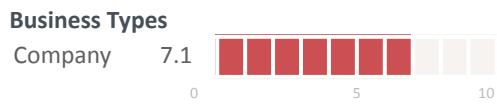
RISK EXPOSURE ASSESSMENT



RISK MANAGEMENT ASSESSMENT



Drivers of Risk Exposure



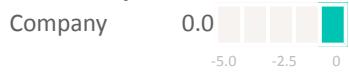
Drivers of Risk Management



Business Locations



Controversy Deduction



TOP 5 INDUSTRY LEADERS

| | |
|---|-----|
| Beijing Oriental Yuhong Waterproof Technology Co., Ltd. | 9.1 |
| CHINA JUSHI CO., LTD | 7.0 |
| PT Indocement Tunggal Prakarsa Tbk | 7.0 |
| TAIHEIYO CEMENT CORPORATION | 6.6 |
| HeidelbergCement AG | 5.9 |

BOTTOM 5 INDUSTRY LAGGARDS

| | |
|--|-----|
| CHINA RESOURCES CEMENT HOLDINGS LIMITED | 3.2 |
| TANGSHAN JIDONG CEMENT CO.,LTD. | 3.2 |
| ACC LIMITED | 3.0 |
| China National Building Material Company Limited | 2.8 |
| Saudi Cement Company SJSC | 1.9 |

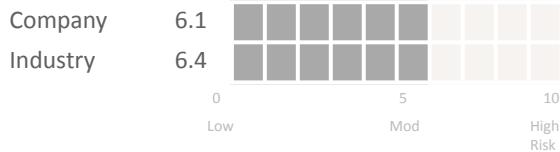
METHODOLOGY NOTE

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

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

EXPOSURE

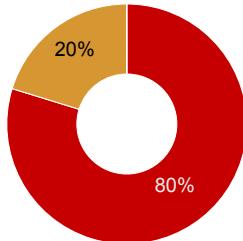
RISK EXPOSURE ASSESSMENT



Key Drivers of Risk Exposure

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

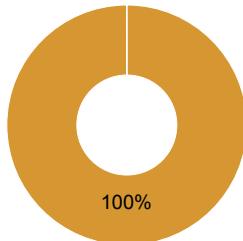
Business Types : Percentage of operations in business segments with high/moderate/low labor intensities, as measured by average sales per employee of industries



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

Source: MSCI ESG Research; Refinitiv; company disclosure

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



- 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

Layoffs Events

Major Layoffs:

No

Size and Composition of Workforce

Number of employees: **10,618**

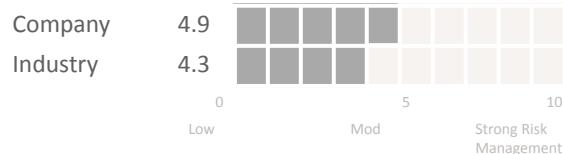
Number of Employees

| Year | Number of employees | Part time workers (%) | Contract or temporary workers (%) | Estimated Part time/contract % |
|------|---------------------|-----------------------|-----------------------------------|--------------------------------|
| 2019 | 10,618 | | | |
| 2018 | 9,325 | | | |
| 2017 | 9,356 | | | |
| 2016 | 9,609 | | | |

| Year | Number of employees | Part time workers (%) | Contract or temporary workers (%) | Estimated Part time/contract % |
|------|---------------------|-----------------------|-----------------------------------|--------------------------------|
| 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 | 95.60% | | |
| 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-incentive officer staff | Strong performance-based 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 |
|---|---------------|

Employee turnover

| Year | Annual employee turnover (%) | Details |
|------|------------------------------|---|
| 2019 | 9.28% | No Clear Disclosure of Salaries & Wages, Hence not Calculated SPE |
| 2018 | 11.03% | No Clear Disclosure of Salaries & Wages, Hence not Calculated SPE |

| Year | Annual employee turnover (%) | Details |
|------|------------------------------|---|
| 2017 | | No Clear Disclosure of Salaries & Wages, Hence not Calculated SPE |

Employee Productivity

| Year | Profit per employee (USD '000) |
|------|--------------------------------|
| 2018 | 73 |

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 |
|-----------|-----------------------------|---------------------------------|-----------------------|--------------|
| 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 |
| Outgoing | E-mail | Other report clarification | ESG Ratings | Jun 24, 2020 |
| Outgoing | E-mail | ICP Log in - New User | ESG Ratings | Jun 18, 2020 |
| Incoming | E-mail | ICP Log in - New User | ESG Ratings | Jun 16, 2020 |
| Incoming | E-mail | Other report clarification | ESG Ratings | Jun 09, 2020 |
| Outgoing | E-mail | Data Review - Feedback Provided | ESG GovernanceMetrics | Jun 09, 2020 |
| Outgoing | E-mail | Data Review - Alert | ESG Ratings | May 30, 2020 |
| Incoming | E-mail | Data Review - Feedback Provided | ESG GovernanceMetrics | May 22, 2020 |
| Outgoing | E-mail | Data Review - Feedback Provided | ESG Ratings | Apr 06, 2020 |
| Incoming | E-mail | Data Review - Feedback Provided | ESG Ratings | Mar 30, 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. |

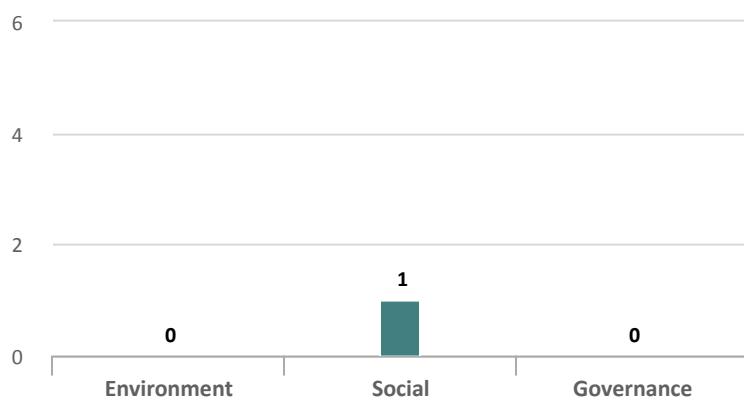
CONTROVERSIES DETAIL

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 | Moderate | 1 |

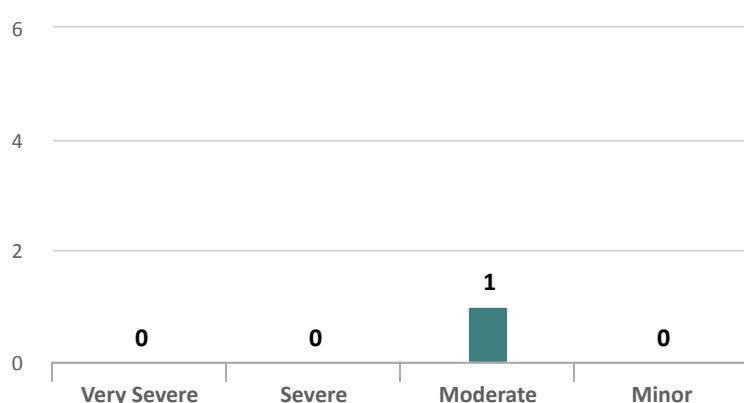
NUMBER OF CONTROVERSIES BY PILLAR



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



SOCIAL CONTROVERSIES

Moderate Controversies

Date: September 2020

Assessment: Moderate

Status: Concluded

China: CNY 300,000 SAMR penalty for the alleged failure to declare joint venture with OYAK

In June 2020, the State Administration of Market Regulation (SAMR) of China imposed a penalty of CNY 300,000 (approximately USD 44,276) on Taiwan Cement Corp. for alleged failure to declare concentration of business operators while registering a joint venture in 2018 with a Turkish company Ordu Yardimlasmak Kurumu (OYAK). According to the regulator, both Taiwan Cement and OYAK reached the declaration standard based on their turnover in 2017 but failed to file a declaration before completing the joint venture registration.

UPDATES: 17 Sep 2020: No new information available.

25 Jun 2020: Administrative penalty to Taiwan Cement and OYAK regarding failure to legally declare joint venture. (State Administration for Market Regulation)

Source: 25 Jun 2020 (State Administration for Market Regulation)

KEY METRIC & SCORE CHANGES

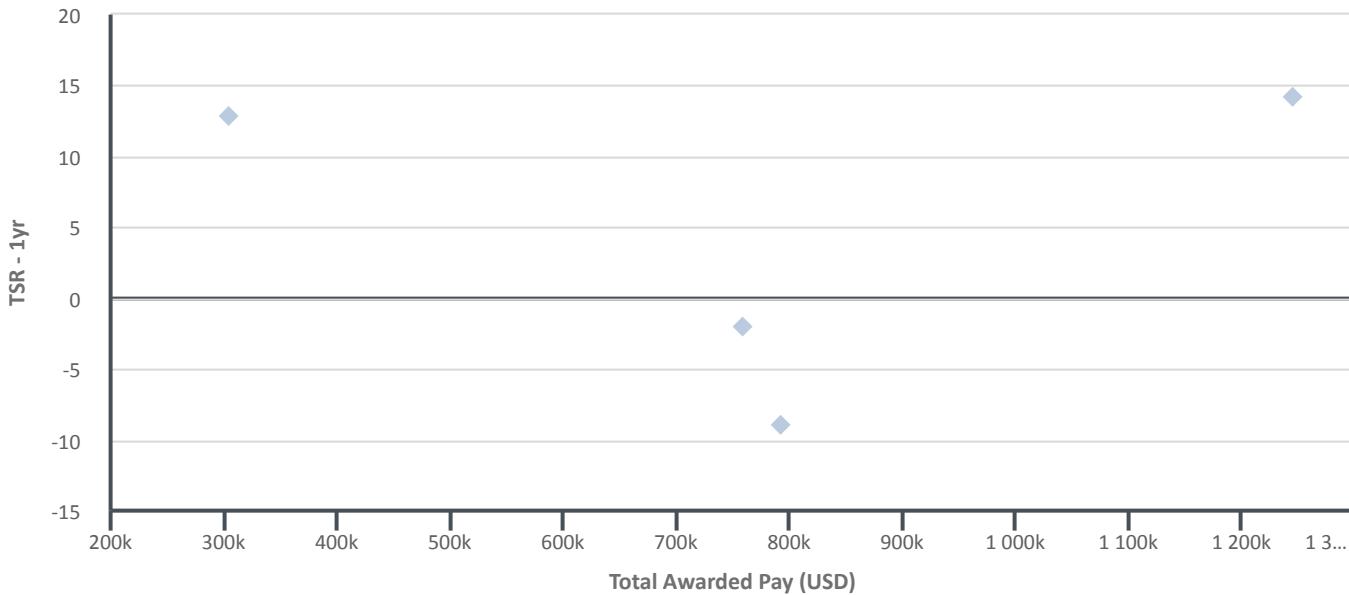
ALL KEY METRIC & SCORE CHANGES (SINCE OCTOBER 2019)

| Key Metric | Key Metric Change | Date | Score Change* | Change Notes |
|-------------------------------------|-------------------|--------------|---------------|---|
| 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) |
| Pay Linked to Sustainability | Flag Removed | Jul 10, 2020 | 0.20 | |
| Revenue Recognition | Score Change | Jun 25, 2020 | -0.43 | Updates to data for accounting peer group member(s) |
| Expense Recognition | Flag Removed | Jun 25, 2020 | -0.16 | Updates to data for accounting peer group member(s) |
| Asset-Liability Valuation | Flag Removed | Jun 25, 2020 | -0.05 | Updates to data for accounting peer group member(s) |
| Revenue Recognition | Score Change | Jun 22, 2020 | 0.44 | Updates to data for accounting peer group member(s) |
| Leadership Concerns | Flag Removed | Jun 22, 2020 | 0.30 | |
| Expense Recognition | Flag Added | Jun 22, 2020 | 0.16 | Updates to data for accounting peer group member(s) |
| Asset-Liability Valuation | Flag Added | Jun 22, 2020 | 0.05 | Updates to data for accounting peer group member(s) |
| Leadership Concerns | Flag Added | Jun 18, 2020 | -0.30 | |
| Revenue Recognition | Score Change | Jun 11, 2020 | -0.06 | Updates to data for accounting peer group member(s) |
| Expense Recognition | Score Change | Jun 11, 2020 | 0.03 | Updates to data for accounting peer group member(s) |
| Asset-Liability Valuation | Score Change | Jun 11, 2020 | -0.02 | Updates to data for accounting peer group member(s) |
| Leadership Concerns | Flag Removed | Jun 05, 2020 | 0.30 | |
| Director Removal Without Cause | Flag Removed | Jun 05, 2020 | 0.10 | |
| Cross Shareholdings | Score Change | Jun 05, 2020 | 0.30 | |
| Combined CEO/Chair | Flag Added | Jun 05, 2020 | -0.20 | |
| Business Combination Provision | Flag Added | Jun 05, 2020 | -0.10 | |
| Audit Committee Industry Expert | Flag Added | Jun 05, 2020 | -0.10 | |
| Related Party Transactions | Score Change | Dec 17, 2019 | -0.50 | |
| Overboarded Non-Exec Directors | Flag Added | Dec 17, 2019 | -0.50 | |
| Overboarded Audit Committee Members | Flag Added | Dec 17, 2019 | -0.10 | |
| Revenue Recognition | Score Change | Dec 03, 2019 | -0.01 | Updates to data for accounting peer group member(s) |
| Pay Committee Concerns | Flag Added | Dec 03, 2019 | -0.30 | |
| Expense Recognition | Score Change | Dec 03, 2019 | | Updates to data for accounting peer group member(s) |

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

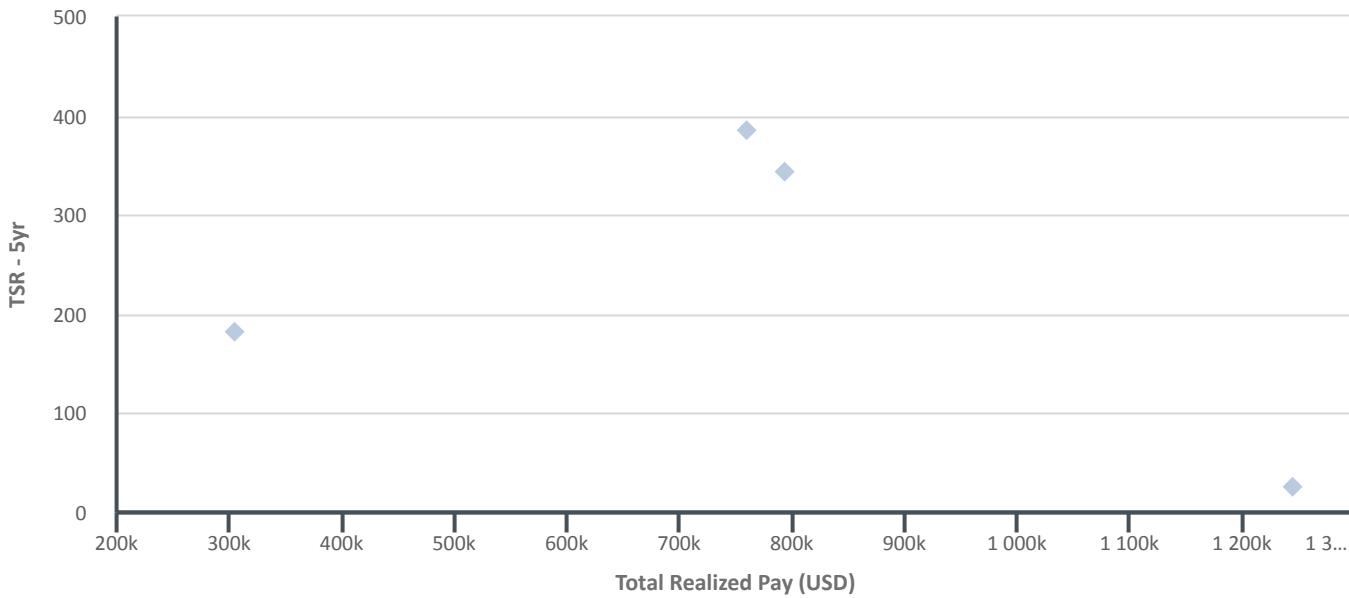
CEO PAY CHARTS

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/Withhold% |
|------------|------------------------------------|--|----------|-----------|---------------|-------------------|
| 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% |
| 2018 | Other | 1, To adopt the 2017 Business report and financial statements | Approved | 88.4% | 0.1% | 11.5% |
| 2018 | Other | 2 To adopt the 2017 profit distribution plan | Approved | 88.9% | 0% | 11.1% |
| 2018 | Other | 3, Proposal for a new share issue through capitalization of earnings. | Approved | 88.9% | 0% | 11.1% |
| 2018 | Other | 4, To approve the Company's long-term capital raising plan | Approved | 70.4% | 18.5% | 11.1% |
| 2018 | Other | 5, To amend the "Articles of Incorporation." | Approved | 88.7% | 0.2% | 11.1% |
| 2018 | Other | 6, Distribution of souvenir for the Annual Shareholders' Meeting. | Approved | 88.9% | 0% | 11.1% |
| 2018 | Other | 8, Proposal to release the newly-elected Directors from non-competition restrictions. | Approved | 80.6% | 0% | 19.4% |

*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)

In Taiwanese companies, all directors are elected simultaneously for terms no longer than three years. They may have a one-tier board with an audit committee or a two-board arrangement with a board of directors and board of supervisors (both elected by shareholders). In the latter case, which is more common, the board of supervisors supervises the board of directors and management and the audit function and must have at least one member not related to other supervisors or directors. The one share one vote rule applies, as well as cumulative voting. Directors can be removed by a two-thirds shareholder vote.

Newly listed companies must have at least two independent directors (one of whom is a financial expert) and one independent supervisor. Taiwanese companies are encouraged to follow the Corporate Governance Best-Practice Principles for TWSE/GTSM Listed Companies (the Principles), although there is plenty of divergence from them. The Principles require that no more than half of directors be related and there be at least two and not less than 20% independent directors.

The supervisors are responsible for overseeing internal controls. If a company has an audit committee, the Principles require it to be wholly independent with at least one financial expert and approve the internal controls system. IFRS now apply in Taiwan. Where a conflict of interest arises, it must be approved by the board and the audit committee, if it exists. Any dissent by independent directors must be recorded in the minutes.

Shareholders representing 1% of shares can propose general meeting resolutions and 3% shareholders can requisition an extraordinary general meeting. Amendments to the articles of association and mergers require approval by a two-thirds vote of shareholders. A mandatory takeover offer is required for any acquisition of at least 20% of shares within a 50 day period. All shareholders must be treated equally in the offer. Poison pills and other takeover defenses are available, although rarely used. Upon receipt of a tender offer, a company must establish a review committee composed of at least three independent directors. The review committee reviews and report on the fairness and reasonableness of the transaction. There is no statutory squeeze out procedure in Taiwan.

Listed companies must have a remuneration committee. If there are independent directors on the board, at least one independent director must be on the committee and chair it. Shareholders approve remuneration for directors and supervisors, but not executives. Shareholders must approve equity-based incentives. If the company has an option plan for executives, the options cannot have a lower exercise price than the market price unless approved by a two-thirds majority shareholder vote.

DIRECTOR PROFILES

AN PING (NELSON) CHANG

Age: 69
 Gender: M
 Nationality: Taiwan

Financial: No
 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 |
|---------------------|--|--------|--------------|----------|---------------------------|--------------------------------|------------|
| Taiwan Cement Corp. | Executive, Board Member, Chairman, CEO | 26 | Apr 21, 1994 | | No | No | |

CHI CHIA HSIEH

Age: 77
 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 | 4 | Jun 22, 2016 | | Yes | No | |
| Innolux Corporation | Board Member | 7 | 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 | 7 | 2019 | | 33,359 | 0 |

CHI-WEN CHANG

Age: 63
Gender: M
Nationality: Taiwan

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

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/29/2020

Chi-Wen Chang is a member of our board of directors. He is the director and also president of Xin Hope Investment Co., Ltd. He received a master's degree in both accountancy and administration in California State University

CORPORATE BOARDS

| Company | Role | Tenure | Appointed | Resigned | Independent of Management | Independent of Other Interests | Attendance |
|---------------------|--------------|--------|--------------|----------|---------------------------|--------------------------------|------------|
| Taiwan Cement Corp. | Board Member | 4 | Feb 01, 2016 | | Yes | No | |

CHIEN (JAMES) WEN

Age: 70
 Gender: M
 Nationality: Taiwan

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

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/29/2020

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: 05/21/2020

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 | 2 | Jun 22, 2018 | | Yes | No | |

CHIH-CHUNG TSAI

Age: 53
Gender: M
Nationality: Taiwan

Financial: Yes
Risk: No
Industry: Banks - Banks

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/29/2020

Chih-Chung, Tsai is a member of our board of directors. Prior to joining our company, Mr. Tsai was a senior consultant of Natixis Taipei Branch. He also worked as a director of Barclays Capital Securities Taiwan Limited. and as CFO of Barclays Taipei Branch. Currently, he is also a consultant of Chinatrust Investment Co., Ltd., and a director of Falcon Investment Co., Ltd., TCC Investment Corporation, and Sheng Kai Investment Corp. He received a master's degree in finance from Baruch College, The City University of New York

CORPORATE BOARDS

| Company | Role | Tenure | Appointed | Resigned | Independent of Management | Independent of Other Interests | Attendance |
|---------------------|--------------|--------|--------------|----------|---------------------------|--------------------------------|------------|
| Taiwan Cement Corp. | Board Member | 2 | Jun 22, 2018 | | Yes | No | |

CHIN JEN SHENG

Age: 53
 Gender: M
 Nationality: Taiwan

Financial: No
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/29/2020

Sheng Chih-Jen is an independent director of our company. He is also an independent director of TPCC, the CEO of LDC Hotels & Resorts Group and the chairman of FDC International Hotels Corporation. Prior to joining our company, he was the chairperson of Council for Cultural Affairs, CEO of Republic of China (Taiwan) Centenary Foundation, the chairperson of Research, Development and Evaluation Commission of Taipei City Government, and the CEO of Deaflympics Taipei 2009. He received a doctor's degree in political science from US Northwestern University.

CORPORATE BOARDS

| Company | Role | Tenure | Appointed | Resigned | Independent of Management | Independent of Other Interests | Attendance |
|---------------------|--------------|--------|--------------|----------|---------------------------|--------------------------------|------------|
| Taiwan Cement Corp. | Board Member | 3 | Jun 28, 2017 | | Yes | Yes | |

BOARD COMMITTEES

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

CHUN YING LIU

Age: 45
 Gender: F
 Nationality: Taiwan

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

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/29/2020

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 | 2 | Jun 22, 2018 | | Yes | No | |

JONG-PEIR (JOHN) LI

Age: 57
 Gender: M
 Nationality: Taiwan

Financial: No
 Risk: No
 Industry: Materials - Construction Materials, Banks - Banks

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Executive, Board Member Source Date: 05/29/2020

Mr.Zhongpei (John) Li is the president and director of Taiwan Cement Corp and has served as our president since 2017. He was the president and CEO of HSBC Taiwan. He received a master's degree in information technology from Johns Hopkins University.

CORPORATE BOARDS

| Company | Role | Tenure | Appointed | Resigned | Independent of Management | Independent of Other Interests | Attendance |
|---------------------|-------------------------|--------|--------------|----------|---------------------------|--------------------------------|------------|
| Taiwan Cement Corp. | Executive, Board Member | 2 | Jun 22, 2018 | | No | No | |

KANG LUNG (JASON) CHANG

Age: 38
 Gender: M
 Nationality: Taiwan

Financial: No
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/29/2020

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 | 8 | Jun 21, 2012 | | No | No | |

KENNETH C.M. LO

Age: 79
Gender: M
Nationality: Taiwan

Financial: Yes
Risk: No
Industry: Banks - Banks

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/29/2020

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 | 15 | Feb 24, 2005 | | Yes | No | |

KUNG YI KOO

Age: 38
Gender: M
Nationality: Hong Kong

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

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/29/2020

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 | 2 | Jun 22, 2018 | | No | No | |

LING TAI CHOU

Age: 66
 Gender: F
 Nationality: Taiwan

Financial: Yes
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/29/2020

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 | 2 | Jun 22, 2018 | | Yes | Yes | |

BOARD COMMITTEES

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

NAN-CHOU LIN

Age: 50
 Gender: M
 Nationality: Taiwan

Financial: No
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/29/2020

Lin Nan-Chou is a member of our board of directors. He is also the chairman of Sishan Investment Co., Ltd. Mr. Lin has a master's degree in business administration from La Trobe University

CORPORATE BOARDS

| Company | Role | Tenure | Appointed | Resigned | Independent of Management | Independent of Other Interests | Attendance |
|---------------------|--------------|--------|--------------|----------|---------------------------|--------------------------------|------------|
| Taiwan Cement Corp. | Board Member | 22 | Dec 15, 1998 | | Yes | No | |

POR-YUAN WANG

Age: 79
 Gender: M
 Nationality: Taiwan

Financial: No
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/29/2020

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 | 11 | Jun 19, 2009 | | Yes | No | |

QI-DE CHEN

Age: _____
 Gender: M
 Nationality: Taiwan

Financial: No
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/29/2020

Mr. Qi-De Chen is the director of Taiwan Cement Corp.

MBA from anta Clara University

Chairman of Chien Kuo Construction Co., Ltd.

CORPORATE BOARDS

| Company | Role | Tenure | Appointed | Resigned | Independent of Management | Independent of Other Interests | Attendance |
|---------------------|--------------|--------|--------------|----------|---------------------------|--------------------------------|------------|
| Taiwan Cement Corp. | Board Member | 4 | Jun 22, 2016 | | Yes | No | |

TUNG SHENG (ERIC) WU

Age: 68
 Gender: M
 Nationality: Taiwan

Financial: No
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/29/2020

Eric T. Wu is a member of our board of directors. He is also the chairman of Shinkong Synthetic Fibers Corp., Shinkong Materials Technology Co., Ltd., Ubright Optronics Corporation, and TacBright Optronics Corp. Mr. Wu received a doctor's degree from Harvard Law School.

CORPORATE BOARDS

| Company | Role | Tenure | Appointed | Resigned | Independent of Management | Independent of Other Interests | Attendance |
|---------------------|--------------|--------|--------------|----------|---------------------------|--------------------------------|------------|
| Taiwan Cement Corp. | Board Member | 35 | Apr 18, 1985 | | Yes | No | |

TZUN-YEN YU

Age: 73
 Gender: M
 Nationality: Taiwan

Financial: No
 Risk: No
 Industry:

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/29/2020

Yu Tzun-Yen is a member of our board of directors. He is also the chairman of CTCI Corporation and Hsin Li Development Corp., a director of each of CTCI Overseas Corp., Ltd., Gintech Energy Corporation, TSRC Corporation and Utech Solar Corporation, a supervisor of China Steel Chemical Corporation, and an executive director of CTCI Foundation. Mr. Yu has a bachelor's degree in electrical engineering from National Taiwan University and graduated from the EMBA program of Harvard Business School.

CORPORATE BOARDS

| Company | Role | Tenure | Appointed | Resigned | Independent of Management | Independent of Other Interests | Attendance |
|---------------------|--------------|--------|--------------|----------|---------------------------|--------------------------------|------------|
| Taiwan Cement Corp. | Board Member | 18 | Oct 30, 2002 | | Yes | No | |

VICTOR WANG

Age: 71
 Gender: M
 Nationality: Taiwan

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

BIOGRAPHICAL INFORMATION

Taiwan Cement Corp. - Board Member Source Date: 05/29/2020

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 | 8 | Jun 21, 2012 | | Yes | Yes | |

BOARD COMMITTEES

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

YU-CHENG (ARTHUR) CHIAO

Age: 65
 Gender: M
 Nationality: Taiwan

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

BIOGRAPHICAL INFORMATION

Walsin Lihwa Corp., Source Date:

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

CORPORATE BOARDS

| Company | Role | Tenure | Appointed | Resigned | Independent of Management | Independent of Other Interests | Attendance |
|--------------------------------|--|--------|--------------|----------|---------------------------|--------------------------------|------------|
| WALSIN TECHNOLOGY CORPORATION | Board Member | 4 | Jun 22, 2016 | | No | No | |
| Taiwan Cement Corp. | Board Member | 8 | Jun 21, 2012 | | Yes | Yes | |
| Nuvoton Technology Corporation | Board Member, Chairman | 12 | Mar 14, 2008 | | No | No | |
| WINBOND ELECTRONICS CORP. | Executive, Board Member, Chairman, CEO | 33 | Sep 04, 1987 | | No | No | |
| WALSIN LIHWA CORPORATION | Board Member | 39 | 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.

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