

Taiwan Cement Corp. (1101)

CONSTRUCTION MATERIALS | TW

ESG RATING **CCC**

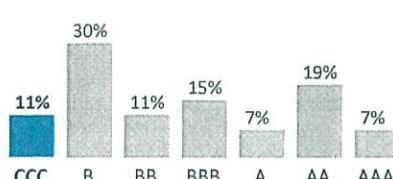
LAST UPDATE: March 30, 2018

Wins Corporate Sustainability Award for its CO2 emission reduction measures

GOVERNANCE SNAPSHOT

Board Independence %	89.5%
Significant Votes Against Management	NO
Entrenched Board	YES
Pay Performance Gap	NO
Executive Pay Non-Disclosure	YES
Multiple Share Classes with Different Voting Rights	NO

INDUSTRY RATING DISTRIBUTION



ESG RATING HISTORY



ESG SCORE CARD*

	WEIGHT	SCORE	QUARTILE
Environment	60.0%	1.6	•••••
Carbon Emissions	24.0%	0.1	•
Toxic Emissions & Waste	24.0%	1.6	•
Opportunities in Clean Tech	12.0%	4.5	•••••
Social	24.0%	0.2	
Health & Safety	24.0%	0.2	•
Governance	16.0%	3.4	•••••
Corporate Governance	16.0%	3.4	•
Tax Transparency	0.0%	8.0	•••••
View Corporate Governance Details Section →			
Overall Score			
Weighted-Average Key Issue Score		1.5	
Industry Relative Score		0.0	

RATING COMMENT

RATING DATE: May 26, 2017

Taiwan Cement's rating is unchanged at 'CCC'.

As a cement manufacturer, the company is highly exposed to workplace accidents. However, Taiwan Cement does not appear to have a group-wide health & safety policy, and lacks initiatives and programs to prevent operational disruptions due to unanticipated injuries. In addition, the company also does not disclose its carbon and toxic data. However, it does have some initiatives to reduce these emissions as the company won an award in Taiwan Corporate Sustainability Awards function held in November 2016 in Taipei for its carbon emissions-reduction initiatives. Further, it has some initiatives in the clean technology space to benefit from ever increasing demand for green buildings.

Analyst: Ajay Lobo

KEY RISKS



Carbon Emissions - Score 0.1

May 26, 2017

As a cement producer mainly operating in China and Taiwan, the company faces relatively high exposure to increased costs linked to carbon pricing or regulatory caps. However, Taiwan Cement demonstrates some efforts in carbon mitigation project and carbon capture technology development, but it lags global industry peers as it does not have any carbon emissions reduction targets.



Health & Safety - Score 0.2

May 26, 2017

The company's business activities and the geographic distribution of its assets suggest high exposure to potential production disruptions, litigation, and liabilities. Our analysis finds little evidence of mitigation capacity. The company therefore appears poorly prepared to manage this risk. In the context of global industry peers, Taiwan Cement ranks below average.



Toxic Emissions & Waste - Score 1.6

May 26, 2017

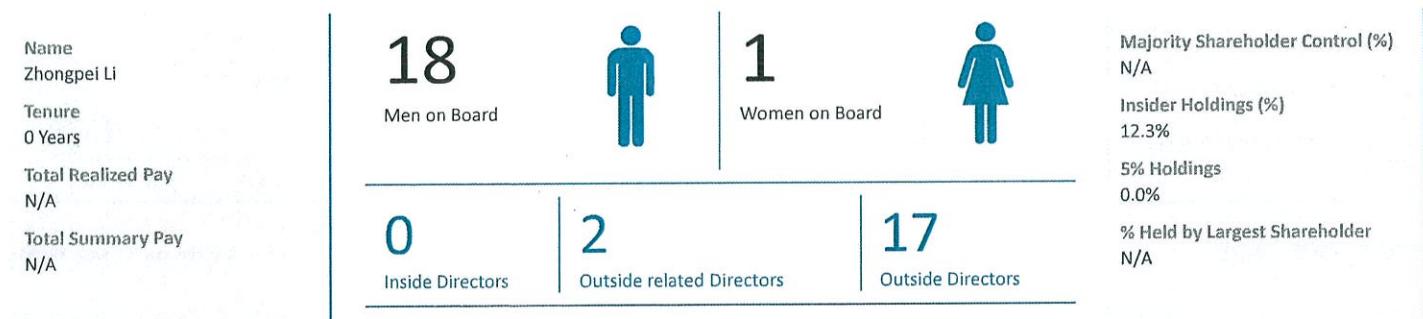
The company's business activities suggest high exposure to potential costs associated with its discharges and waste. Our analysis finds modest mitigation capacity. The company therefore appears poorly prepared to manage this risk. In the context of global industry peers, Taiwan Cement ranks below average.

STRENGTHS

No areas of substantial strengths in managing material risks or capitalizing on growth opportunities are identified for this company.

MOST RECENT CONTROVERSIES [\(View Controversies Detail Section →\)](#)

HEADLINE	ASSESSMENT	TYPE	DATE
Taiwan: Waste Tyre Burning Project Halted due to Objections from Local Residents	Minor	Impact on Local Communities	November 2017
China, TCC International Holdings Limited: Fire Accident at Guangdong Facility; No Injuries Reported	Minor	Health & Safety	September 2017
Hong Kong: Directors Reprimand by Regulator for Violating Code on Takeovers and Mergers over Failure to Disclose Transactions during TCC International Privatization	Minor	Bribery & Fraud	September 2017

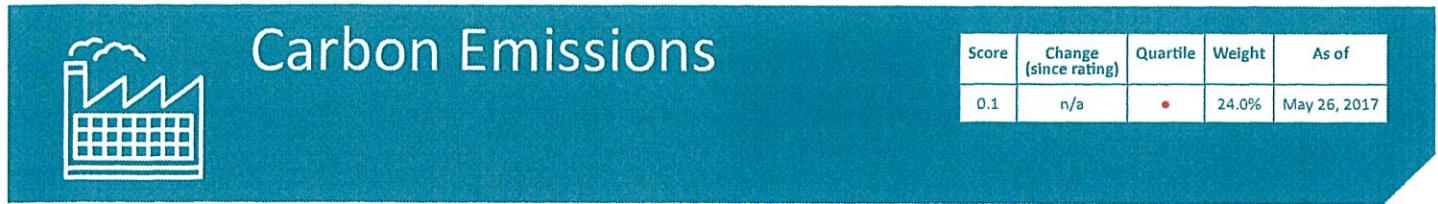
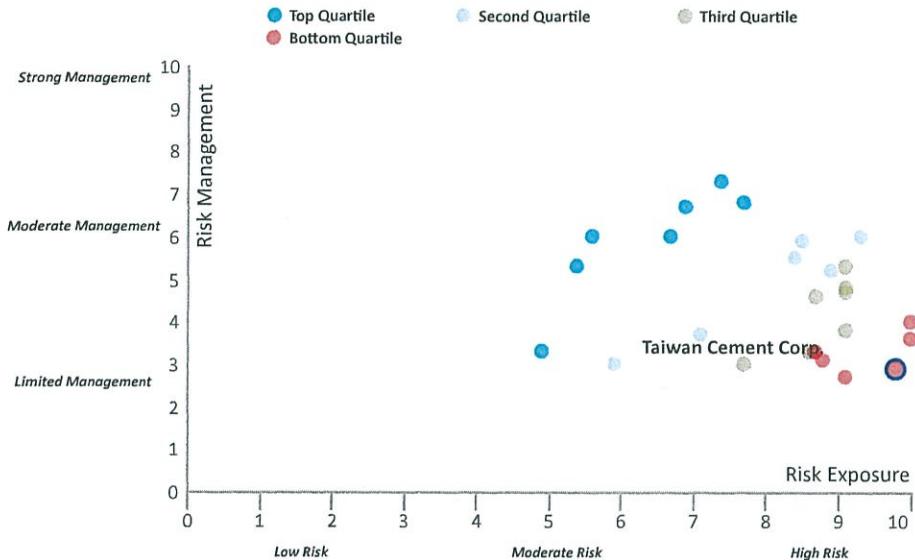
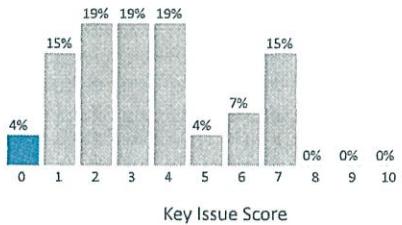
CEO **BOARD OF DIRECTORS** **SHAREHOLDERS****LARGEST 10 INDUSTRY PEERS (CONSTRUCTION MATERIALS)**

	CARBON EMISSIONS	TOXIC EMISSIONS & WASTE	OPPORTUNITIES IN CLEAN TECH	HEALTH & SAFETY	CORPORATE GOVERNANCE	RATING AND TREND
CRH PUBLIC LIMITED COMPANY	****	****	..	****	****	AAA ↔
The Siam Cement Public Company Limited	****	***	****	****	..	AA ↔
HeidelbergCement AG	***	****	***	..	****	AA ↔
LafargeHolcim Ltd	***	..	****	***	****	A ↔
JAMES HARDIE INDUSTRIES PUBLIC LIMITED COMPANY	***	..	***	***	****	BBB ↑
VULCAN MATERIALS COMPANY	..	****	.	..	***	BB ↔
MARTIN MARIETTA MATERIALS, INC.	.	***	..	***	..	BB ↔
GRASIM INDUSTRIES LTD	.	.	****	..	.	B ↔
ULTRATECH CEMENT LIMITED	..	.	N/A	..	***	B ↔
ANHUI CONCH CEMENT COMPANY LIMITED	CCC ↔
Taiwan Cement Corp.	.	.	****	.	.	CCC ↔

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

RATING TREND KEY: ↔ maintain ↑ upgrade ↑↑ two or more notch upgrade ↓ downgrade ↓↓ two or more notch downgrade

* 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.

**CARBON EMISSIONS PERFORMANCE****KEY ISSUE SCORE DISTRIBUTION*****TOP 5 INDUSTRY LEADERS**

FLETCHER BUILDING LIMITED	7.4
IMERYS S.A.	6.9
The Siam Cement Public Company Limited	6.9
CRH PUBLIC LIMITED COMPANY	6.8
CEMENTOS ARGOS S.A.	6.1

BOTTOM 5 INDUSTRY LAGGARDS

TITAN CEMENT COMPANY S.A.	1.3
ANHUI CONCH CEMENT COMPANY LIMITED	1
China National Building Material Company Limited	0.6
TAIHEIYO CEMENT CORPORATION	0.6
Taiwan Cement Corp.	0.1

METHODOLOGY NOTE

This issue evaluates the extent to which companies may face increased costs linked to carbon pricing or regulatory caps. Scores are based on exposure to GHG intensive businesses and emerging regulations; carbon reduction targets and mitigation programs; and carbon intensity over time and vs. peers.

SUMMARY

ANALYST COMMENT: As a cement producer mainly operating in China and Taiwan, the company faces relatively high exposure to increased costs linked to carbon pricing or regulatory caps. However, Taiwan Cement demonstrates some efforts in carbon mitigation project and carbon capture technology development, but it lags global industry peers as it does not have any carbon emissions reduction targets.

Taiwan Cement faces high exposure to risks of compliance costs stemming from new or more stringent carbon regulations. We assess exposure based on the extent to which companies emit GHG in jurisdictions where regulations on carbon emissions are stringent or becoming more stringent, and the extent to which companies' main business activities are carbon-intensive based on the total GHG emissions relative to sales. Taiwan Cement has a high risk of being impacted by future carbon pricing schemes due to the fact that over 70% of its business is focused on cement production, which is one of the most carbon intensive industries. Based on the company's reported asset breakdown, regions with stricter regulation of carbon emissions or energy efficiency do not account for a significant portion of its operations.

Further, the company has rapidly expanded its cement production capacity in China in recent years (China based capacity represented 86.3% of total capacity by FY2015), where the Chinese government

has introduced the '2014-2020 National Plan to Cope with Climate Change'. In order to stabilize emissions from cement and steel industries, which make up about 1/5th of national carbon emissions, the new guidelines require cement and steel manufacturers to keep emissions at the same level in 2020 as they were in 2015. With strengthening national and provincial-level regulations, Taiwan Cement is expected to face increasing regulatory costs associated with carbon emissions.

Overall, Taiwan Cement has minimal policies and programs in place to manage these risks. Taiwan Cement has carried out equipment upgrades for energy efficiency and carbon emissions reduction. The company claims to have invested 1.6 billion TWY (approximately 525 USD million) for environmental protection, replacement of old equipment, and installation of waste heat recovery systems. The company has installed a residual thermal power generation system, and the exhaust heat generated from rotating kilns is used for power generation. Further, the company has aggressively invested in carbon capture technology. Additionally, the company has established a calcium looping pilot plant, which can reduce energy consumption via a cycling of calcination and carbonation methods used to capture carbon dioxide. However, these programs and initiatives mainly apply to its three Taiwan based factories, and we found limited disclosure on its carbon emission reduction efforts in the 20 factories based in mainland China.

In November 2016, the company won two awards in Taiwan Corporate Sustainability Awards in recognition of its carbon emissions-reduction measures. However, the company does not appear to publicly disclose its emissions performance metrics or carbon reduction target, making it difficult to evaluate its actual performance within the set.

In the context of global industry peers, Taiwan Cement ranks at the bottom quartile. Taiwan Cement's exposure to potential costs linked to carbon pricing or regulatory caps is determined to be high. Our analysis finds the company to have low capacity to manage the relevant risks.

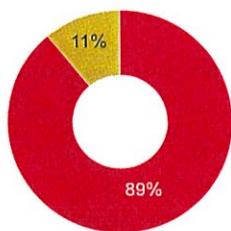
EXPOSURE



Key Drivers of Exposure

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

Type of Operations: 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) data - direct GHG emissions intensity; Eurostat – Air Emissions Accounts by Activity; Thomson; GHG emissions intensities compiled by MSCI ESG Research;

Location of Operations: Percentage of operations in countries with strengthening or pending carbon emissions regulation



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

Source: MSCI ESG Research; Thomson; company disclosure

MANAGEMENT



PRACTICES:

Overall, the company's programs to reduce the carbon intensity of its operations appear to be limited. Select contributors to this assessment include:

Strengths:

- Capture GHG emissions: *Aggressive efforts*

Weaknesses:

- Aggressiveness of the company's reduction target in the context of its current performance: *No target*
- Demonstrated track record of achieving its carbon reduction targets: *No previous targets*
- CDP disclosure: *No*

PERFORMANCE:

Performance track record of Taiwan Cement is moderate.

Practices

Targets

Aggressiveness of the company's reduction target in the context of its current performance:	No target
Demonstrated track record of achieving its carbon reduction targets:	No previous targets

Mitigation

Strength of Greenhouse Gas Mitigation Strategy (0-10 Score, 0=worst, 10=best):	5.7
--	------------

Programs or actions to reduce the emissions intensity of core operations

Use of cleaner sources of energy:	Some efforts
Capture GHG emissions:	Aggressive efforts
Energy consumption management and operational efficiency enhancements:	Some efforts
CDP disclosure:	No

Performance

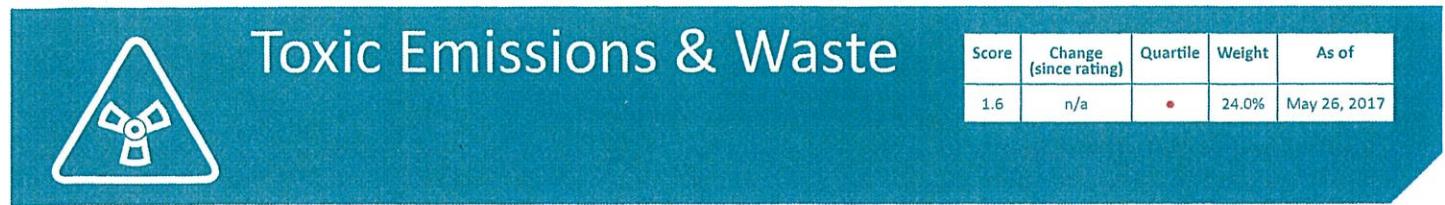
Carbon Emissions Performance Relative to Peers (0-10 Score, 0=worst, 10=best): **3.0**

GHG Emissions - metric tons CO2e

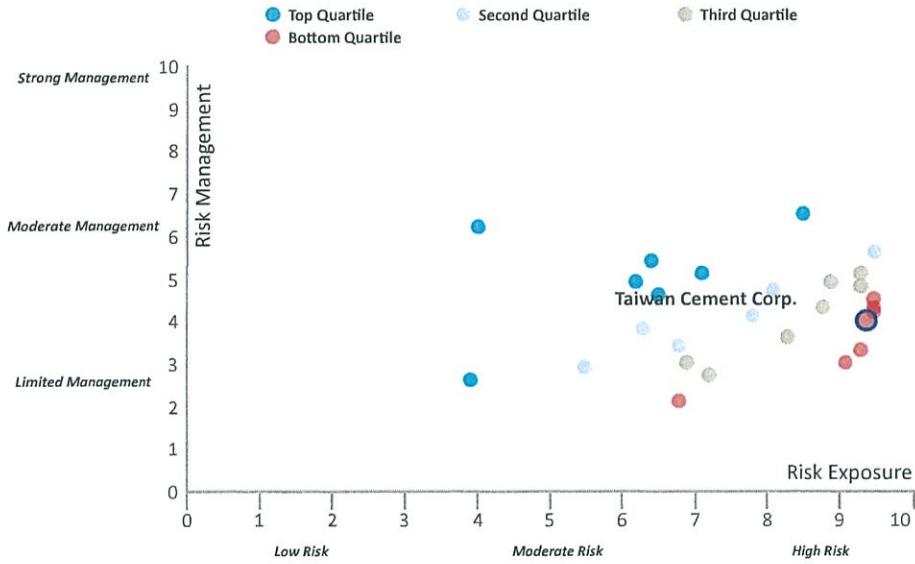
Year	Scope 1 Disclosed	Scope 1 Estimate Key	Scope 2 Disclosed	Scope 2 Estimate Key	Scope 1+2 Disclosed	Scope 3 (upstream)	Scope 3 (downstream)	Scope 3 (undefined)	Scope 1 Estimated	Scope 2 Estimated	Scope 1+2 Estimated	Scope 1+2 Estimate Key	GHG Emissions Details
2008		E.GICSSI - MODERATE		E.GICSSI - MODERATELY HIGH					9,850,990.0	757,074.0	10,608,064.0	E.GICSSI - MODERATE	Dec-2015 Estimation Update
2009		E.GICSSI - MODERATE		E.GICSSI - MODERATELY HIGH					11,178,462.0	859,094.0	12,037,556.0	E.GICSSI - MODERATE	Dec-2015 Estimation Update
2010		E.GICSSI - MODERATE		E.GICSSI - MODERATELY HIGH					14,998,501.0	1,152,675.0	16,151,176.0	E.GICSSI - MODERATE	Dec-2015 Estimation Update
2011		E.GICSSI - MODERATE		E.GICSSI - MODERATELY HIGH					16,118,901.0	1,238,780.0	17,357,681.0	E.GICSSI - MODERATE	Dec-2015 Estimation Update
2012		E.GICSSI - MODERATE		E.GICSSI - MODERATELY HIGH					16,938,202.0	1,301,746.0	18,239,948.0	E.GICSSI - MODERATE	Dec-2015 Estimation Update
2013		E.GICSSI - MODERATE		E.GICSSI - MODERATELY HIGH					16,001,333.0	1,232,094.0	17,233,427.0	E.GICSSI - MODERATE	Dec-2015 Estimation Update
2014		E.GICSSI - MODERATE		E.GICSSI - MODERATELY HIGH					14,714,648.0	1,121,810.0	15,836,458.0	E.GICSSI - MODERATE	Dec-2015 Estimation Update
2015		E.Segmt-Moderately High		E.Segmt-Moderately High					12,649,956.0	915,614.0	13,565,570.0	E.Segmt-Moderately High	Jan-2017 Estimation Update (Segment)
2016		E.Segmt-Moderately High		E.Segmt-Moderately High					13,437,367.0	813,507.0	14,250,874.0	E.Segmt-Moderately High	Jan-2018 Emission Estimation Update

GHG Emissions Intensity - metric tons CO2e / USD million sales

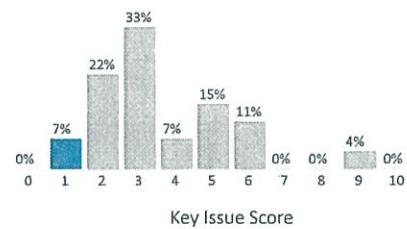
Year	GHG Intensity	GHG Intensity Details	GHG Intensity - Reported	GHG Intensity - Reported Details
2008	4,436.2			
2009	4,436.2			
2010	4,436.2			
2011	4,436.2			
2012	4,436.2			
2013	4,428.3			
2014	4,229.5			
2015	4,754.1			
2016	5,128.1			



TOXIC EMISSIONS & WASTE PERFORMANCE



KEY ISSUE SCORE DISTRIBUTION *



TOP 5 INDUSTRY LEADERS

CRH PUBLIC LIMITED COMPANY	9.2
HeidelbergCement AG	6
CEMENTOS ARGOS S.A.	5.7
VULCAN MATERIALS COMPANY	5.7
IMERYS S.A.	5.1

BOTTOM 5 INDUSTRY LAGGARDS

PT Semen Indonesia (Persero) Tbk	1.8
ANHUI CONCH CEMENT COMPANY LIMITED	1.7
Taiwan Cement Corp.	1.6
GRASIM INDUSTRIES LTD	1
PT Indocement Tunggal Prakarsa Tbk	0.9

SUMMARY

ANALYST COMMENT: The company's business activities suggest high exposure to potential costs associated with its discharges and waste. Our analysis finds modest mitigation capacity. The company therefore appears poorly prepared to manage this risk. In the context of global industry peers, Taiwan Cement ranks below average.

Taiwan Cement faces relatively high exposure to risks of environmental liabilities and compliance costs associated with toxic emissions and waste. We assess exposure to future environmental liabilities based on the average hazardous waste and air pollutant intensity, and toxicity of releases associated with companies' lines of business, based on data from the US Environmental Protection Agency and other government sources. Business lines with high risk on toxic emissions and waste, such as cement production and chemicals, represented all of Taiwan Cement's revenues in FY 2015.

Overall, Taiwan Cement has modest policies and programs in place to manage these risks. The company has undertaken initiatives to reduce emissions of the three major pollutants (NOx, SOx and particulate matter). For dust contamination, the company has invested in updating equipment to keep dust emissions below national standards. For NOx emissions, the company has implemented automatic continuous monitoring and selective non-catalytic reduction (SNCR) systems at its kilns. For

METHODOLOGY NOTE

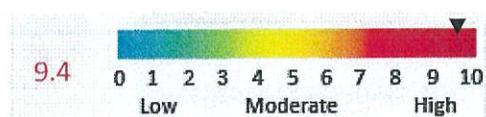
This issue evaluates the extent to which companies may face liabilities associated with pollution, contamination, and the emission of toxic or carcinogenic substances. Scores are based on operations generating toxic byproducts, air pollutants, or hazardous waste; strategy, targets, and programs to reduce emissions; quantified performance; and controversies.

hazardous waste, the company follows the standard of EU's Restriction of Hazardous Substances (RoHS). The company also has some initiatives in place to address water usage, such as improving its water recycling rate. Nevertheless, the company does not commit to any emissions reduction targets, or disclose key performance indicators, which reflect negatively on Taiwan Cement's transparency regarding its environmental management systems.

The company's stated commitment to reducing environmental impact is in line with legal and industry standards. We note the company lags in both current performance and targets for improvement.

In the context of global industry peers, Taiwan Cement ranks at the bottom quartile. Taiwan Cement's exposure to potential costs associated with its discharges and waste is determined to be high. Our analysis finds the company to have low capacity to manage the relevant risks.

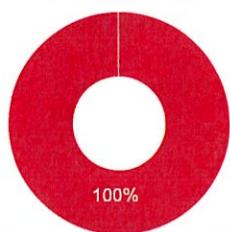
EXPOSURE



Key Drivers of 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

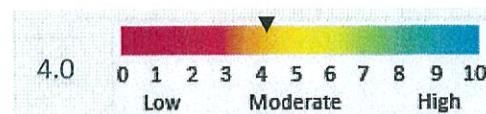
Type of Operations: This represents the portion of the company's revenues derived from lines of business that are High Risk (typically generate large amounts of toxic emissions), Medium Risk (typically generate moderate amounts of toxic emissions), and Low Risk (typically generate low amounts of toxic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



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

Source: US Environmental Protection Agency (EPA). Toxics Release Inventory (TRI); US EPA. 2008 National Emissions Inventory; Risk-Screening Environmental Indicators (RSEI) databases; Thomson; MSCI ESG Research; company disclosure

MANAGEMENT



PRACTICES:

Overall, the company's systems to address toxic emissions appear to be minimal. Select contributors to this assessment include:

Strengths:

- Existence of Environmental Management System (EMS): ISO 14001 or equivalent
- Evidence of regular environmental impact audits: Yes

Weaknesses:

- Disclosure around the number or percentage of sites with HAZWOPER or ISO 14001 certification: *Estimated*
- Evidence of audits across all locations of operations: *No*
- Evidence of annual compliance audits: *Not Disclosed*
- Demonstrated track record of achieving its toxic emissions targets: *No previous targets*

PERFORMANCE:

Performance track record of Taiwan Cement is moderate.

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 current involvement in prominent controversial events or alleged misconduct.

Performance

Toxic Releases Performance Relative to Peers (0-10 Score, 0=worst, 10=best): **3.0**

Practices**Governance and Strategy**

Existence of Environmental Management System (EMS):	ISO 14001 or equivalent
Percentage of sites with hazardous waste guidance that achieved HAZWOPER certification or follow ISO 14001 for waste management:	40.0%
Disclosure around the number or percentage of sites with HAZWOPER or ISO 14001 certification:	Estimated
Evidence of regular environmental impact audits:	Yes
Evidence of audits across all locations of operations:	No
Evidence of annual compliance audits:	Not Disclosed

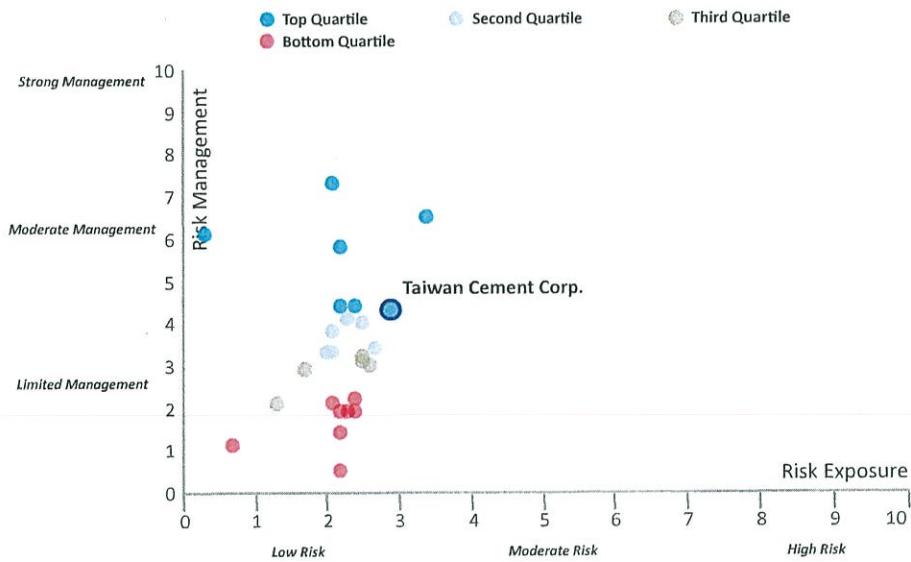
Targets

Aggressiveness of Toxic Emissions Reduction Target (0-10 Score, 0=worst, 10=best):	0
Demonstrated track record of achieving its toxic emissions targets:	No previous targets

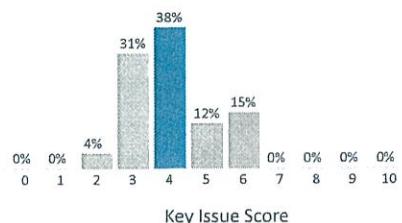
Opportunities in Clean Tech

Score	Change (since rating)	Quartile	Weight	As of
4.5	n/a	••••	12.0%	May 26, 2017

OPPORTUNITIES IN CLEAN TECH PERFORMANCE



KEY ISSUE SCORE DISTRIBUTION*



TOP 5 INDUSTRY LEADERS

LafargeHolcim Ltd	6.4
The Siam Cement Public Company Limited	6
IMERYS S.A.	5.6
GRASIM INDUSTRIES LTD	5.5
AMBUJA CEMENTS LIMITED	4.6

BOTTOM 5 INDUSTRY LAGGARDS

PT Indocement Tunggal Prakarsa Tbk	3.1
PT Semen Indonesia (Persero) Tbk	3.1
VULCAN MATERIALS COMPANY	2.9
Asia Cement Corporation	2.8
ANHUI CONCH CEMENT COMPANY LIMITED	2.3

METHODOLOGY NOTE

This issue evaluates the extent to which companies take advantage of opportunities in the market for environmental technologies. Scores are based on exposure to potential opportunities based on business model and policy incentives; innovation capacity and strategic development initiatives; and revenue derived from clean technologies.

SUMMARY

ANALYST COMMENT: The company's business activities suggest limited potential to benefit from growing demand for clean technologies. Our analysis finds modest initiatives in this area. The company therefore appears moderately well positioned to capitalize on this opportunity. In the context of global industry peers, Taiwan Cement ranks above average.

Taiwan Cement faces limited opportunities to participate in clean-tech markets. We assess the level of clean tech opportunities according to the market segments in which the companies operate. As a producer of cement and ready-mixed concrete, Taiwan Cement's products present limited opportunities to participate in clean tech markets given that most of its revenue is derived from civil infrastructure and building construction. In comparison to other industries in the construction sector, such as Construction & Engineering and Building Products, the Construction Materials industry has the lowest potential opportunity. However, blended cements, insulating material, and environmentally-friendly concrete products are areas that will continue to benefit from the growth in green buildings.

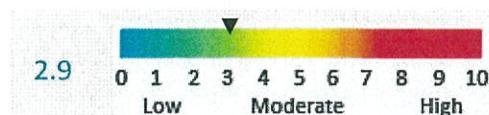
Overall, Taiwan Cement has modest policies and programs in place to manage these opportunities.

The company conducts research and development activities to develop high quality cement products and high performance concretes. Apart from developing innovative cement and concrete products, such as oil-well cement, self-compacting cement, and high-flowing concrete, the company also intends to develop renewable energy sources, such as solar power stations and waste-to-energy plants.

Further, Taiwan Cement Engineering, an affiliate of Taiwan Cement, has developed environment and pollution control equipment, such as electrostatic precipitators and incinerators. The company has various technology innovation initiatives in place; we believe that the company is in a better position to seize current and future opportunities in the clean technology space. The company has also signed an agreement with the Industrial Technology Research Institute (ITRI) to expand its micro algae unit to boost astaxanthin production (an input for skincare and health food products) from waste CO₂.

- In the context of global industry peers, Taiwan Cement ranks at the top quartile. Taiwan Cement's potential to benefit from growing demand for clean technologies is determined to be low. Our analysis finds the company to have low capacity to capitalize on the relevant growth potential.

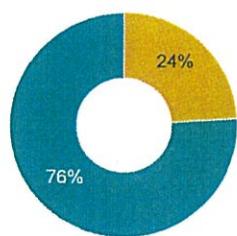
EXPOSURE



Key Drivers of Exposure

Exposure to: Opportunity for business growth from capturing demand changes and enjoying early mover advantage or regulatory incentives

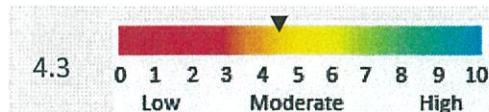
Type of Operations: Percentage of operations in business segments with high growth potential in clean tech markets



- No exposure to high opportunity segments
- Power generation , Chemicals and chemical preparations
- Cement

Source: Thomson; MSCI ESG Research; company disclosure

MANAGEMENT



PRACTICES:

Overall, the company's initiatives to profit from clean technologies appear to be minimal. Select contributors to this assessment include:

Strengths:

- Strategic focus on clean technology development: *Cleantech innovation is the core strategy*

Weaknesses:

- Targets to increase investment in clean tech: *Not disclosed*

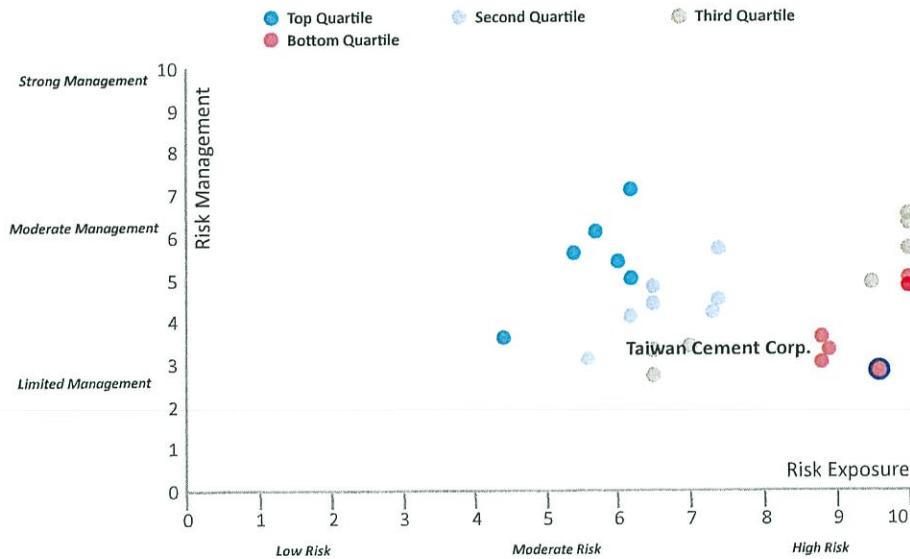
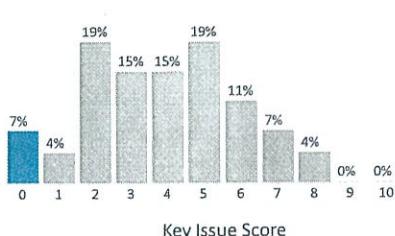
PERFORMANCE:

Performance track record of Taiwan Cement is moderate.

PerformanceScore: nature of involvement in clean tech activities: **3.32****Pollution Prevention & Control****Soil**Involvement in waste treatment operations or development and distribution of waste treatment technologies: **Non-core involvement (revenues <20%)****Air Quality**Involvement in carbon capture & storage activities: **Non-core involvement (revenues <20%)****Sustainable Water****Water Treatment & Purification**Involvement in waste water treatment operations or development and distribution of waste water treatment technologies: **Non-core involvement (revenues <20%)****Green Building****Materials**Involvement in production or distribution of specialty cements / low-temperature asphalt: **Non-core involvement (revenues <20%)****Practices****Strategy**Targets to increase investment in clean tech: **Not disclosed****Programs & Initiatives****R&D Expense**

Year	R&D (USD million)	R&D / Sales ratio
2008	1.05	0.04%
2009	1.07	0.04%
2010	1.87	0.05%
2011	1.9	0.05%
2012	1.14	0.03%
2013	1.47	0.04%
2014	1.22	0.03%
2015	0.21	0.01%

Year	R&D (USD million)	R&D / Sales ratio
2016	0.64	0.02%

**HEALTH & SAFETY PERFORMANCE****KEY ISSUE SCORE DISTRIBUTION *****TOP 5 INDUSTRY LEADERS**

IMERYS S.A.	7.9
CRH PUBLIC LIMITED COMPANY	7.4
BORAL LIMITED	7.2
TAIHEIYO CEMENT CORPORATION	6.4
The Siam Cement Public Company Limited	6.2

BOTTOM 5 INDUSTRY LAGGARDS

PT Semen Indonesia (Persero) Tbk	1.8
SHREE CEMENT LIMITED	1.8
PT Indo cement Tunggal Prakarsa Tbk	1.4
Taiwan Cement Corp.	0.2
ANHUI CONCH CEMENT COMPANY LIMITED	0

METHODOLOGY NOTE

This issue evaluates the extent to which companies may face employee accidents that can lead to production disruptions, litigation, and liabilities. Scores are based on exposure to businesses and geographies facing high accident rates; H&S targets and oversight; and accident rates and fatalities over time and vs. peers.

SUMMARY

ANALYST COMMENT: The company's business activities and the geographic distribution of its assets suggest high exposure to potential production disruptions, litigation, and liabilities. Our analysis finds little evidence of mitigation capacity. The company therefore appears poorly prepared to manage this risk. In the context of global industry peers, Taiwan Cement ranks below average.

Taiwan Cement faces relatively high exposure to risks of increased costs and disruptions linked to workplace accidents and fatalities. We assess exposure based on the extent to which companies' operations are located in countries with historically high rates of industrial fatalities, and the extent to which companies' business segments are prone to high injury rates and fatalities. Taiwan Cement's operations are primarily focused on manufacturing of cement products, a business activity highly prone to risks of incurring H&S accidents, which could result in operation disruptions, litigation and regulatory actions. Its exposure is further intensified by its operations in Taiwan and China, where the rate of workplace fatalities has historically been high according to the International Labour Organization. Such high risk exposure requires extensive policies and efforts to avoid potential accidents and liabilities.

Overall, Taiwan Cement has minimal policies and programs in place to manage these risks.

Taiwan Cement reports that the health and safety management systems at its Taiwan sites (13% of its total sites) are certified to the OHSAS 18001 standard, indicating that the company has undertaken

some efforts to mitigate risks of experiencing H&S incidents. However, there is no disclosure on health and safety management at its mainland China based sites. The measures carried out by the company include employee education on H&S issues and regular H&S meetings. Nevertheless, the company does not appear to have an executive body dedicated to employee health and safety issues, nor does it disclose any improvement targets. The company disclosed the recordable injury in Taiwan for FY2011-2014, where it only has 839 employees in FY2015, but provides no information about the health and safety performance at its China based plants where it has 8,751 employees. We are concerned that the absence of a comprehensive management strategy for employee health and safety may heighten its risk of experiencing production disruptions and litigation in case of workplace accidents.

In the context of global industry peers, Taiwan Cement ranks at the bottom quartile. Taiwan Cement's exposure to potential production disruptions, litigation, and liabilities is determined to be high. Our analysis finds the company to have low capacity to manage the relevant risks.

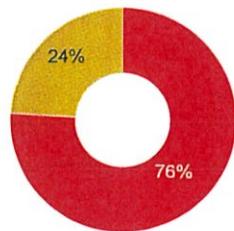
EXPOSURE



Key Drivers of Exposure

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

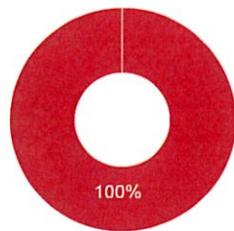
Type of Operations: Percentage of operations in business segments with high/moderate/low level of fatalities and industrial injuries



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

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

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



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

Source: International Labour Organization, Thomson; MSCI ESG Research; company disclosure

MANAGEMENT



PRACTICES:

Overall, the company's employee health and safety management programs appear to be minimal. Select contributors to this assessment include:

Strengths:

- H&S strategy and performance is managed by Sustainability Committee, H&S task force or risk officer: Yes
- Evidence of Recognized Certification: Yes
- Inclusion of contractors in health & safety metrics: Yes

Weaknesses:

- H&S strategy and performance is managed by CEO: No
- H&S strategy and performance is managed by Senior Executive or Executive Committee: No
- H&S policy is group-wide: No
- H&S policy applies to contractors: No
- H&S policy is enforced with auditing: No
- Health & safety performance as factor in executive compensation: No
- Target to improve H&S performance: No target

PERFORMANCE:

Performance track record of Taiwan Cement is moderate.

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 current involvement in prominent controversial events or alleged misconduct.

Performance

Operations

Performance on Health & Safety Metrics Relative to Peers (0-10 Score, 0=worst, 10=best): 3.0

Total Recordable Injury Rate

Year	Total Recordable Injury Rate	Total Recordable Injury Unit	Details	Total Recordable Injury Rate (per million hours)
2012	0.1	per 200,000 hours	only for Taiwan employees	0.5
2013	0.76	per 200,000 hours	only for Taiwan employees	3.8
2014	0.11	per 200,000 hours	only for Taiwan employees	0.55

Practices

Governance and Strategy

Percentage of the company's health & safety system certified to OHSAS

18001:

Evidence of Recognized Certification: Yes

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**

Health & safety policy

H&S policy is group-wide: **No**
H&S policy applies to contractors: **No**

Targets

Target to improve H&S performance: **No target**

Controversy Cases

Assessment	Headline	Status	Last Updated
Minor	China, TCC International Holdings Limited: Fire Accident at Guangdong Facility; No Injuries Reported	Concluded	September 2017

Corporate Governance



Score	Change (since rating)	Quartile	Weight	As of
3.4	▲ 1.1	•	16.0%	Mar 30, 2018

ANALYSIS

Taiwan Cement has the following governance risks: regulatory reprimand for violations of the Hong Kong Takeovers Code, an executive Chairman and the presence of related party transactions. There are also concerns over poor disclosure in relation to executive pay and director equity policy, cross shareholdings and a widely dispersed ownership structure, and accounting risks regarding expense recognition ratios.

Leslie Koo Cheng-yun (son of the late founder Koo Chen-Fu) served as Chairman and CEO until his death in January 2017 following injuries sustained from falling down a flight of stairs at a Taipei Hotel. He was succeeded in these roles by Nelson Chang, the husband of his younger sister. Chang had previously served as a board member.

Additional details and data available in the [Corporate Governance Details](#) section.

Home Market: Taiwan

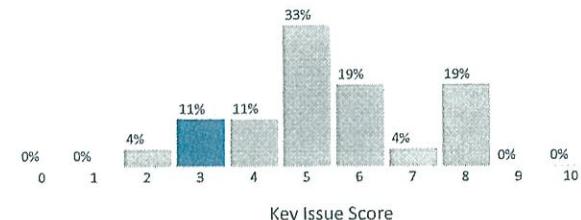
METHODOLOGY NOTE

This issue evaluates the extent to which companies' corporate governance practices may pose risks to investors. The score is an absolute assessment of a company's governance on a universally applied 0-10 scale. Each company starts with a "perfect 10" and points are deducted based on the triggering of Key Metrics across Board, Pay, Ownership, and Accounting.

ISSUES & RANKING

	Global Pctl Rank	Home Market Pctl Rank
Overall	8 th (Below Average)	9 th (Below Average)
Board	43 rd	45 th
Pay	19 th	72 nd
Ownership & Control	5 th	12 th
Accounting	24 th	0 th

KEY ISSUE SCORE DISTRIBUTION *



TOP 5 INDUSTRY LEADERS

FLETCHER BUILDING LIMITED	8.2
CRH PUBLIC LIMITED COMPANY	8.1
HeidelbergCement AG	7.8
BORAL LIMITED	7.7
JAMES HARDIE INDUSTRIES PUBLIC LIMITED COMPANY	7.7

BOTTOM 5 INDUSTRY LAGGARDS

ANHUI CONCH CEMENT COMPANY LIMITED	3.8
PT Semen Indonesia (Persero) Tbk	3.4
Taiwan Cement Corp.	3.4
Grupo Argos S.A.	3.2

Taiwan Cement Corp. (1101)

ESG RATING **CCC**

Asia Cement Corporation

2.4

Board

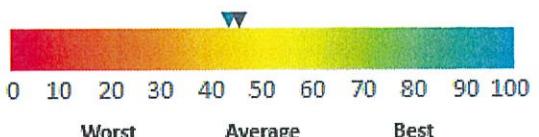
Global Percentile Rank	Home Market Percentile Rank
43 rd (Average)	45 th (Average)

ANALYSIS

The policies and practices of the Taiwan Cement board fall within the average scoring range relative to global peers. We have flagged this board for potential concerns regarding recent allegations of executive misconduct; the Chairman is an executive, the presence of certain related party transactions and possible board entrenchment.

BOARD PERFORMANCE VS.

▼ Global ▼ Home Market



RISK MANAGEMENT

Indicators

Board Effectiveness

Entrenched Board:	Yes
-------------------	-----

Board Independence

Outside related directors:	2
Total directors:	19
Outside directors:	17
Board independence:	89.47%

Board Leadership

CEO Name:	Zhongpei Li
Chair / CEO roles combined:	No
Company lacks an independent lead director:	Yes

Board Skills & Diversity

Female directors:	1
Female directors as percent of total:	5.26%

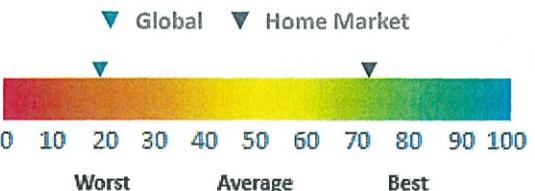
Pay

Global Percentile Rank	Home Market Percentile Rank
19 th (Below Average)	72 nd (Average)

ANALYSIS

Executive pay practices at Taiwan Cement include one or more areas of concern regarding the alignment of management interests with those of the company's shareholders. Areas of particular concern include poor disclosure in relation to executive pay.

PAY PERFORMANCE VS.



RISK MANAGEMENT

Indicators

Pay Figures

Company fails to disclose specific pay totals for executives: Yes

Pay Performance Alignment

Significant vote against pay practices: No

Severance & Change of Control

Company lacks a clawback policy: Yes

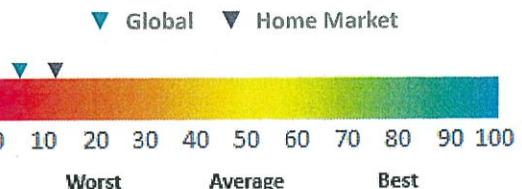
Ownership & Control

Global Percentile Rank	Home Market Percentile Rank
5 th (Worst In Class)	12 th (Below Average)

ANALYSIS

The ownership structure and shareholder rights at Taiwan Cement raises potentially significant concerns for shareholders, including the relationship with the controlling shareholder.

OWNERSHIP & CONTROL PERFORMANCE VS.



RISK MANAGEMENT

Indicators

Committee Structure

Company lacks a fully independent audit committee:	No
Company lacks a fully independent compensation committee:	No

Ownership Structure

Insiders (Officers & Directors) % Held:	12.3%
Five % Shareholders % Held:	0.0%
Top Shareholders:	Koo Family - 10.16% (1.94% through Heng Qiang Investment Co., Ltd.; 1.70% through Fu Pin Investment Co., Ltd.; 2.27% China Synthetic Rubber Corp.; 1% through He Feng Investment Co., Ltd.; 3.25% through Chinatrust Investment Co., Ltd.)
Controlling shareholder:	Yes

Shareholder Rights

Company has failed to adopt majority voting standards:	Yes
Ownership structure deviates from one share one vote:	No

Takeover Provisions

Poison pill:	No
--------------	----

Accounting

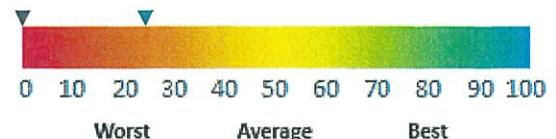
Global Percentile Rank	Home Market Percentile Rank
24 th (Below Average)	0 th (Worst In Class)

ANALYSIS

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

ACCOUNTING PERFORMANCE VS.

▼ Global ▼ Home Market



RISK MANAGEMENT

Indicators

Accounting Figures

Non-audit fees:	12.52%
Audit fees:	604,424.59
Audit fees (currency):	USD
Total auditor fees:	690,961.56
Total auditor fees (currency):	USD
Audit related fees:	0.0
Audit related fees (currency):	USD

Accounting Risks

Restatements or special charges in last two years:	No
Accounting investigations in last two years:	No
Qualified auditor opinion, most recent period:	No
Late filings:	No
Material weakness in internal controls:	No

CORPORATE GOVERNANCE CONTROVERSIES



Tax Transparency

Score	Change (since rating)	Quartile	Weight	As of
8.0	0.0	***	0.0%	May 26, 2017

ANALYSIS

Indicators

Tax Gap

Estimated Effective Tax Rate	20.3%
Estimated Statutory Tax Rate	21.2%
Estimated Tax Gap	0.0%

Revenue

Foreign Revenue	53.0%
-----------------	-------

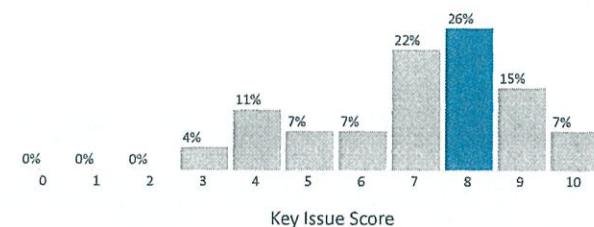
Confidence

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

METHODOLOGY NOTE

This issue evaluates the extent to which companies' estimated effective income tax rate may be misaligned with revenue-weighted statutory rates in countries of operation. The score is an absolute assessment of a company's tax transparency and payments on a universally applied 0-10 scale. Each company starts with a "perfect 10" and points are deducted based on the size of the tax gap and any involvement in tax-related controversies. Confidence Level refers to the degree of granularity of reported data and frequency of loss-making. Low confidence level indicates disclosure of revenue primarily by regions rather than countries or that the company experienced losses in at least two of the last five years. A negative tax gap indicates that the company's estimated effective rate is greater than its estimated statutory tax rate. A negative estimated effective tax rate may indicate that the company is receiving or claiming tax credits while reporting net profit. A negative tax gap does not necessarily indicate that the company is paying excess taxes. There is no score deduction for a negative tax gap.

KEY ISSUE SCORE DISTRIBUTION*



TOP 5 INDUSTRY LEADERS

China National Building Material Company Limited	10
ANHUI CONCH CEMENT COMPANY LIMITED	10
MARTIN MARIETTA MATERIALS, INC.	9
ULTRATECH CEMENT LIMITED	9
PT Indocement Tunggal Prakarsa Tbk	9

BOTTOM 5 INDUSTRY LAGGARDS

BORAL LIMITED	5
GRASIM INDUSTRIES LTD	4
TITAN CEMENT COMPANY S.A.	4
SHREE CEMENT LIMITED	4
CEMEX S.A.B. de C.V.	3

MANAGEMENT

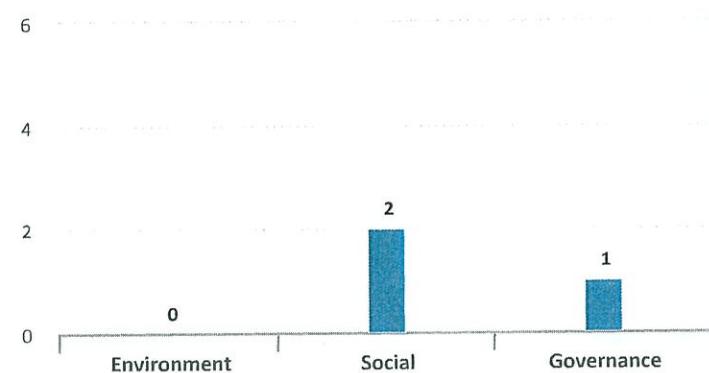
CONTROVERSIES DETAIL

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
Opportunities in Clean Tech	None	0
Social		
Health & Safety	Minor	1
Governance		
Corporate Governance	None	0
Tax Transparency	None	0

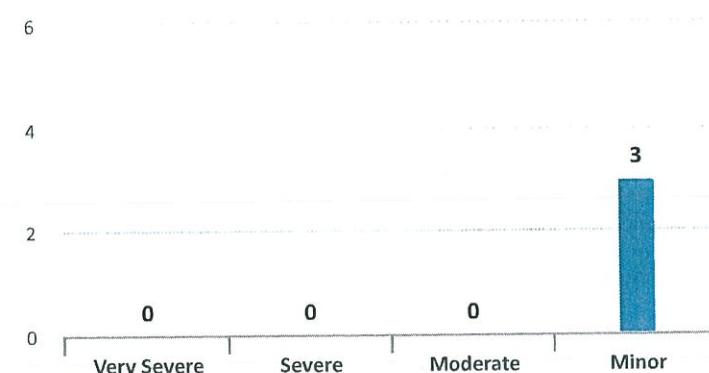
NUMBER OF CONTROVERSIES BY PILLAR



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



ISSUER COMMUNICATION SUMMARY

Company Communication Past 15 Months

Direction	Method	Category	Research Product	Date
Outgoing	E-mail	Data Review - Alert	ESG Ratings	Mar 26, 2018
Outgoing	E-mail	Data Review - Report	ESG Ratings	May 26, 2017
Outgoing	E-mail	Data Review - Alert	ESG Ratings	Mar 03, 2017

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.



Corporate Governance Details

Included in this section is the MSCI ESG GovernanceMetrics report, providing in-depth corporate governance data and analysis

CONTENTS

SECTION	COMPONENTS
OVERVIEW	<ul style="list-style-type: none"> Governance Summary & Analysis Pillar Summaries Material Governance Events
BOARD	<ul style="list-style-type: none"> KeyMetrics Peer Analysis Board Statistics Board of Directors
PAY	<ul style="list-style-type: none"> KeyMetrics Peer Analysis Executive Pay Compensation Committee CEO Pay Figures
OWNERSHIP & CONTROL	<ul style="list-style-type: none"> KeyMetrics Peer Analysis Ownership Information Equity Insiders Takeover Defenses
ACCOUNTING	<ul style="list-style-type: none"> KeyMetrics Peer Analysis Audit Committee Auditor and Fees
DIRECTOR VOTES	
SHAREHOLDER/MANAGEMENT PROPOSALS	
RELATED PARTY TRANSACTIONS	
GOVERNANCE STANDARDS	
DIRECTOR BIOGRAPHIES	