

Taiwan Cement Corp.

Construction Materials Taiwan TAI:1101

ESG Risk Rating

ESG Risk Score

25.1

Last Update May 5, 2023

+3.8

Momentum

ESG Risk Rating

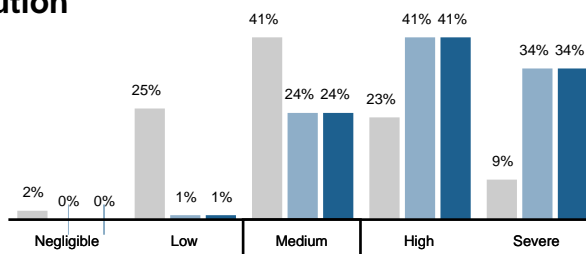
Medium Risk



ESG Globes Rating



ESG Risk Rating Category Distribution



ESG Risk Rating Ranking

UNIVERSE	RANK (1 st = lowest risk)	PERCENTILE (1 st = lowest risk)
Global Universe	7583/15636	49th
Construction Materials INDUSTRY	10/140	7th
Construction Materials SUBINDUSTRY	10/140	7th

Peers Comparison

Peers (Market cap \$6.6 - \$10.2bn)

	Exposure	Management	ESG Risk Rating
1. Taiwan Cement Corp.	48.2 Medium	53.8 Strong	25.1 Medium
2. CEMEX SAB de CV	58.4 High	59.9 Strong	27.3 Medium
3. Eagle Materials, Inc.	51.5 Medium	24.1 Weak	40.5 Severe
4. China Jushi Co. Ltd.	49.0 Medium	19.3 Weak	40.6 Severe
5. Xinjiang Tianshan Cement Co., Ltd.	50.4 Medium	15.9 Weak	43.3 Severe

Taiwan Cement Corp.

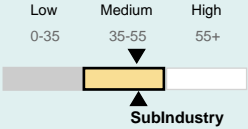
Construction Materials Taiwan TAI:1101

ESG Risk Analysis

Exposure refers to the extent to which a company is exposed to different material ESG Issues. Our exposure score takes into consideration subindustry and company-specific factors such as its business model.

Exposure

48.2 **+2.1**
Medium **Momentum**
Beta = 0.98



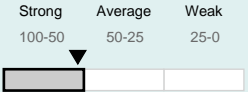
The company's carbon footprint is affected by the nature of its operations and the source of energy used to power these operations. Increasingly stringent carbon regulations and energy efficiency requirements could lead to higher energy prices, larger associated costs for the company and compliance issues. To maintain its ongoing operations, the company uses large quantities of water. As water resources are becoming increasingly constrained, especially in drought prone areas, companies may face limited fresh water availability, higher water prices or even regulatory restrictions on water use. There is increasing customer demand for more environmentally or socially responsible products and services. Companies adapting to this trend have the opportunity to improve their brand image and to differentiate on the market, while the others face the risk of losing customers over competitors.

The company's overall exposure is medium and is similar to subindustry average. Carbon -Own Operations, E&S Impact of Products and Services and Resource Use are notable material ESG issues.

Management refers to how well a company is managing its relevant ESG issues. Our management score assesses the robustness of a company's ESG programs, practices, and policies.

Management

53.8 **-6.4**
Strong **Momentum**



TCC's overall ESG-related disclosure follows best practice, assigning board level responsibility for overseeing ESG issues. Additionally, the environmental policy is assessed as strong alongside it's social supply chain standards. Furthermore, the company has a adequate whistleblower programme in place.

The company's overall management of material ESG issues is strong.

Taiwan Cement Corp.

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Material ESG Issues

ESG Issues regarded material for the company.

Issue Name	Exposure	Management	ESG Risk Rating	Contribution to ESG Risk Rating
	Score Category	Score Category	Score Category	
Carbon -Own Operations	9.9 High	49.3 Average	6.0 Medium	23.9%
Corporate Governance	9.0 High	49.1 Average	4.6 Medium	18.2%
E&S Impact of Products and Services	5.7 Medium	39.9 Average	3.9 Low	15.4%
Resource Use	5.7 Medium	58.9 Strong	3.0 Low	12.0%
Business Ethics	6.0 Medium	56.3 Strong	2.8 Low	11.1%
Emissions, Effluents and Waste	4.3 Medium	58.4 Strong	2.0 Low	8.0%
Human Capital	2.9 Low	50.6 Strong	1.5 Negligible	5.9%
Occupational Health and Safety	4.8 Medium	75.0 Strong	1.4 Negligible	5.4%
Overall	48.2 Medium	53.8 Strong	25.1 Medium	100.0%

Events Overview

Identify events that may negatively impact stakeholders, the environment, or the company's operations.

Category (Events)

5 Severe (0)

4 High (0)

3 Significant (0)

2 Moderate (1)

Anti-Competitive Practices

1 Low (2)

Emissions, Effluents and Waste

Environmental Impact of Products

Taiwan Cement Corp.

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Events Overview

Identify events that may negatively impact stakeholders, the environment, or the company's operations.

Category (Events)

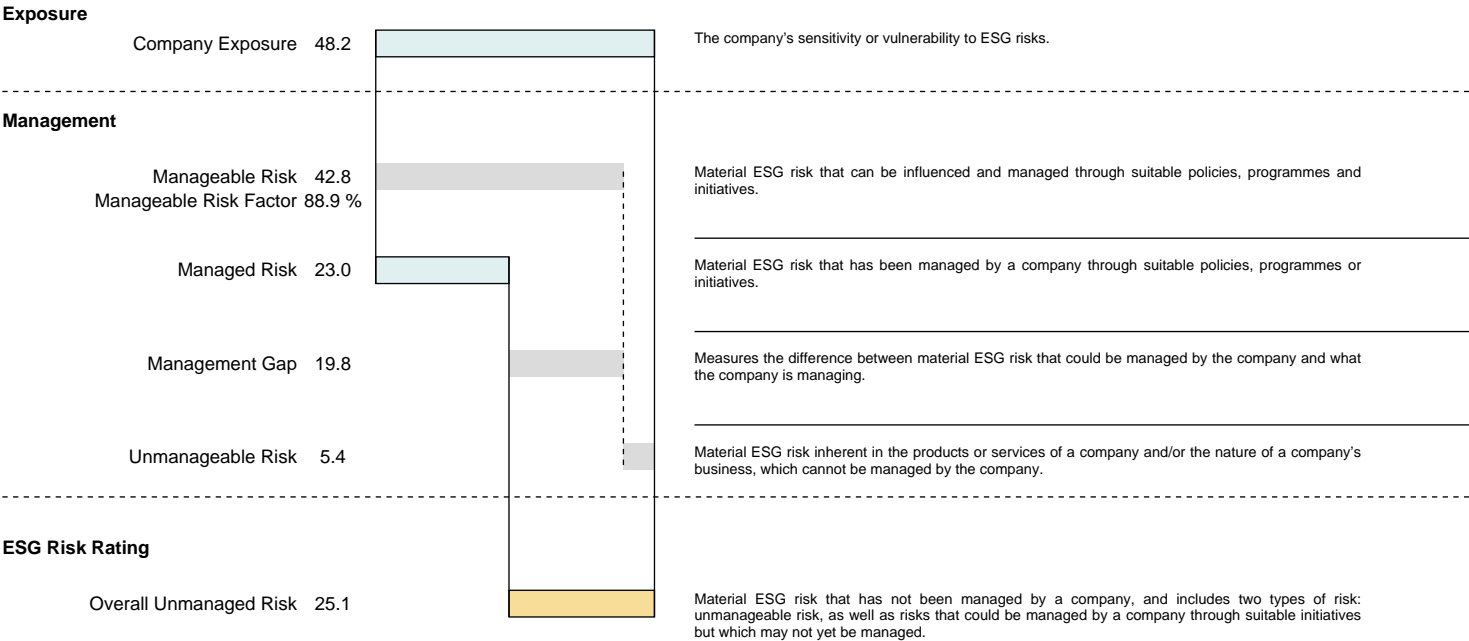
 **None (11)**

Accounting and Taxation	Bribery and Corruption
Business Ethics	Energy Use and GHG Emissions
Intellectual Property	Labour Relations
Lobbying and Public Policy	Occupational Health and Safety
Sanctions	Social Impact of Products
Water Use	

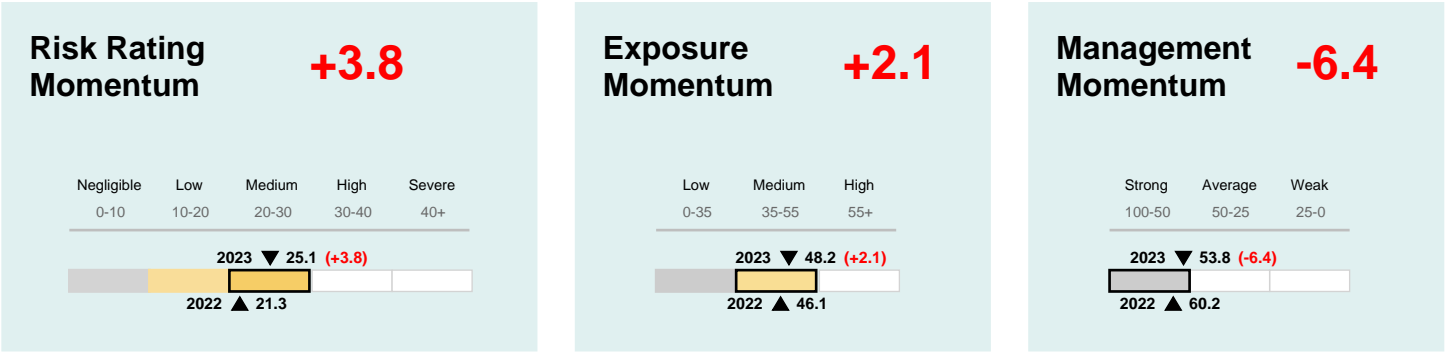
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Risk Decomposition



Momentum Details




Taiwan Cement Corp.

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Issue

Contribution 23.9 %



Carbon - Own Operations

Carbon - Own Operations refers to a company's management of risks related to its own operational energy use and GHG emissions (scope 1 and 2). It also includes parts of Scope 3 emissions.

ESG Risk Rating

6.0

Medium Risk

NEGL

LOW

MED

HIGH

SEVERE

0-2

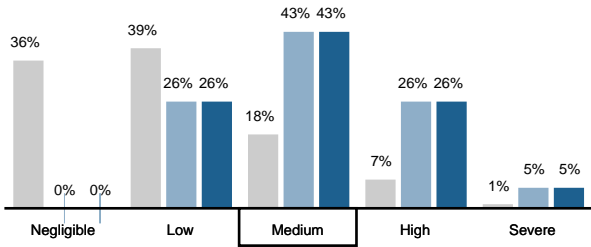
2-4

4-6

6-8

8+

ESG Risk Rating Category Distribution



ESG Risk Rating Ranking

UNIVERSE	RANK		PERCENTILE	
	(1 st = lowest risk)		(1 st = lowest risk)	
Global Universe	2834	3064	93rd	
Construction Materials INDUSTRY	29	42	69th	
Construction Materials SUBINDUSTRY	29	42	69th	

Peers Comparison

Peers (Market cap \$6.6 - \$10.2bn)	Exposure	Management	ESG Risk Rating
1. Ambuja Cements Ltd.	9.5 High	55.8 Strong	5.2 Medium
2. CEMEX SAB de CV	10.8 High	62.5 Strong	5.4 Medium
3. Taiwan Cement Corp.	9.9 High	49.3 Average	6.0 Medium
4. China Jushi Co. Ltd.	9.0 High	13.1 Weak	8.1 Severe
5. Eagle Materials, Inc.	9.0 High	9.2 Weak	8.3 Severe

Taiwan Cement Corp.

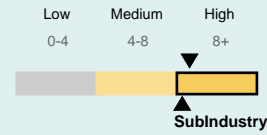
Construction Materials Taiwan TAI:1101

ESG Risk Analysis

Exposure refers to the extent to which a company is exposed to different material ESG Issues. Our exposure score takes into consideration subindustry and company-specific factors such as its business model.

Exposure

9.9
High



Cement production requires significant quantities of energy, sourced primarily from the direct combustion of fossil fuels and the electrical grid. Energy is among the most significant costs in the cement industry, typically comprising 12-30% of a company's total operating spend, and even modest improvements in energy practices can have material impacts on profitability. As global carbon legislation for GHG emissions tightens, increasing energy efficiency becomes crucial for companies to mitigate operating and compliance costs.

The company's exposure to Carbon -Own Operations issues is high and moderately above the subindustry exposure.

Exposure Analysis

Subindustry Issue Exposure	9.0
Issue Beta	x 1.10
Company Issue Exposure	9.9

Beta Indicators

Beta Signal

Energy Use and GHG Emissions	0.00
Operating Performance	-0.02
Solvency	0.00
Financial Flexibility	-0.02
Asset Performance	0.00
Carbon Emissions	0.15
Clinker Efficiency	0.00
Qualitative Overlay	0.00
Subindustry Correction Factor	0.00
Exceptional Event Adjustment	0.00
Total Beta Signal	0.10
Baseline	+1.00
Issue Beta	1.10

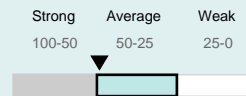
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Management refers to how well a company is managing its relevant ESG issues. Our management score assesses the robustness of a company's ESG programs, practices, and policies.

Management

49.3
Average



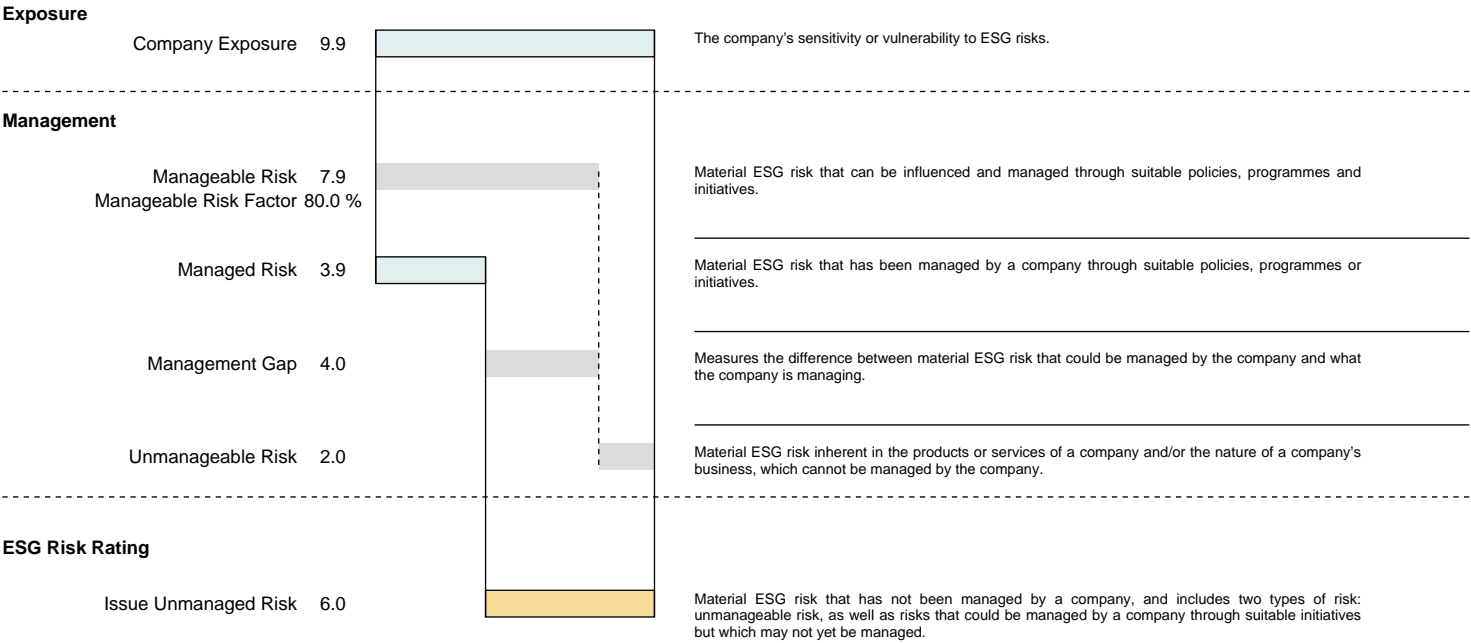
The company has initiatives to reduce GHG emissions and has established related targets and deadlines. Given this observation, its greenhouse gas emissions reduction programme is strong. Furthermore, the company includes data on scope 1 and 2 emissions as well as disclosure of relevant information on scope 3 emissions. Over the last three years, the company's carbon intensity trend experienced a moderate decline. In our view, the company's management of the issue is average.

Management Indicators	Raw Score	Weight	Weighted Score
GHG Reduction Programme	100	20.0%	20.0
GHG Risk Management	100	5.0%	5.0
Renewable Energy Programmes	100	5.0%	5.0
Scope of GHG Reporting	100	5.0%	5.0
Environmental Policy	75	5.0%	3.8
Environmental Management System	60	10.0%	6.0
EMS Certification	25	2.5%	0.6
Green Logistics Programmes	25	7.5%	1.9
Renewable Energy Use	20	10.0%	2.0
Carbon Intensity	0	15.0%	0.0
Carbon Intensity Trend	0	15.0%	0.0
 Energy Use and GHG Emissions	Category 0	0%	0.0
Weighted Sum			49.3

Taiwan Cement Corp.

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Risk Decomposition



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Issue

Contribution 18.2 %



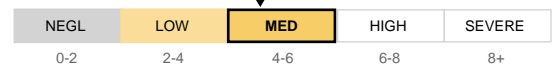
Corporate Governance

Corporate Governance represents foundational structures for the management of ESG risks.

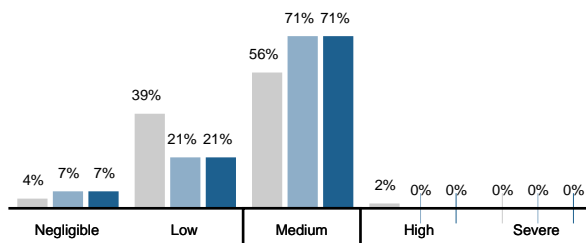
ESG Risk Rating

4.6

Medium Risk



ESG Risk Rating Category Distribution



ESG Risk Rating Ranking

UNIVERSE	RANK (1 st = lowest risk)	PERCENTILE (1 st = lowest risk)
Global Universe	3060/4935	62nd
Construction Materials INDUSTRY	25/42	59th
Construction Materials SUBINDUSTRY	25/42	59th

Peers Comparison

Peers (Market cap \$6.6 - \$10.2bn)

	Exposure	Management	ESG Risk Rating
1. Eagle Materials, Inc.	9.0 High	53.6 Strong	4.2 Medium
2. Ambuja Cements Ltd.	9.0 High	50.1 Average	4.5 Medium
3. Taiwan Cement Corp.	9.0 High	49.1 Average	4.6 Medium
4. CEMEX SAB de CV	9.0 High	47.7 Average	4.7 Medium
5. China Jushi Co. Ltd.	9.0 High	39.6 Average	5.4 Medium

Taiwan Cement Corp.

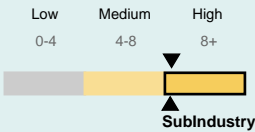
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ESG Risk Analysis

Exposure refers to the extent to which a company is exposed to different material ESG Issues. Our exposure score takes into consideration subindustry and company-specific factors such as its business model.

Exposure

9.0
High

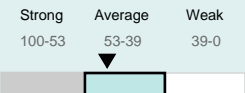


The quality and integrity of the company's board and management, its ownership structure and shareholder rights are identified as the highest weighted governance areas of focus. The company is publicly traded, which leads to heightened scrutiny of its governance practices and increases the importance of governance structures, practices and behaviour. This translates into high exposure to baseline Corporate Governance risk.

Management refers to how well a company is managing its relevant ESG issues. Our management score assesses the robustness of a company's ESG programs, practices, and policies.

Management

49.1
Average



The company is noted for showing particular strength in its stakeholder governance. On the other hand, it is noted for weakness in its board structure and its remuneration systems. It has average management of its 3 other governance pillars. Overall, we rate the company's corporate governance management as average.

Corporate Governance Pillars	Raw Score	Weight	Weighted Score
Board/Management Quality & Integrity	56	25.0%	14.0
Board Structure	39	17.0%	6.6
Ownership & Shareholder Rights	50	25.0%	12.5
Remuneration	33	17.0%	5.6
Audit & Financial Reporting	57	8.0%	4.6
Stakeholder Governance	73	8.0%	5.8
Totals		100.0%	49.1

Taiwan Cement Corp.

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Risk Decomposition

Exposure			
Company Exposure	9.0		The company's sensitivity or vulnerability to ESG risks.
Management			
Manageable Risk	9.0		Material ESG risk that can be influenced and managed through suitable policies, programmes and initiatives.
Manageable Risk Factor	100.0 %		
Managed Risk	4.4		Material ESG risk that has been managed by a company through suitable policies, programmes or initiatives.
Management Gap	4.6		Measures the difference between material ESG risk that could be managed by the company and what the company is managing.
Unmanageable Risk	0.0		Material ESG risk inherent in the products or services of a company and/or the nature of a company's business, which cannot be managed by the company.
ESG Risk Rating			
Issue Unmanaged Risk	4.6		Material ESG risk that has not been managed by a company, and includes two types of risk: unmanageable risk, as well as risks that could be managed by a company through suitable initiatives but which may not yet be managed.

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Issue

Contribution 15.4 %



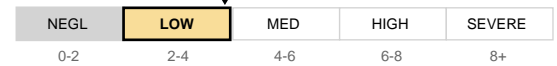
E&S Impact of Products and Services

E&S Impact of Products and Services refers to the management of the inherent characteristics of input materials, and the impacts during use, disposal and recycling (excluding Carbon).

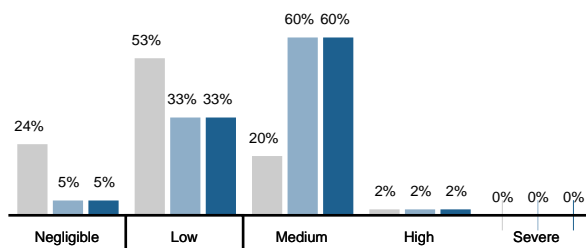
ESG Risk Rating

3.9

Low Risk



ESG Risk Rating Category Distribution



ESG Risk Rating Ranking

UNIVERSE	RANK		PERCENTILE	
	(1 st = lowest risk)		(1 st = lowest risk)	
Global Universe	1055	1406	75th	
Construction Materials Industry	15	42	35th	
Construction Materials Subindustry	15	42	35th	

Peers Comparison

Peers (Market cap \$6.6 - \$10.2bn)

	Exposure	Management	ESG Risk Rating
1. CEMEX SAB de CV	6.9 Medium	84.0 Strong	2.3 Low
2. Ambuja Cements Ltd.	5.4 Medium	52.0 Strong	3.2 Low
3. Taiwan Cement Corp.	5.7 Medium	39.9 Average	3.9 Low
4. Eagle Materials, Inc.	6.0 Medium	12.0 Weak	5.4 Medium
5. China Jushi Co. Ltd.	6.0 Medium	4.0 Weak	5.8 Medium

Taiwan Cement Corp.

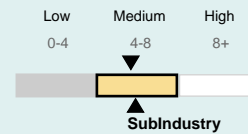
Construction Materials Taiwan TAI:1101

ESG Risk Analysis

Exposure refers to the extent to which a company is exposed to different material ESG Issues. Our exposure score takes into consideration subindustry and company-specific factors such as its business model.

Exposure

5.7
Medium



Cement's status as a sustainable product has sometimes been questioned, given the energy and water intensity of its production. However, cement has properties that make it a key component of sustainable buildings. For example, cement adds to the durability of buildings, and can reduce a building's energy needs by absorbing and retaining heat, allowing homeowners to lower their energy use. Such products may be favoured by construction customers, helping them to meet their own sustainability targets, and may also help the cement industry cope with rising regulatory requirements on energy use.

The company's exposure to E&S Impact of Products and Services issues is medium and moderately below the subindustry exposure.

Exposure Analysis

Subindustry Issue Exposure	6.0
Issue Beta	x 0.95
Company Issue Exposure	5.7

Beta Indicators

Beta Signal

Environmental Impact of	0.01
Social Impact of Products	0.00
Operating Performance	-0.02
Solvency	0.00
Financial Flexibility	-0.02
Asset Performance	0.00
Headquarters Location	0.00
Sales Location	0.00
Qualitative Overlay	0.00
Subindustry Correction Factor	0.00
Exceptional Event Adjustment	0.00
Total Beta Signal	-0.05
Baseline	+1.00
Issue Beta	0.95

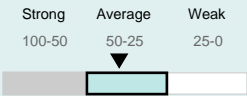
Taiwan Cement Corp.

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Management refers to how well a company is managing its relevant ESG issues. Our management score assesses the robustness of a company's ESG programs, practices, and policies.

Management

39.9
Average



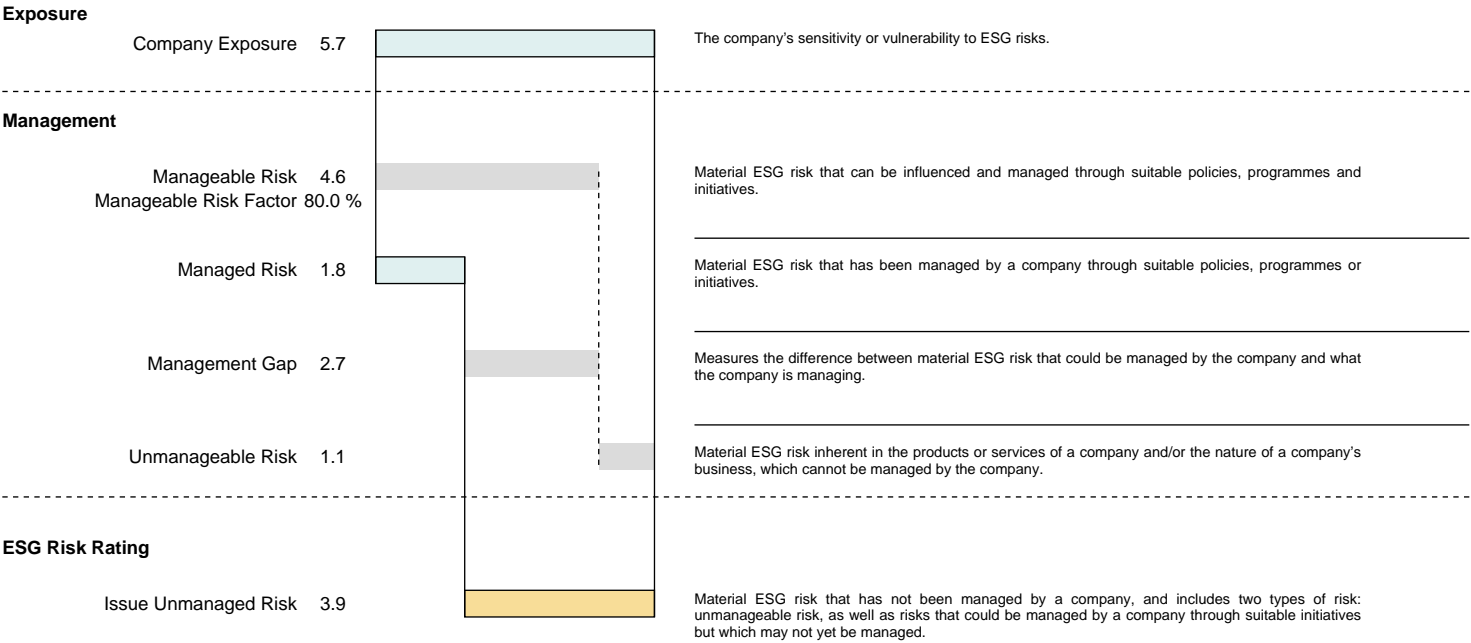
The company has established strong green procurement initiatives. Furthermore, it is evident that it offers sustainability related products; however, it lacks disclosure on associated revenues. The company has average preparedness measures to address E&S Impact of Products and Services issues and has been implicated in minor controversies related to the issue. In our view, the company's management of the issue is average.

Management Indicators	Raw Score	Weight	Weighted Score
Green Procurement Policy	100	19.0%	19.0
Recycled Material Use	60	19.0%	11.4
Sustainable Products & Services	25	38.0%	9.5
Green Building Memberships	0	19.0%	0.0
 Environmental Impact of Products	Category 1	5%	0.0
 Social Impact of Products	Category 0	0%	0.0
Weighted Sum			39.9

Taiwan Cement Corp.

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Risk Decomposition



Taiwan Cement Corp.

Construction Materials Taiwan TAI:1101

Issue

Contribution 12.0 %



Resource Use

Resource Use focuses on how efficiently and effectively a company uses its raw material inputs (excluding energy and petroleum-based products) in production and how it manages related risks.

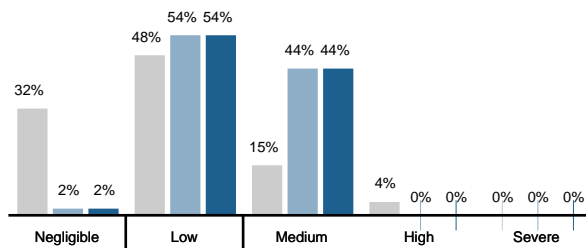
ESG Risk Rating

3.0

Low Risk



ESG Risk Rating Category Distribution



ESG Risk Rating Ranking

UNIVERSE	RANK		PERCENTILE	
	(1 st = lowest risk)		(1 st = lowest risk)	
Global Universe	1016	1717	60th	
Construction Materials Industry	14	41	33rd	
Construction Materials Subindustry	14	41	33rd	

Peers Comparison

Peers (Market cap \$6.6 - \$10.2bn)

	Exposure	Management	ESG Risk Rating
1. Ambuja Cements Ltd.	6.6 Medium	78.4 Strong	2.5 Low
2. CEMEX SAB de CV	6.6 Medium	68.5 Strong	3.0 Low
3. Taiwan Cement Corp.	5.7 Medium	58.9 Strong	3.0 Low
4. Eagle Materials, Inc.	6.0 Medium	15.5 Weak	5.3 Medium
5. China Jushi Co. Ltd.	6.0 Medium	13.0 Weak	5.4 Medium

Taiwan Cement Corp.

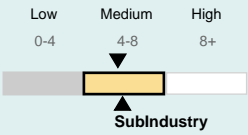
Construction Materials Taiwan TAI:1101

ESG Risk Analysis

Exposure refers to the extent to which a company is exposed to different material ESG Issues. Our exposure score takes into consideration subindustry and company-specific factors such as its business model.

Exposure

5.7
Medium



Despite significant reductions in water use in recent years, the Construction Materials industry is more water intensive than most industries. Large volumes of water are required for cooling cement and brick kilns. Excessive water use in regions of high water stress can raise operational costs or provoke community opposition, particularly when competing with local communities for the resource. Companies that are unable to secure a stable water supply could face production disruptions.

The company's exposure to Resource Use issues is medium and moderately below the subindustry exposure.

Exposure Analysis

Subindustry Issue Exposure	6.0
Issue Beta	x 0.95
Company Issue Exposure	5.7

Beta Indicators

Beta Signal

Water Use	0.00
Operating Performance	-0.02
Solvency	0.00
Financial Flexibility	-0.02
Asset Performance	0.00
Regional Water Stress	0.00
Qualitative Overlay	0.00
Subindustry Correction Factor	0.00
Exceptional Event Adjustment	0.00
Total Beta Signal	-0.05
Baseline	+1.00
Issue Beta	0.95

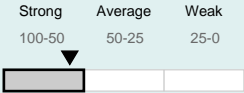
Taiwan Cement Corp.

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Management refers to how well a company is managing its relevant ESG issues. Our management score assesses the robustness of a company's ESG programs, practices, and policies.

Management

58.9
Strong



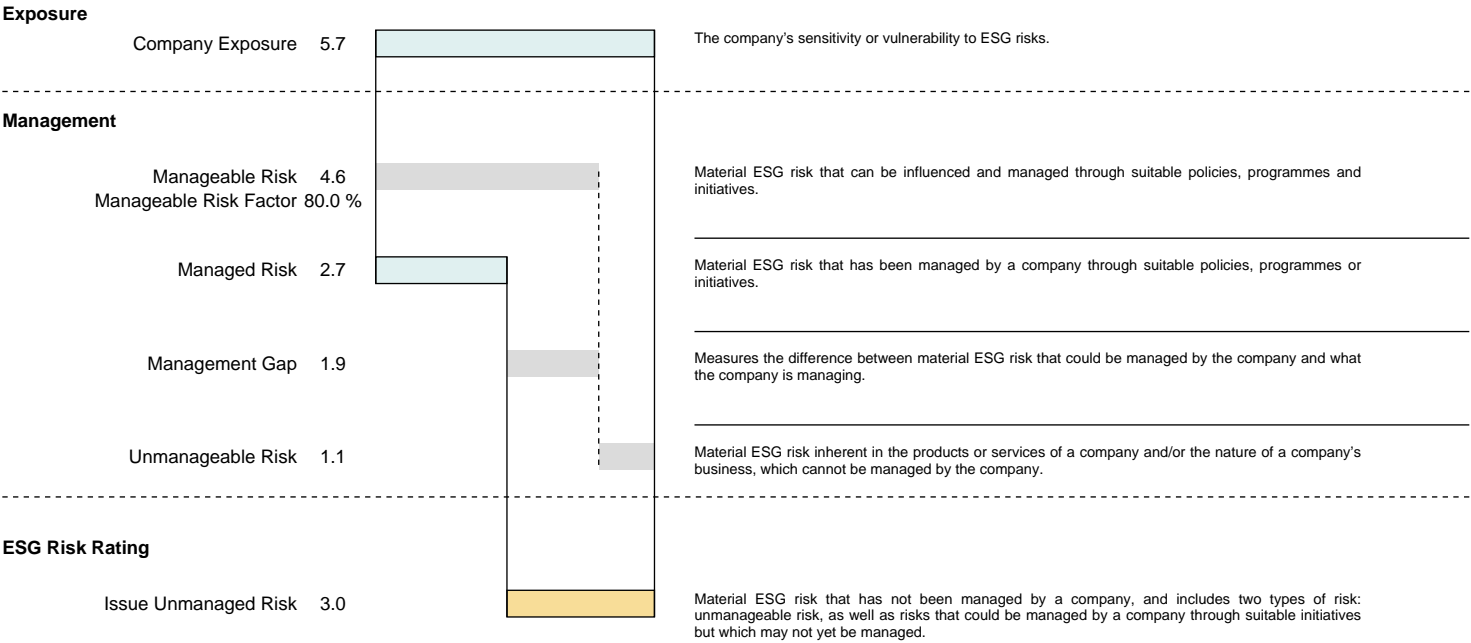
The company has an environmental management system, with some of the company's activities having received external certification to an environmental management system standard, however, the scope of certification is unclear. Moreover, the programme for managing water use is adequate. Although, it lacks water reduction targets and deadlines it has established initiatives to reduce fresh water use.
In our view, the company's management of the issue is above average.

Management Indicators	Raw Score	Weight	Weighted Score
Water Intensity	100	15.0%	15.0
Water Risk Management	66	10.0%	6.6
Recycled Material Use	60	35.0%	21.0
Water Management Programmes	50	25.0%	12.5
Water Intensity Trend	25	15.0%	3.8
 Water Use	Category 0	0%	0.0
Weighted Sum			58.9

Taiwan Cement Corp.

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Risk Decomposition



Taiwan Cement Corp.

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Issue

Contribution 11.1 %



Business Ethics

Business Ethics focuses on the management of ethical considerations applicable to most or all sectors, such as taxation and accounting, anti-competitive practices and intellectual property issues.

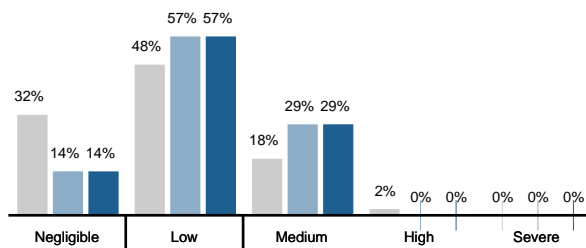
ESG Risk Rating

2.8

Low Risk



ESG Risk Rating Category Distribution



ESG Risk Rating Ranking

UNIVERSE	RANK		PERCENTILE	
	(1 st = lowest risk)		(1 st = lowest risk)	
Global Universe	2486	4545	55th	
Construction Materials Industry	17	42	40th	
Construction Materials Subindustry	17	42	40th	

Peers Comparison

Peers (Market cap \$6.6 - \$10.2bn)

	Exposure	Management	ESG Risk Rating
1. Ambuja Cements Ltd.	5.7 Medium	54.0 Strong	2.8 Low
2. Taiwan Cement Corp.	6.0 Medium	56.3 Strong	2.8 Low
3. Eagle Materials, Inc.	6.0 Medium	38.1 Average	3.8 Low
4. CEMEX SAB de CV	7.2 Medium	34.3 Average	4.9 Medium
5. China Jushi Co. Ltd.	6.0 Medium	10.0 Weak	5.4 Medium

Taiwan Cement Corp.

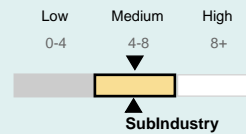
Construction Materials Taiwan TAI:1101

ESG Risk Analysis

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Exposure

6.0
Medium



The construction materials industry is dominated by a small number of players, and companies have regularly been involved in Business Ethics controversies related to anti-competitive practices, such as price fixing and collusion. Additionally, some subindustry companies have been implicated in corruption or tax and accounting fraud. Collusion may not be detected for years, but when discovered, can result in fines of up to USD 500 million for involved companies, with up to one dozen companies involved in a single case. Additionally, investigations of companies for abuse of market dominance are becoming more frequent in both developed and emerging countries. Regulators may prohibit companies from selling products in certain jurisdictions, or may arrest top management in case of accounting fraud. Best practice on this issue includes managerial responsibility for establishing a strong ethical culture, together with strong anti-corruption and whistleblower programmes.

The company's exposure to Business Ethics issues is medium and similar to the subindustry exposure.

Exposure Analysis

Subindustry Issue Exposure	6.0
Issue Beta	x 1.00
Company Issue Exposure	6.0

Beta Indicators

Beta Signal

Accounting and Taxation	0.00
Anti-Competitive Practices	0.02
Bribery and Corruption	0.00
Business Ethics	0.00
Intellectual Property	0.00
Lobbying and Public Policy	0.00
Sanctions	0.00
Operating Performance	-0.02
Solvency	0.00
Financial Flexibility	-0.02
Asset Performance	0.00
Qualitative Overlay	0.00
Subindustry Correction Factor	0.00
Exceptional Event Adjustment	0.00
Total Beta Signal	0.00
Baseline	+1.00
Issue Beta	1.00

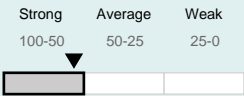
Taiwan Cement Corp.

Construction Materials Taiwan TAI:1101

Management refers to how well a company is managing its relevant ESG issues. Our management score assesses the robustness of a company's ESG programs, practices, and policies.

Management

56.3
Strong



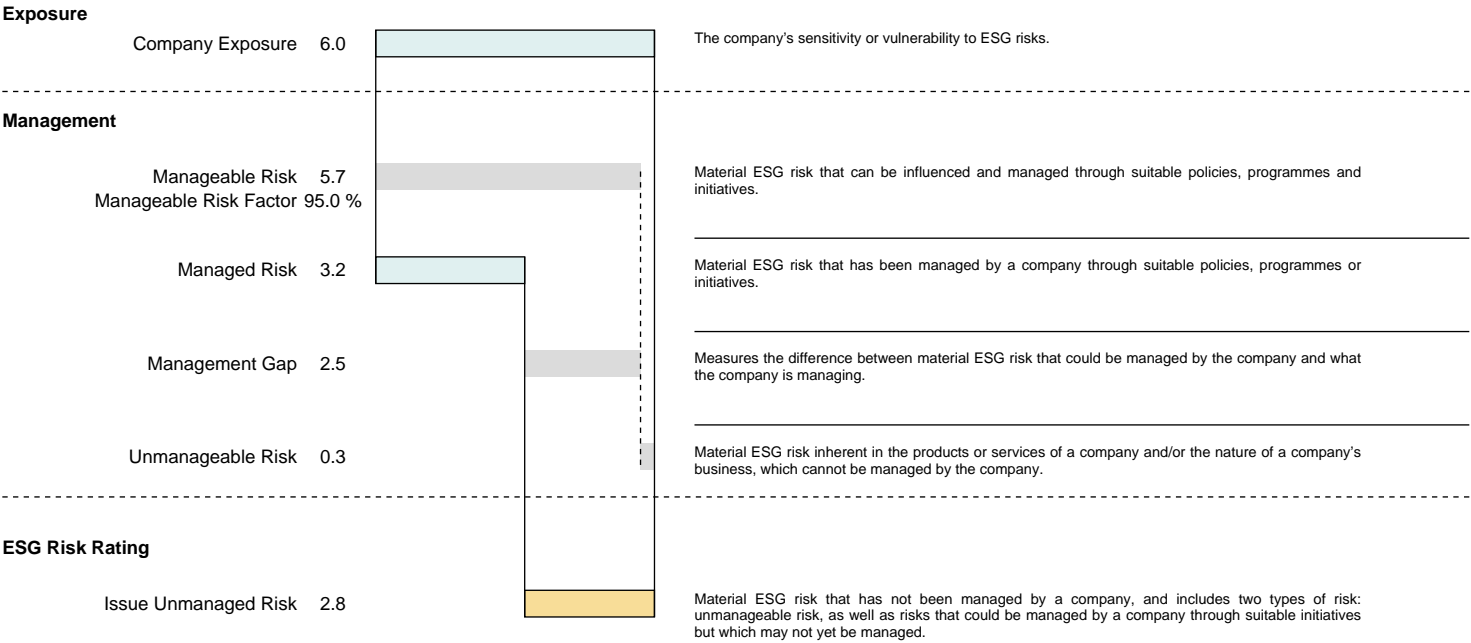
The company has above average preparedness measures to address Business Ethics issues and has been implicated in minor controversies related to the issue. In our view, the company's management of the issue is above average.

Management Indicators	Raw Score	Weight	Weighted Score
Bribery & Corruption Policy	100	6.8%	6.8
Lobbying and Political Expenses	100	9.0%	9.0
Bribery & Corruption Programmes	75	22.5%	16.9
Business Ethics Programme	50	22.5%	11.2
Whistleblower Programmes	50	20.2%	10.1
Political Involvement Policy	25	9.0%	2.3
🚩 Anti-Competitive Practices	Category 2	10%	0.0
⚠️ Accounting and Taxation	Category 0	0%	0.0
⚠️ Bribery and Corruption	Category 0	0%	0.0
⚠️ Business Ethics	Category 0	0%	0.0
⚠️ Intellectual Property	Category 0	0%	0.0
⚠️ Lobbying and Public Policy	Category 0	0%	0.0
⚠️ Sanctions	Category 0	0%	0.0
Weighted Sum			56.3

Taiwan Cement Corp.

Construction Materials Taiwan TAI:1101

Risk Decomposition



Taiwan Cement Corp.

Construction Materials Taiwan TAI:1101

Issue

Contribution 8.0 %



Emissions, Effluents and Waste

Emissions, Effluents and Waste focuses on the management of emissions and releases from a company's own operations to air, water and land, excluding GHG emissions.

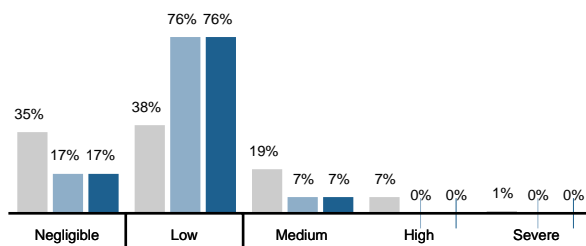
ESG Risk Rating

2.0

Low Risk



ESG Risk Rating Category Distribution



ESG Risk Rating Ranking

UNIVERSE	RANK (1 st = lowest risk)	PERCENTILE (1 st = lowest risk)
Global Universe	689/1896	37th
Construction Materials INDUSTRY	8/41	18th
Construction Materials SUBINDUSTRY	8/41	18th

Peers Comparison

Peers (Market cap \$6.6 - \$10.2bn)

	Exposure	Management	ESG Risk Rating
1. Taiwan Cement Corp.	4.3 Medium	58.4 Strong	2.0 Low
2. Ambuja Cements Ltd.	4.8 Medium	60.8 Strong	2.1 Low
3. CEMEX SAB de CV	5.5 Medium	55.3 Strong	2.8 Low
4. China Jushi Co. Ltd.	5.0 Medium	25.9 Average	3.8 Low
5. Eagle Materials, Inc.	4.8 Medium	9.7 Weak	4.3 Medium

Taiwan Cement Corp.

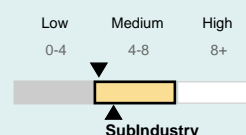
Construction Materials Taiwan TAI:1101

ESG Risk Analysis

Exposure refers to the extent to which a company is exposed to different material ESG Issues. Our exposure score takes into consideration subindustry and company-specific factors such as its business model.

Exposure

4.3
Medium



Cement plants release harmful emissions such as sulfur dioxide (SO_x), nitrogen oxide (NO_x) and particulate matter in the cement manufacturing process, and may also contaminate local water sources through stormwater discharges that contain alkaline compounds, oil and grease, or other toxic substances. Companies are subject to a wide variety of regulated emissions limits that vary from region to region. On July 1, 2015, the US EPA finalized amendments to its air emissions regulations for the Portland cement industry, and established "maximum achievable control technology" standards (known as PC MACT). The PC MACT standards EPA have set stricter standards for toxic air emissions for new and existing cement kilns. China, which is globally the largest exporter of cement, tightened air emissions standards for the cement industry in 2014, including tougher limits on NO_x and particulate matter. In China, cement kilns may also process a variety of hazardous and solid wastes to fuel cement production, which can contribute to toxic emissions. India, another top producer of cement globally, has less stringent air emissions limits than the US or China, but there is a global trend toward lowering emissions limits to combat the negative effects of air pollution. Failure to manage emissions has led to regulatory fines for companies, as well as remediation costs. Reducing emissions for cement companies involves using alternative fuel sources rather than coal, adopting costly coal cleaning technologies, or installing scrubbers. Leading companies are proactively investing in reducing their air emissions to stay ahead of the regulatory curve, while proactively managing hazardous waste. Best practice includes strong air emissions reduction programmes, as well as hazardous and solid waste management programmes.

The company's exposure to Emissions, Effluents and Waste issues is medium and moderately below the subindustry exposure.

Exposure Analysis

Subindustry Issue Exposure	5.0
Issue Beta	x 0.85
Company Issue Exposure	4.3

Beta Indicators

Beta Signal

Emissions, Effluents and Waste	0.01
Operating Performance	-0.02
Solvency	0.00
Financial Flexibility	-0.02
Asset Performance	0.00
Headquarters Location	0.00
Assets Location	0.00
NO _x Emissions	0.00
SO _x Emissions	-0.10
Qualitative Overlay	0.00
Subindustry Correction Factor	0.00
Exceptional Event Adjustment	0.00

Taiwan Cement Corp.

Construction Materials Taiwan TAI:1101

ESG Risk Analysis

Exposure refers to the extent to which a company is exposed to different material ESG Issues. Our exposure score takes into consideration subindustry and company-specific factors such as its business model.

Beta Indicators	Beta Signal
Total Beta Signal	-0.15
Baseline	+1.00
Issue Beta	0.85

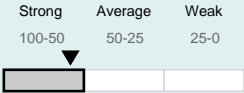
Taiwan Cement Corp.

Construction Materials Taiwan TAI:1101


Management refers to how well a company is managing its relevant ESG issues. Our management score assesses the robustness of a company's ESG programs, practices, and policies.

Management

58.4
Strong



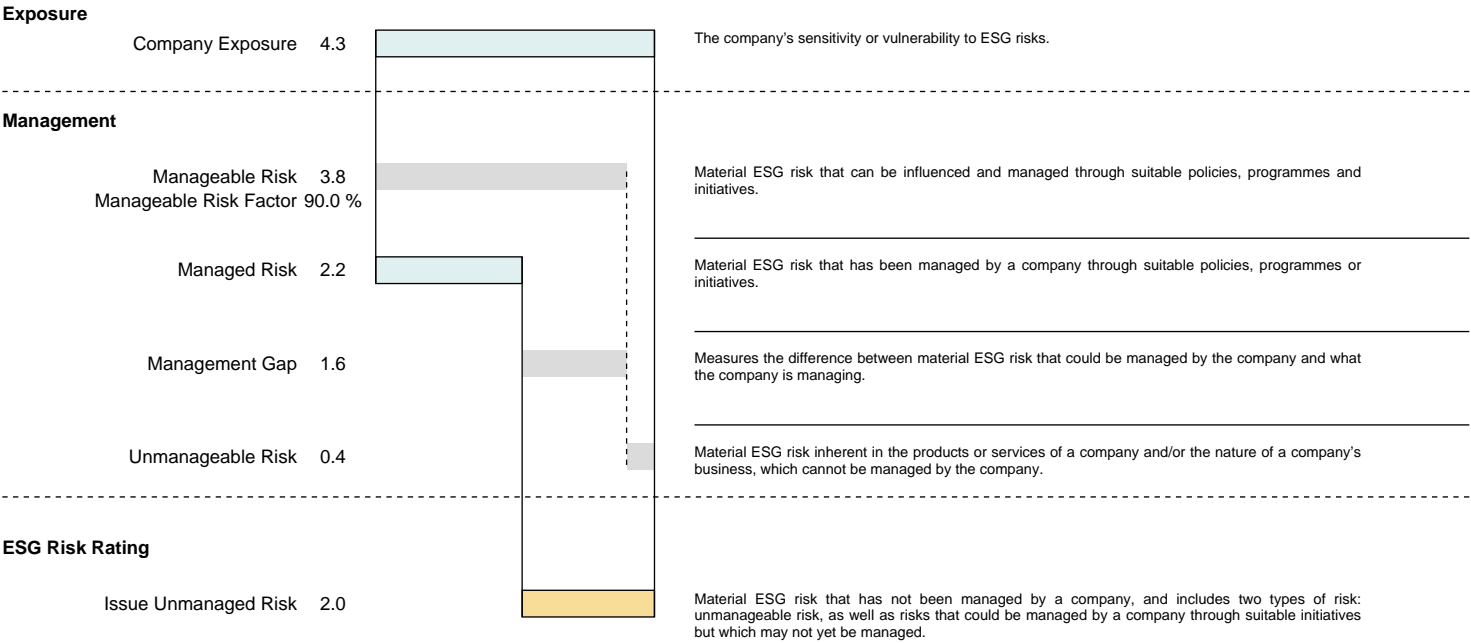
The company has above average preparedness measures to address Emissions, Effluents and Waste issues and has been implicated in minor controversies related to the issue. In our view, the company's management of the issue is above average.

Management Indicators	Raw Score	Weight	Weighted Score
Non-GHG Air Emissions Programmes	100	19.0%	19.0
Environmental Policy	75	7.1%	5.3
Effluent Management	66	16.6%	11.0
Environmental Management System	60	16.6%	10.0
Solid Waste Management	50	16.6%	8.3
EMS Certification	25	7.1%	1.8
Hazardous Waste Management	25	11.9%	3.0
 Emissions, Effluents and Waste	Category 1	5%	0.0
Weighted Sum			58.4

Taiwan Cement Corp.

Construction Materials Taiwan TAI:1101

Risk Decomposition



Taiwan Cement Corp.

Construction Materials Taiwan TAI:1101

Issue

Contribution 5.9 %



Human Capital

Human Capital focuses on the management of risks related to scarcity of skilled labour as well as labour relations, such as non-discrimination, working hours and minimum wages.

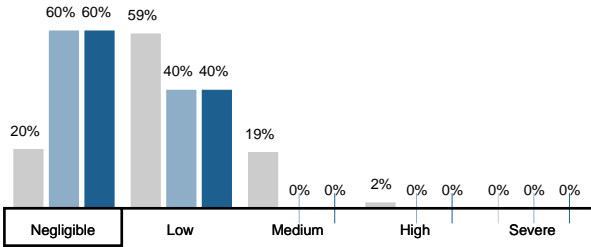
ESG Risk Rating

1.5

Negligible Risk



ESG Risk Rating Category Distribution



ESG Risk Rating Ranking

UNIVERSE	RANK		PERCENTILE	
	(1st = lowest risk)		(1st = lowest risk)	
Global Universe	383	4672	9th	
Construction Materials Industry	10	42	23rd	
Construction Materials Subindustry	10	42	23rd	

Peers Comparison

Peers (Market cap \$6.6 - \$10.2bn)	Exposure	Management	ESG Risk Rating
1. CEMEX SAB de CV	3.5 Low	61.7 Strong	1.4 Negligible
2. Taiwan Cement Corp.	2.9 Low	50.6 Strong	1.5 Negligible
3. Ambuja Cements Ltd.	2.9 Low	46.9 Average	1.6 Negligible
4. Eagle Materials, Inc.	3.0 Low	26.0 Average	2.3 Low
5. China Jushi Co. Ltd.	3.0 Low	14.8 Weak	2.6 Low

Taiwan Cement Corp.

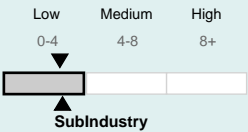
Construction Materials Taiwan TAI:1101

ESG Risk Analysis

Exposure refers to the extent to which a company is exposed to different material ESG Issues. Our exposure score takes into consideration subindustry and company-specific factors such as its business model.

Exposure

2.9
Low



The construction materials subindustry employs millions of employees and contractors worldwide; publicly traded companies alone directly employ more than two million people across the globe. As cement companies look for innovative products and processes to optimize energy and resource use, they must attract and retain skilled R&D staff to maintain competitive and cost advantages. Additionally, labour relations issues and employee strikes are also common within the subindustry. A large proportion of cement plant workers are unionized; however, some companies' violations of freedom of association and the right to form unions, as well as discriminatory practices, have led to work stoppages and have caused reputational damage. On the other hand, strong relationships with unions can help management minimize operational disruptions from strikes. Best practice includes strong Human Capital development and engagement programmes, as well as strong labour standards and anti-discrimination policies.

The company's exposure to Human Capital issues is low and moderately below the subindustry exposure.

Exposure Analysis

Subindustry Issue Exposure	3.0
Issue Beta	x 0.95
Company Issue Exposure	2.9

Beta Indicators

Beta Signal

Labour Relations	0.00
Operating Performance	-0.02
Solvency	0.00
Financial Flexibility	-0.02
Asset Performance	0.00
Qualitative Overlay	0.00
Subindustry Correction Factor	0.00
Exceptional Event Adjustment	0.00
Total Beta Signal	-0.05
Baseline	+1.00
Issue Beta	0.95

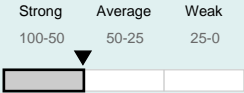
Taiwan Cement Corp.

Construction Materials Taiwan TAI:1101


Management refers to how well a company is managing its relevant ESG issues. Our management score assesses the robustness of a company's ESG programs, practices, and policies.

Management

50.6
Strong



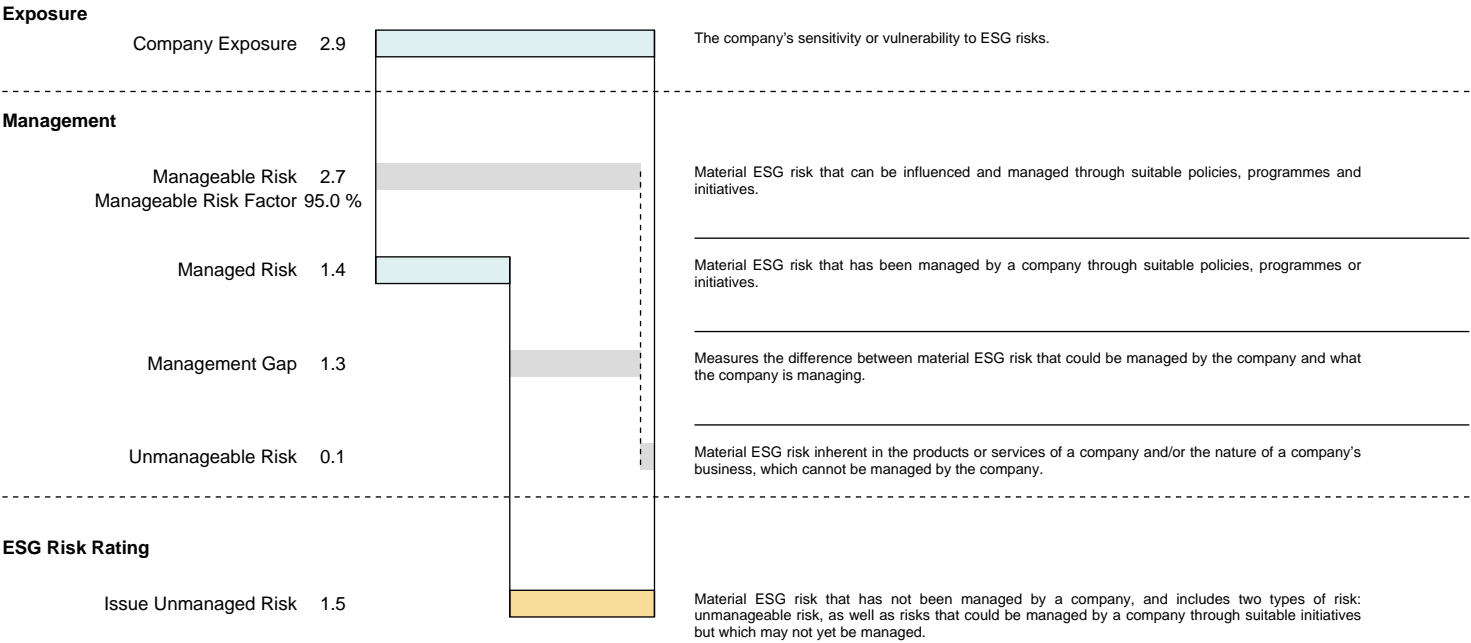
In our view, the company's management of the issue is above average.

Management Indicators	Raw Score	Weight	Weighted Score
Discrimination Policy	100	7.5%	7.5
Freedom of Association Policy	100	5.0%	5.0
Human Capital Development	75	30.0%	22.5
Employee Turnover Rate	50	17.5%	8.8
Collective Bargaining Agreements	25	15.0%	3.8
Diversity Programmes	25	12.5%	3.1
Working Hours Policy	0	12.5%	0.0
 Labour Relations	Category 0	0%	0.0
Weighted Sum			50.6

Taiwan Cement Corp.

Construction Materials Taiwan TAI:1101

Risk Decomposition



Taiwan Cement Corp.

Construction Materials Taiwan TAI:1101

Issue

Contribution 5.4 %



Occupational Health and Safety

Occupational Health and Safety focuses on the management of workplace hazards affecting a company's own employees and on-site contractors. Where relevant, it may also include HIV/AIDS programmes.

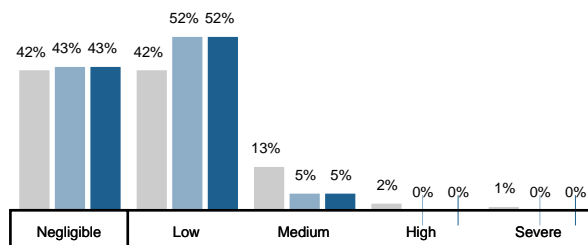
ESG Risk Rating

1.4

Negligible Risk



ESG Risk Rating Category Distribution



ESG Risk Rating Ranking

UNIVERSE	RANK (1 st = lowest risk)	PERCENTILE (1 st = lowest risk)
Global Universe	476/2120	23rd
Construction Materials INDUSTRY	9/42	20th
Construction Materials SUBINDUSTRY	9/42	20th

Peers Comparison

Peers (Market cap \$6.6 - \$10.2bn)

	Exposure	Management	ESG Risk Rating
1. Taiwan Cement Corp.	4.8 Medium	75.0 Strong	1.4 Negligible
2. Ambuja Cements Ltd.	5.0 Medium	70.3 Strong	1.7 Negligible
3. CEMEX SAB de CV	5.5 Medium	71.3 Strong	1.8 Negligible
4. Eagle Materials, Inc.	4.8 Medium	20.2 Weak	3.8 Low
5. China Jushi Co. Ltd.	5.0 Medium	19.4 Weak	4.1 Medium

Taiwan Cement Corp.

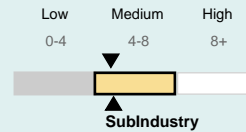
Construction Materials Taiwan TAI:1101

ESG Risk Analysis

Exposure refers to the extent to which a company is exposed to different material ESG Issues. Our exposure score takes into consideration subindustry and company-specific factors such as its business model.

Exposure

4.8
Medium



Employees in the construction materials subindustry are vulnerable to on-the-job safety hazards as well as less visible but more prevalent occupational health issues, such as musculoskeletal disorders, skin diseases (from direct contact with cement) and respiratory diseases (from air and dust emissions), particularly silicosis and asbestos-related mesothelioma. Ensuring healthy and safe working conditions for employees is a key industry challenge. In an industry with higher than average fatality rates, poor health and safety records can increase regulatory compliance costs from more stringent oversight. In addition, a poor health and safety record can affect a company's insurance premiums and operating costs, while exposing a company to lawsuits from affected workers or their families. Though safety fines may be inconsequential in some markets, long-term payouts to workers related to asbestos exposure and other respiratory diseases may in the aggregate cost the company up to billions of dollars in some markets. Additionally, poor safety practices can negatively impact employee morale and productivity, while causing operational disruptions as accidents are investigated. Best practice includes strong health and safety management programmes, and transparent reporting on injury rates and company responses to incidents.

The company's exposure to Occupational Health and Safety issues is medium and similar to the subindustry exposure.

Exposure Analysis

Subindustry Issue Exposure	5.0
Issue Beta	x 0.95
Company Issue Exposure	4.8

Beta Indicators

Beta Signal

Occupational Health and Safety	0.00
Operating Performance	-0.02
Solvency	0.00
Financial Flexibility	-0.02
Asset Performance	0.00
Headquarters Location	0.00
Assets Location	0.00
Qualitative Overlay	0.00
Subindustry Correction Factor	0.00
Exceptional Event Adjustment	0.00
Total Beta Signal	-0.05
Baseline	+1.00
Issue Beta	0.95

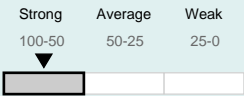
Taiwan Cement Corp.

Construction Materials Taiwan TAI:1101


Management refers to how well a company is managing its relevant ESG issues. Our management score assesses the robustness of a company's ESG programs, practices, and policies.

Management

75.0
Strong



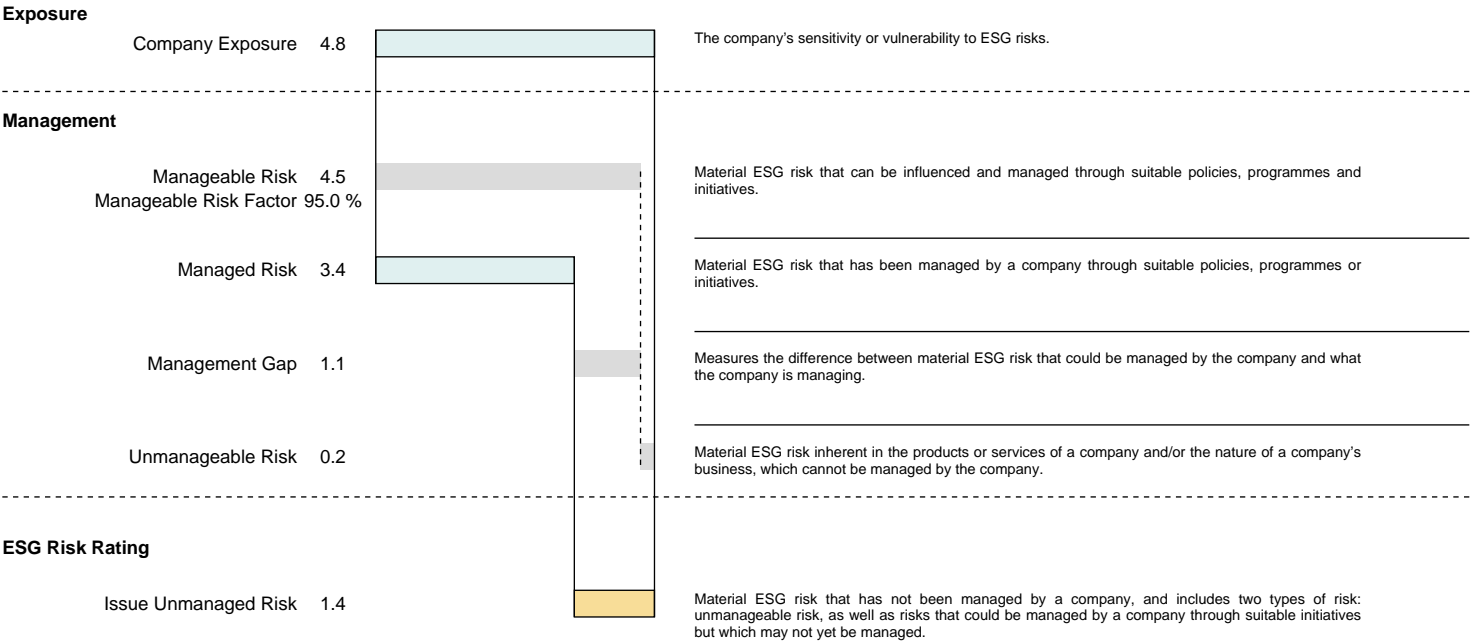
In our view, the company's management of the issue is above average.

Management Indicators	Raw Score	Weight	Weighted Score
Employee Fatality Rate	100	12.5%	12.5
LTIR Trend	100	25.0%	25.0
Contractor Fatalities	75	12.5%	9.4
Health and Safety Management	75	25.0%	18.8
Contractor Safety Programme	50	12.5%	6.2
Health & Safety Certifications	25	12.5%	3.1
 Occupational Health and Safety	Category 0	0%	0.0
Weighted Sum			75.0

Taiwan Cement Corp.

Construction Materials Taiwan TAI:1101

Risk Decomposition



Appendix

db

Management Details



Corporate Governance

Board/Management Quality & Integrity

56 Average Performer

Raw Score



Our analysis of the quality and integrity of the company's board and management indicates the following key areas of focus for Taiwan Cement Corp.:

- No directors are linked to governance controversies at other companies and no directors are linked to performance failures at other companies.
 - One or more non-executive directors with more than one year of tenure fail to own stock and market practice is for directors not to own stock.
 - RPTs are approved by disinterested/independent directors or committee members only and the oversight and review of RPTs raises concerns.
- Overall, Taiwan Cement Corp. positions itself as an Average Performer with regard to its Board/Management Quality & Integrity compared to peers.

Indicators

Score

Board Experience	70
Director Track Record	40
Board Capture	60
Related Party Transactions	50
Director Stock Ownership	40
Executive/Board Misconduct	50
Business Practices Controversies	50
Governance Controversies	50
Shareholder Engagement and Responsiveness	100

Board Structure

39 Underperformer

Raw Score



In reviewing the company's structural board features, we note the following for Taiwan Cement Corp.:

- The board lacks an independent majority and the board is one-tiered with executive representation.
 - The Chair and CEO roles are combined and the Chair is not independent.
 - The company lacks a nominating committee and the process for board nominations is well disclosed, including an assessment of skills gaps.
- Overall, Taiwan Cement Corp. positions itself as an Underperformer with regard to its Board Structure compared to peers.

Indicators

Score

Board Leadership	10
Board Tenure	40
Board Independence	0
Nominating Committee Effectiveness	20
Director Disclosure	90
Voting Structures	100
Directors not Elected by Shareholders	60
Risk Oversight	100
Board Diversity	60

Ownership & Shareholder Rights

50 Average Performer

Raw Score



Taiwan Cement Corp.'s Ownership & Shareholder rights regime includes the following key areas of focus:

- Not all the directors on the board are elected annually and the board can change its size without shareholder approval only within the limits set in the charter or bylaws.
 - There is no shareholder rights or "poison pill" plan in effect and the board of directors is not elected annually.
 - A supermajority is required for charter/bylaw amendments, according to market regulations and a supermajority is required for approval of merger transactions, according to market regulations.
- Overall, Taiwan Cement Corp. positions itself as an Average Performer with regard to its Ownership & Shareholder Rights compared to peers.

Indicators

Score

Director Appointment & Removal	30
Proportionality - One Share/One Vote	60
Ownership Structure	50
Capital Issuance Risks	60
Shareholder Action	60
Poison Pill & Takeover Defences	50
Supermajority Provisions	50

Appendix

db

Management Details

Remuneration

33 Underperformer

Raw Score



Our analysis of executive compensation practices at Taiwan Cement Corp. points to the following:

- There is no disclosure of performance metrics or basis for the STI.
 - The board / compensation committee retains discretion in adjusting STI or LTI awards and there is insufficient disclosure to determine the proportion of variable pay in the CEO's remuneration.
 - There is no recoupment or clawback policy disclosed and there is no recoupment or clawback policy disclosed.
- Overall, Taiwan Cement Corp. positions itself as an Underperformer with regard to its Remuneration compared to peers.

Indicators	Score
Remuneration Disclosure	40
Remuneration Committee Effectiveness	70
Say on Pay	0
Pay Controversies	50
STI Performance Metrics	0
LTI Performance Metrics	50
Pay Magnitude	50
Pay for Performance	0
Pay for Failure	60
CEO Termination Scenarios	80
Internal Pay Equity	50
Clawback Policy	0

Audit & Financial Reporting

57 Average Performer

Raw Score



In reviewing the company's Audit & Financial reporting features, we note the following for Taiwan Cement Corp.:

- There is no disclosure regarding rotation or re-tender of the audit mandate and there is no market requirement to periodically re-tender or rotate the audit mandate.
- Non-audit fees paid to the auditor are greater than 50% but less than 100% of audit and audit-related fees.
- There has been no change to the auditor recently.

Overall, Taiwan Cement Corp. positions itself as an Average Performer with regard to its Audit & Financial Reporting compared to peers.

Indicators	Score
Audit Committee Structure	70
Audit Committee Effectiveness	90
Auditor Fees	20
Audit Rotation Policy	0
Auditor Change	50
Reporting Irregularities	50

Stakeholder Governance

73 Leader

Raw Score



In reviewing the company's practices regarding ESG stakeholder governance, points of attention for Taiwan Cement Corp. are: ESG Governance, Bribery & Corruption Policy and Discrimination Policy.

- ESG Governance: A board member or a board committee is responsible for overseeing ESG issues
- Bribery & Corruption Policy: The company has a very strong policy
- Discrimination Policy: The company has a strong policy

Indicators	Score
ESG Governance	100
ESG Reporting Standards	75
Verification of ESG Reporting	50
Global Compact Signatory	0
ESG Performance Targets	100
Political Involvement Policy	25
Lobbying and Political Expenses	100
Bribery & Corruption Policy	100
Environmental Policy	75
Whistleblower Programmes	50
Tax Disclosure	0
Discrimination Policy	100
Scope of Social Supplier Standards	75
GHG Reduction Programme	100
Green Procurement Policy	100

Appendix



Exposure Details



Carbon - Own Operations

EA.E.15 - Energy Use and GHG Emissions

0.00

Beta Signal

No evidence of relevant controversies

EA.F.1 - Operating Performance

- 0.02

Beta Signal

The company has a strong net income margin.

Average Net Income Margin (Trailing 3 Years): 14.81%
 Subindustry Median (Trailing 3 Years): 8.34%
 Source: Morningstar, December 2020. All Rights Reserved.,
 FactSet, December 2020. All Rights Reserved.

EA.F.2 - Solvency

0.00

Beta Signal

The company has an average debt-equity ratio.

Average Debt to Equity Ratio (3 Period Exponentially Weighted Average as of August 2021): 0.54
 Subindustry Median (3 Period Exponentially Weighted Average as of August 2021): 0.52
 Source: Morningstar, August 2021. All Rights Reserved.,
 FactSet, August 2021. All Rights Reserved.

EA.F.3 - Financial Flexibility

- 0.02

Beta Signal

The company has a strong cash flow ratio.

Average Free Cash Flow Ratio (Trailing 3 Years): 12.78%
 Subindustry Median (Trailing 3 Years): 6.83%
 Source: Morningstar, December 2020. All Rights Reserved.,
 FactSet, December 2020. All Rights Reserved.

EA.F.4 - Asset Performance

0.00

Beta Signal

The company has an average return on assets.

Average Return on Assets (Trailing 3 Years): 5.5%
 Subindustry Median (Trailing 3 Years): 4.87%
 Source: Morningstar, December 2020. All Rights Reserved.,
 FactSet, December 2020. All Rights Reserved.

EA.P.1 - Carbon Emissions

0.15

Beta Signal

The company's carbon emissions intensity is well above the industry median

Appendix

 Exposure Details

EA.P.23 - Clinker Efficiency

0.00
Beta Signal

Information is insufficient to determine the clinker ratio of the company's cement.

EA.S.1 - Qualitative Overlay

0.00
Beta Signal

Answer category for neutral beta signal adjustment

EA.S.2 - Subindustry Correction Factor

0.00
Beta Signal

EA.S.3 - Exceptional Event Adjustment

0.00
Beta Signal

Appendix



Management Details

E.1.1 - Environmental Policy

75	5.00%	3.8
Raw Score	Weight	Weighted Score

The company has a strong policy

Criteria

- ☒ Commitment to environmental protection
- ☒ Commitment to use natural resources or energy more efficiently
- ☒ Commitment to implement an environmental management system
- ☒ Commitment to monitor the company's environmental performance
- ☐ Commitment to consult with stakeholders on environmental issues
- ☐ Commitment to report regularly on environmental issues
- ☒ Commitment to create environmental awareness
- ☒ Commitment to reduce emissions, releases and waste
- ☒ Approved by senior management or the board of directors

Sources

TCC Corporate Social Responsibility Best Practice Principles, released 11 August 2020

E.1.10 - Carbon Intensity Trend

0	15.00%	0.0
Raw Score	Weight	Weighted Score

The company's carbon intensity trend shows an increase of 25% or more over the last 3 years

Taiwan Cement Corp. Sustainability Report 2019

	2021
Carbon Intensity Trend (%)	35.09

E.1.11 - Renewable Energy Use

20	10.00%	2.0
Raw Score	Weight	Weighted Score

Some portion of the company's primary energy use comes from renewable energy sources or less than 5%

Sources

TCC ESG Report 2020 (FY2020)

E.1.2 - Environmental Management System

60	10.00%	6.0
Raw Score	Weight	Weighted Score

The company has an adequate EMS

Criteria

- ☐ Corrective actions to stimulate continual improvement
- ☐ Training and awareness programmes for employees
- ☐ Internal environmental audits
- ☒ Monitoring and measurement
- ☒ Managerial or board level responsibility for environmental issues
- ☐ External environmental audits
- ☐ Internal and external communications on environmental management issues
- ☒ Identification of products, activities and services that have significant impacts on the environment
- ☒ Objectives, targets and deadlines
- ☐ Compliance with environmental regulation
- ☐ Assigned roles and responsibilities
- ☒ Environmental performance records
- ☒ Environmental programmes

Sources

TCC Sustainability Report 2020 (FY2020)

The company provided feedback on 28 September 2021

Appendix



Management Details

E.1.3 - EMS Certification

25	2.50%	0.6
Raw Score	Weight	Weighted Score

Some of the company's activities have received external certification but the scope is unclear

Sources

TCC Sustainability Report 2020 (FY2020)

E.1.6 - Scope of GHG Reporting

100	5.00%	5.0
Raw Score	Weight	Weighted Score

The company discloses emissions data in full

Taiwan Cement Corp. Sustainability Report 2019

E.1.6.1 - GHG Risk Management

100	5.00%	5.0
Raw Score	Weight	Weighted Score

The company has a very strong risk management programme

Criteria

- ☒ Detailed reporting on transition risks
- ☒ Commitment to manage the regulatory, reputational and/or market risks related to climate change
- ☒ Managerial or board level responsibility for addressing transition risks
- ☒ Integration of transition risks into regular risk assessments and strategy
- ☒ Recognition of the transition risks related to climate change

Sources

TCC Risk Management Policy and Principles; Accessed 30 September 2021
TCC Sustainability Report 2020 (FY2020)

E.1.7.0 - GHG Reduction Programme

100	20.00%	20.0
Raw Score	Weight	Weighted Score

The company has a very strong programme

Criteria

- ☒ Regular GHG audits or verification
- ☒ Initiatives to reduce GHG emissions
- ☒ Managerial responsibility for GHG emissions
- ☒ GHG emissions monitoring and measurement
- ☒ GHG reduction targets and deadlines
- ☐ Policy commitment to reduce GHG emissions

Sources

TCC Sustainability Report 2020 (FY2020)

E.1.7.1 - Green Logistics Programmes

25	7.50%	1.9
Raw Score	Weight	Weighted Score

The company has some activities to improve the environmental performance of its logistics and its fleet management

Sources

The company provided feedback on 14 March 2019

E.1.8 - Renewable Energy Programmes

100	5.00%	5.0
Raw Score	Weight	Weighted Score

The company has a strong programme

Sources

TCC Sustainability Report 2020 (FY2020)

Appendix

db

Management Details

E.1.9 - Carbon Intensity

0	15.00%	0.0
Raw Score	Weight	Weighted Score
The company's carbon emissions intensity is well above the industry median		
Taiwan Cement Corp. Sustainability Report 2019		
2021		
Industry Median	3789.7	
Carbon Intensity (t/million USD)	8277.3	

Appendix

Exposure Details



E&S Impact of Products and Services

EA.E.17 - Environmental Impact of Products

0.01
Beta Signal

Category 1

EA.E.32 - Social Impact of Products

0.00
Beta Signal

No evidence of relevant controversies

EA.F.1 - Operating Performance

- 0.02
Beta Signal

The company has a strong net income margin.

Average Net Income Margin (Trailing 3 Years): 14.81%
Subindustry Median (Trailing 3 Years): 8.34%
Source: Morningstar, December 2020. All Rights Reserved.,
FactSet, December 2020. All Rights Reserved.

EA.F.2 - Solvency

0.00
Beta Signal

The company has an average debt-equity ratio.

Average Debt to Equity Ratio (3 Period Exponentially Weighted Average as of August 2021): 0.54
Subindustry Median (3 Period Exponentially Weighted Average as of August 2021): 0.52
Source: Morningstar, August 2021. All Rights Reserved.,
FactSet, August 2021. All Rights Reserved.

EA.F.3 - Financial Flexibility

- 0.02
Beta Signal

The company has a strong cash flow ratio.

Average Free Cash Flow Ratio (Trailing 3 Years): 12.78%
Subindustry Median (Trailing 3 Years): 6.83%
Source: Morningstar, December 2020. All Rights Reserved.,
FactSet, December 2020. All Rights Reserved.

EA.F.4 - Asset Performance

0.00
Beta Signal

The company has an average return on assets.

Average Return on Assets (Trailing 3 Years): 5.5%
Subindustry Median (Trailing 3 Years): 4.87%
Source: Morningstar, December 2020. All Rights Reserved.,
FactSet, December 2020. All Rights Reserved.

Appendix

Exposure Details

EA.G.1 - Headquarters Location

0.00
Beta Signal

The location of the company's headquarters does not indicate higher or lower exposure to this issue.

Taiwan: Average exposure
Source: Sustainalytics Country Risk Rating, May 2019.

EA.G.3 - Sales Location

0.00
Beta Signal

The location of the company's sales does not signal higher or lower exposure to this issue.

Asia: 60% (Average exposure)
Taiwan: 40% (Average exposure)
Source: Sustainalytics Country Risk Rating, May 2019.
Morningstar, October 2019. All Rights Reserved.

EA.S.1 - Qualitative Overlay

0.00
Beta Signal

Answer category for neutral beta signal adjustment

EA.S.2 - Subindustry Correction Factor

0.00
Beta Signal

EA.S.3 - Exceptional Event Adjustment

0.00
Beta Signal

Appendix



Management Details

E.2.1 - Green Procurement Policy

100	19.00%	19.0
Raw Score	Weight	Weighted Score
The company's green procurement initiatives are strong		

Criteria

- ☒ Policy or initiatives addressing office products
- ☒ Policy addressing product related requirements
- ☒ Engagement with suppliers to improve environmental performance
- ☒ Policy addressing process related requirements

Sources

TCC Green Procurement Policy; accessed 30 September 2021
The company provided feedback on 14 March 2019

E.2.1.7 - Recycled Material Use

60	19.00%	11.4
Raw Score	Weight	Weighted Score
Between 10% and 50% of the raw material used by the company is made of recycled or re-used material		

Sources

TCC Sustainability Report 2020 (FY2020)

E.3.1.1 - Sustainable Products & Services

25	38.00%	9.5
Raw Score	Weight	Weighted Score
There is evidence that the company offers sustainability-related products or services but the revenues obtained from these are not disclosed		

Sources

TCC Annual Report 2020 (FY2020)

G.1.3.4 - Green Building Memberships

0	19.00%	0.0
Raw Score	Weight	Weighted Score
The company is not a member of any key industry initiatives		

Accessed August 2021

Sources

TCC Sustainability Report 2020 (FY2020)

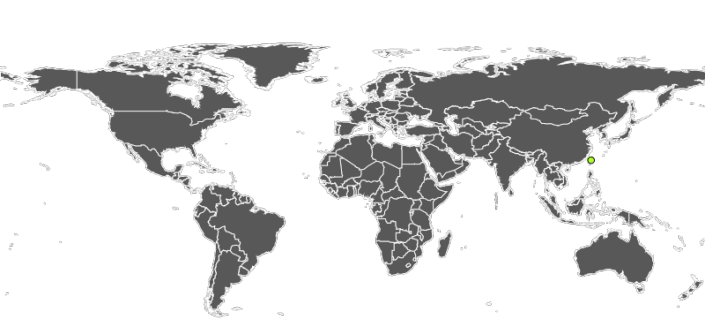
Appendix

Management Details

Environmental Impact of Products Events

1 Category 1 Event - Low

Incident History



Authorities request additional information on power plant in Taiwan
Global Energy Monitor - 25 August 2022

Locations: Hualien County, Taiwan
Tags: Environmental impact of products

Appendix



Exposure Details



Resource Use

EA.E.33 - Water Use

0.00

Beta Signal

No evidence of relevant controversies

EA.F.1 - Operating Performance

- 0.02

Beta Signal

The company has a strong net income margin.

Average Net Income Margin (Trailing 3 Years): 14.81%
 Subindustry Median (Trailing 3 Years): 8.34%
 Source: Morningstar, December 2020. All Rights Reserved.,
 FactSet, December 2020. All Rights Reserved.

EA.F.2 - Solvency

0.00

Beta Signal

The company has an average debt-equity ratio.

Average Debt to Equity Ratio (3 Period Exponentially Weighted Average as of August 2021): 0.54
 Subindustry Median (3 Period Exponentially Weighted Average as of August 2021): 0.52
 Source: Morningstar, August 2021. All Rights Reserved.,
 FactSet, August 2021. All Rights Reserved.

EA.F.3 - Financial Flexibility

- 0.02

Beta Signal

The company has a strong cash flow ratio.

Average Free Cash Flow Ratio (Trailing 3 Years): 12.78%
 Subindustry Median (Trailing 3 Years): 6.83%
 Source: Morningstar, December 2020. All Rights Reserved.,
 FactSet, December 2020. All Rights Reserved.

EA.F.4 - Asset Performance

0.00

Beta Signal

The company has an average return on assets.

Average Return on Assets (Trailing 3 Years): 5.5%
 Subindustry Median (Trailing 3 Years): 4.87%
 Source: Morningstar, December 2020. All Rights Reserved.,
 FactSet, December 2020. All Rights Reserved.

EA.G.5 - Regional Water Stress

0.00

Beta Signal

Information is insufficient to determine the location of the company's operations.

Appendix

 Exposure Details

EA.S.1 - Qualitative Overlay

0.00
Beta Signal

Answer category for neutral beta signal adjustment

EA.S.2 - Subindustry Correction Factor

0.00
Beta Signal

EA.S.3 - Exceptional Event Adjustment

0.00
Beta Signal

Appendix



Management Details

E.1.2.7 - Water Intensity

100	15.00%	15.0
Raw Score	Weight	Weighted Score

The company's water intensity is well below the industry median

Taiwan Cement Corp. Sustainability Report 2019

E.1.2.7.1 - Water Risk Management

66	10.00%	6.6
Raw Score	Weight	Weighted Score

The company has an adequate programme

Criteria

- ☒ Recognition of the risks posed by water scarcity or the absence of such risks
- ☐ Reporting on contextualized water metrics
- ☐ Managerial or board level responsibility for addressing risks posed by water scarcity
- ☒ Detailed reporting on risks posed by water scarcity or their absence
- ☐ Participation in relevant multistakeholder or industry initiatives
- ☒ Integration of water scarcity into regular risk assessments and business strategy

Sources

TCC Sustainability Report 2020 (FY2020)

The company provided feedback on 28 September 2021

E.1.2.7.2 - Water Intensity Trend

25	15.00%	3.8
Raw Score	Weight	Weighted Score

The water intensity of the company has increased significantly, compared to the previous three-year average

Taiwan Cement Corp. Sustainability Report 2019

E.1.3.4 - Water Management Programmes

50	25.00%	12.5
Raw Score	Weight	Weighted Score

The company has an adequate programme

Criteria

- ☐ Managerial responsibility for water use
- ☒ Initiatives to reduce fresh water use
- ☐ Water reduction targets and deadlines
- ☒ Water use reporting
- ☐ Policy commitment to reduce water use
- ☒ Water use monitoring and measurement

Sources

TCC ESG Report 2020 (FY2020)

TCC Sustainability Report 2020 (FY2020)

E.2.1.7 - Recycled Material Use

60	35.00%	21.0
Raw Score	Weight	Weighted Score

Between 10% and 50% of the raw material used by the company is made of recycled or re-used material

Sources

TCC Sustainability Report 2020 (FY2020)

Appendix

Exposure Details

Business Ethics

EA.E.2 - Accounting and Taxation

0.00
Beta Signal

No evidence of relevant controversies

EA.E.4 - Anti-Competitive Practices

0.02
Beta Signal

Category 2

EA.E.6 - Bribery and Corruption

0.00
Beta Signal

No evidence of relevant controversies

EA.E.7 - Business Ethics

0.00
Beta Signal

No evidence of relevant controversies

EA.E.21 - Intellectual Property

0.00
Beta Signal

No evidence of relevant controversies

EA.E.23 - Lobbying and Public Policy

0.00
Beta Signal

No evidence of relevant controversies

EA.E.30 - Sanctions

0.00
Beta Signal

No evidence of relevant controversies

EA.F.1 - Operating Performance

- 0.02
Beta Signal

The company has a strong net income margin.

Average Net Income Margin (Trailing 3 Years): 14.81%
Subindustry Median (Trailing 3 Years): 8.34%
Source: Morningstar, December 2020. All Rights Reserved.,
FactSet, December 2020. All Rights Reserved.

Appendix

Exposure Details

EA.F.2 - Solvency

0.00
Beta Signal

The company has an average debt-equity ratio.

Average Debt to Equity Ratio (3 Period Exponentially Weighted Average as of August 2021): 0.54
Subindustry Median (3 Period Exponentially Weighted Average as of August 2021): 0.52
Source: Morningstar, August 2021. All Rights Reserved., FactSet, August 2021. All Rights Reserved.

EA.F.3 - Financial Flexibility

- 0.02
Beta Signal

The company has a strong cash flow ratio.

Average Free Cash Flow Ratio (Trailing 3 Years): 12.78%
Subindustry Median (Trailing 3 Years): 6.83%
Source: Morningstar, December 2020. All Rights Reserved., FactSet, December 2020. All Rights Reserved.

EA.F.4 - Asset Performance

0.00
Beta Signal

The company has an average return on assets.

Average Return on Assets (Trailing 3 Years): 5.5%
Subindustry Median (Trailing 3 Years): 4.87%
Source: Morningstar, December 2020. All Rights Reserved., FactSet, December 2020. All Rights Reserved.

EA.S.1 - Qualitative Overlay

0.00
Beta Signal

Answer category for neutral beta signal adjustment

EA.S.2 - Subindustry Correction Factor

0.00
Beta Signal

EA.S.3 - Exceptional Event Adjustment

0.00
Beta Signal

Appendix



Management Details

G.1.1 - Bribery & Corruption Policy

100	6.75%	6.8
Raw Score	Weight	Weighted Score

The company has a very strong policy

Criteria

- ☒ Guidelines of what is considered acceptable behaviour
- ☒ Prohibition of bribery
- ☒ Definition and prohibition of facilitation payments
- ☒ Definition of conflicts of interest and commitment to minimize these
- ☒ Definition of bribery or corruption
- ☐ There is no evidence of a formal policy but the company has a general statement addressing the issue

Sources

On Thursday, September 10, 2020, Sustainalytics sent Taiwan Cement Corp. the Sustainalytics ESG Feedback Report

On Tuesday, August 31, 2021, Sustainalytics sent Taiwan Cement Corp. the Sustainalytics ESG Feedback Report

TCC Code of Ethical Conduct, released 27 August 2019

TCC Corporate Social Responsibility Best Practice Principles, released 11 August 2020

TCC Ethical Corporate Management Best Practice Principles, released 22 March 2019

The company provided feedback on 14 March 2019

The company provided feedback on 24 September 2020

The company provided feedback on 28 September 2021

The draft Sustainalytics ESG Feedback Report was sent by email to Taiwan Cement Corporation on 5 March 2019.

The updated report was sent to Chen Shiming, Special Assistant to General Manager of TCCI, by e-mail on 15 December 2017.

G.1.1.1 - Bribery & Corruption Programmes

75	22.50%	16.9
Raw Score	Weight	Weighted Score

The company has a strong programme

Criteria

- ☒ Managerial responsibility for bribery and corruption
- ☒ Regular training on bribery and corruption
- ☒ Internal monitoring system to detect corruption
- ☐ Annual signoff of the policy on bribery and corruption by employees
- ☒ Regular bribery and corruption risk assessments
- ☐ Operating guidelines addressing record keeping, approval procedures and appropriate behaviour
- ☐ Mechanisms for employees to consult on ethical issues

Sources

TCC Anti Corruption and Anti Bribery Policy; released August 2020

G.1.2 - Whistleblower Programmes

50	20.25%	10.1
Raw Score	Weight	Weighted Score

The company has an adequate programme

Criteria

- ☐ Disclosure on the number of reports received, the types of misconduct and measures taken
- ☒ Structures in place to process whistleblower reports
- ☒ Non-retaliation policy
- ☒ Available in local languages
- ☐ Proactively communicated to employees
- ☒ Available to suppliers, customers and other third parties
- ☐ An independent, reporting hotline available 24/7
- ☐ Possibility for anonymous reporting and reports are treated confidentially

Sources

TCC Sustainability Report 2020 (FY2020)

The company provided feedback on 24 September 2020

The company provided feedback on 28 September 2021

G.1.2.1 - Business Ethics Programme

50	22.50%	11.2
Raw Score	Weight	Weighted Score

The company has an adequate programme

Criteria

- ☐ Ethical risk assessments
- ☐ Measures to deter non-compliance and reduce exposure to unethical opportunities
- ☒ Commitment to address major business ethics risks
- ☐ Managerial responsibility for business ethics
- ☒ Incident investigation and corrective actions
- ☒ Operating guidelines
- ☒ Board responsibility for business ethics issues
- ☐ Annual training of employees on the Code of Conduct

Sources

TCC Ethical Corporate Management Best Practice Principles, released 22 March 2019

TCC Sustainability Report 2020 (FY2020)

Appendix

Management Details

G.3.1 - Political Involvement Policy

25	9.00%	2.3
Raw Score	Weight	Weighted Score
The company has a weak policy		

Criteria

- ☐ Prohibits political involvement of any kind on the company's behalf
- ☐ Partially prohibits political involvement
- ☐ Approved by senior management
- ☐ Commits the company to disclose political donations and/or lobbying expenditures

Sources

TCC Ethical Corporate Management Best Practice Principles, released 22 March 2019

G.3.2 - Lobbying and Political Expenses

100	9.00%	9.0
Raw Score	Weight	Weighted Score
Based on available evidence, the company does not make political contributions and is not involved in lobbying activities		

Sources

TCC Annual Report 2020 (FY2020)

Appendix

Management Details

Anti-Competitive Practices Events

2

Category 2 Event - Moderate

Incident History



Fair Trade Commission fines companies over price-fixing scheme in Taiwan
Taipei Times Online - 20 February 2023

Locations: Taiwan

Tags: Anti-competitive Practices

Appendix



Exposure Details



Emissions, Effluents and Waste

EA.E.14 - Emissions, Effluents and Waste

0.01

Beta Signal

Category 1

EA.F.1 - Operating Performance

- 0.02

Beta Signal

The company has a strong net income margin.

Average Net Income Margin (Trailing 3 Years): 14.81%
 Subindustry Median (Trailing 3 Years): 8.34%
 Source: Morningstar, December 2020. All Rights Reserved.,
 FactSet, December 2020. All Rights Reserved.

EA.F.2 - Solvency

0.00

Beta Signal

The company has an average debt-equity ratio.

Average Debt to Equity Ratio (3 Period Exponentially Weighted Average as of August 2021): 0.54
 Subindustry Median (3 Period Exponentially Weighted Average as of August 2021): 0.52
 Source: Morningstar, August 2021. All Rights Reserved.,
 FactSet, August 2021. All Rights Reserved.

EA.F.3 - Financial Flexibility

- 0.02

Beta Signal

The company has a strong cash flow ratio.

Average Free Cash Flow Ratio (Trailing 3 Years): 12.78%
 Subindustry Median (Trailing 3 Years): 6.83%
 Source: Morningstar, December 2020. All Rights Reserved.,
 FactSet, December 2020. All Rights Reserved.

EA.F.4 - Asset Performance

0.00

Beta Signal

The company has an average return on assets.

Average Return on Assets (Trailing 3 Years): 5.5%
 Subindustry Median (Trailing 3 Years): 4.87%
 Source: Morningstar, December 2020. All Rights Reserved.,
 FactSet, December 2020. All Rights Reserved.

EA.G.1 - Headquarters Location

0.00

Beta Signal

The location of the company's headquarters does not indicate higher or lower exposure to this issue.

Taiwan: Average exposure
 Source: Sustainalytics Country Risk Rating, May 2019.

Appendix

Exposure Details

EA.G.2 - Assets Location

0.00
Beta Signal

The location of the company's assets does not signal higher or lower exposure to this issue.

Asia: 56% (Average exposure)
Taiwan: 44% (Average exposure)
Source: Sustainalytics Country Risk Rating, May 2019."
Morningstar, October 2019. All Rights Reserved.

EA.P.18 - NOx Emissions

0.00
Beta Signal

Information is insufficient to determine the company's NOx intensity.

EA.P.19 - SOx Emissions

- 0.10
Beta Signal

The company's SOx intensity indicates moderately lower exposure to this issue.

EA.S.1 - Qualitative Overlay

0.00
Beta Signal

Answer category for neutral beta signal adjustment

EA.S.2 - Subindustry Correction Factor

0.00
Beta Signal

EA.S.3 - Exceptional Event Adjustment

0.00
Beta Signal

Appendix



Management Details

E.1.1 - Environmental Policy

75	7.13%	5.3
Raw Score	Weight	Weighted Score

The company has a strong policy

Criteria

- ☐ Commitment to report regularly on environmental issues
- ☐ Commitment to consult with stakeholders on environmental issues
- ☒ Commitment to monitor the company's environmental performance
- ☒ Commitment to implement an environmental management system
- ☒ Approved by senior management or the board of directors
- ☒ Commitment to environmental protection
- ☒ Commitment to use natural resources or energy more efficiently
- ☒ Commitment to reduce emissions, releases and waste
- ☒ Commitment to create environmental awareness

Sources

TCC Corporate Social Responsibility Best Practice Principles, released 11 August 2020

E.1.2 - Environmental Management System

60	16.63%	10.0
Raw Score	Weight	Weighted Score

The company has an adequate EMS

Criteria

- ☐ Training and awareness programmes for employees
- ☐ Corrective actions to stimulate continual improvement
- ☒ Environmental programmes
- ☐ Assigned roles and responsibilities
- ☒ Identification of products, activities and services that have significant impacts on the environment
- ☐ Compliance with environmental regulation
- ☐ External environmental audits
- ☒ Monitoring and measurement
- ☒ Environmental performance records
- ☒ Objectives, targets and deadlines
- ☐ Internal and external communications on environmental management issues
- ☒ Managerial or board level responsibility for environmental issues
- ☐ Internal environmental audits

Sources

TCC Sustainability Report 2020 (FY2020)

The company provided feedback on 28 September 2021

E.1.2.6.1 - Solid Waste Management

50	16.63%	8.3
Raw Score	Weight	Weighted Score

The company has an adequate programme

Criteria

- ☐ Initiatives to recycle solid waste
- ☒ Reporting on solid waste issues
- ☒ Initiatives to reuse solid waste
- ☒ Objectives or targets related to solid waste management
- ☐ Initiatives to ensure proper disposal of hazardous waste
- ☒ Policy commitment to manage waste responsibly or reduce solid waste
- ☐ Initiatives to reduce solid waste
- ☒ Solid waste monitoring and measurement

Sources

TCC Corporate Social Responsibility Best Practice Principles, released 11 August 2020

TCC Sustainability Report 2020 (FY2020)

E.1.2.6.3 - Effluent Management

66	16.63%	11.0
Raw Score	Weight	Weighted Score

The company has an adequate programme

Criteria

- ☒ Reporting on effluent issues
- ☒ Initiatives to reduce, reuse or recycle effluents
- ☒ Policy commitment to manage or reduce effluents
- ☐ Monitoring and measurement of effluent and effluent management
- ☒ Objectives or targets related to effluent management
- ☐ Incident investigation and corrective action

Sources

TCC Corporate Social Responsibility Best Practice Principles, released 11 August 2020

TCC Sustainability Report 2020 (FY2020)

Appendix

Management Details

E.1.3 - EMS Certification

25	7.13%	1.8
Raw Score	Weight	Weighted Score
Some of the company's activities have received external certification but the scope is unclear		
Sources		
TCC Sustainability Report 2020 (FY2020)		

E.1.3.2 - Hazardous Waste Management

25	11.87%	3.0
Raw Score	Weight	Weighted Score
The company has a weak programme		
Criteria		
<input type="checkbox"/> Monitoring and measurement		
<input type="checkbox"/> Targets and deadlines		
<input type="checkbox"/> Commitment to reduce hazardous waste		
<input type="checkbox"/> Initiatives to reduce hazardous waste		
Sources		
The company provided feedback on 14 March 2019		

E.1.3.3 - Non-GHG Air Emissions Programmes

100	19.00%	19.0
Raw Score	Weight	Weighted Score
The company has a strong programme		
Criteria		
<input type="checkbox"/> Commitment to reduce non-GHG air emissions		
<input checked="" type="checkbox"/> Targets to reduce non-GHG air emissions		
<input checked="" type="checkbox"/> Non-GHG air emission monitoring		
<input checked="" type="checkbox"/> Initiatives to reduce non-GHG air emissions		
<input checked="" type="checkbox"/> Identification of relevant non-GHG air emissions		
<input checked="" type="checkbox"/> Deadlines to reduce non-GHG air emissions		
Sources		
TCC Sustainability Report 2020 (FY2020)		

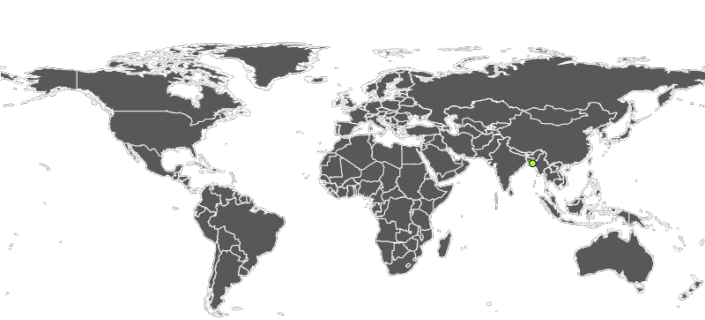
Appendix

Management Details

Emissions, Effluents and Waste Events

1 Category 1 Event - Low

Incident History



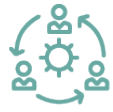
NGO Shipbreaking Platform issues 2019 report regarding dismantled ships
NGO Shipbreaking Platform - 04 February 2020

Locations: Chittagong, Bangladesh
Tags: Degradation & Contamination (Land)

Appendix



Exposure Details



Human Capital

EA.E.22 - Labour Relations

0.00

Beta Signal

No evidence of relevant controversies

EA.F.1 - Operating Performance

- 0.02

Beta Signal

The company has a strong net income margin.

Average Net Income Margin (Trailing 3 Years): 14.81%
 Subindustry Median (Trailing 3 Years): 8.34%
 Source: Morningstar, December 2020. All Rights Reserved.,
 FactSet, December 2020. All Rights Reserved.

EA.F.2 - Solvency

0.00

Beta Signal

The company has an average debt-equity ratio.

Average Debt to Equity Ratio (3 Period Exponentially Weighted Average as of August 2021): 0.54
 Subindustry Median (3 Period Exponentially Weighted Average as of August 2021): 0.52
 Source: Morningstar, August 2021. All Rights Reserved.,
 FactSet, August 2021. All Rights Reserved.

EA.F.3 - Financial Flexibility

- 0.02

Beta Signal

The company has a strong cash flow ratio.

Average Free Cash Flow Ratio (Trailing 3 Years): 12.78%
 Subindustry Median (Trailing 3 Years): 6.83%
 Source: Morningstar, December 2020. All Rights Reserved.,
 FactSet, December 2020. All Rights Reserved.

EA.F.4 - Asset Performance

0.00

Beta Signal

The company has an average return on assets.

Average Return on Assets (Trailing 3 Years): 5.5%
 Subindustry Median (Trailing 3 Years): 4.87%
 Source: Morningstar, December 2020. All Rights Reserved.,
 FactSet, December 2020. All Rights Reserved.

EA.S.1 - Qualitative Overlay

0.00

Beta Signal

Answer category for neutral beta signal adjustment

Appendix

 Exposure Details

EA.S.2 - Subindustry Correction Factor

0.00
Beta Signal

EA.S.3 - Exceptional Event Adjustment

0.00
Beta Signal

Appendix



Management Details

S.1.1 - Freedom of Association Policy

100	5.00%	5.0
Raw Score	Weight	Weighted Score

The company has a strong policy on freedom of association

Sources

The company provided feedback on 14 March 2019

S.1.1.1 - Working Hours Policy

0	12.50%	0.0
Raw Score	Weight	Weighted Score

Based on available evidence, the company does not have a policy on working hours

S.1.2 - Discrimination Policy

100	7.50%	7.5
Raw Score	Weight	Weighted Score

The company has a strong policy

Criteria

- ☒ Reference to the ILO conventions
- ☒ List of the types of discrimination the company is committed to eliminate
- ☒ Commitment to ensure equal opportunity

Sources

TCC Corporate Social Responsibility Best Practice Principles, released 11 August 2020

TCC Human Rights Policy, accessed 10 August 2021

S.1.3 - Diversity Programmes

25	12.50%	3.1
Raw Score	Weight	Weighted Score

The company has a weak programme

Criteria

- ☐ Targeted recruitment
- ☐ Managerial or board level responsibility for diversity initiatives
- ☐ Employee affinity groups, diversity councils, or networking groups
- ☒ Diversity monitoring or audits
- ☐ Diversity initiatives that go beyond legal compliance
- ☐ Mentorship programmes
- ☐ Training and guidance regarding diversity
- ☒ Initiatives supporting a diverse workforce

Sources

TCC Sustainability Report 2020 (FY2020)

S.1.4 - Collective Bargaining Agreements

25	15.00%	3.8
Raw Score	Weight	Weighted Score

Disclosure is insufficient to determine the percentage of the company's employees that are covered by collective bargaining agreements

Sources

TCC Sustainability Report 2020 (FY2020)

S.1.5 - Employee Turnover Rate

50	17.50%	8.8
Raw Score	Weight	Weighted Score

The company's employee turnover rate is average

Sources

TCC Sustainability Report 2020 (FY2020)

The company provided feedback on 28 September 2021

Appendix

Management Details

S.1.5.2 - Human Capital Development

75	30.00%	22.5
Raw Score	Weight	Weighted Score
The company has a strong programme		

Criteria

- ☐ Reporting on human capital risk assessment
- ☐ Initiatives for talent recruitment
- ☒ Reporting on human capital development metrics
- ☒ Initiatives for talent development
- ☒ Regular formal performance reviews for all permanent employees aligned with career development
- ☒ Initiatives for talent retention
- ☐ Quantitative targets related to human capital development
- ☒ Formal mechanisms to promote an open feedback culture

Sources

TCC Corporate Website, Salary & Benefits, www.taiwancement.com; accessed 10 August 2021

TCC Sustainability Report 2020 (FY2020)

Appendix



Exposure Details



Occupational Health and Safety

EA.E.20 - Occupational Health and Safety

0.00

Beta Signal

No evidence of relevant controversies

EA.F.1 - Operating Performance

- 0.02

Beta Signal

The company has a strong net income margin.

Average Net Income Margin (Trailing 3 Years): 14.81%
 Subindustry Median (Trailing 3 Years): 8.34%
 Source: Morningstar, December 2020. All Rights Reserved.,
 FactSet, December 2020. All Rights Reserved.

EA.F.2 - Solvency

0.00

Beta Signal

The company has an average debt-equity ratio.

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 Subindustry Median (3 Period Exponentially Weighted Average as of August 2021): 0.52
 Source: Morningstar, August 2021. All Rights Reserved.,
 FactSet, August 2021. All Rights Reserved.

EA.F.3 - Financial Flexibility

- 0.02

Beta Signal

The company has a strong cash flow ratio.

Average Free Cash Flow Ratio (Trailing 3 Years): 12.78%
 Subindustry Median (Trailing 3 Years): 6.83%
 Source: Morningstar, December 2020. All Rights Reserved.,
 FactSet, December 2020. All Rights Reserved.

EA.F.4 - Asset Performance

0.00

Beta Signal

The company has an average return on assets.

Average Return on Assets (Trailing 3 Years): 5.5%
 Subindustry Median (Trailing 3 Years): 4.87%
 Source: Morningstar, December 2020. All Rights Reserved.,
 FactSet, December 2020. All Rights Reserved.

EA.G.1 - Headquarters Location

0.00

Beta Signal

The location of the company's headquarters does not indicate higher or lower exposure to this issue.

Taiwan: Average exposure
 Source: Sustainalytics Country Risk Rating, May 2019.

Appendix

 Exposure Details

EA.G.2 - Assets Location

0.00
Beta Signal

The location of the company's assets does not signal higher or lower exposure to this issue.

Asia: 56% (Average exposure)
Taiwan: 44% (Average exposure)
Source: Sustainalytics Country Risk Rating, May 2019."
Morningstar, October 2019. All Rights Reserved.

EA.S.1 - Qualitative Overlay

0.00
Beta Signal

Answer category for neutral beta signal adjustment

EA.S.2 - Subindustry Correction Factor

0.00
Beta Signal

EA.S.3 - Exceptional Event Adjustment

0.00
Beta Signal

Appendix



Management Details

S.1.6.2.1 - Health and Safety Management System

75	25.00%	18.8
Raw Score	Weight	Weighted Score

The company has a strong management system

Criteria

- ☒ Targets to reduce health and safety incidents
- ☒ Performance monitoring and measurement
- ☐ Operating guidelines or procedures that are relevant for the industry
- ☒ Procedures for hazard identification and risk assessment
- ☒ Reporting on health and safety programmes and performance
- ☐ Emergency preparedness procedures
- ☒ Regular health and safety training programmes for employees
- ☒ Managerial responsibility for health and safety issues
- ☒ Formal health and safety policy commitment
- ☒ Internal or external health and safety audits conducted at least every three years

Sources

TCC Corporate Social Responsibility Best Practice Principles, released 11 August 2020

TCC Sustainability Report 2020 (FY2020)

The company provided feedback on 14 March 2019

The company provided feedback on 24 September 2020

S.1.6.4 - Health & Safety Certifications

25	12.50%	3.1
Raw Score	Weight	Weighted Score

An undisclosed percentage of the company's facilities have received external certification

Sources

TCC Company Website; www.taiwancement.com, Work Environment Management accessed 10 August 2021

S.1.6.5 - LTIR Trend

100	25.00%	25.0
Raw Score	Weight	Weighted Score

The company's lost-time incident rate has declined

Sources

TCC Sustainability Report 2020 (FY2020)

S.1.6.6 - Employee Fatality Rate

100	12.50%	12.5
Raw Score	Weight	Weighted Score

No fatalities have occurred in the last three years

Sources

TCC Sustainability Report 2020 (FY2020)

The company provided feedback on 14 March 2019

S.2.2.5 - Contractor Safety Programme

50	12.50%	6.2
Raw Score	Weight	Weighted Score

The company has an adequate programme

Criteria

- ☒ Monitoring of contractor safety performance
- ☒ Reporting on contractor safety management
- ☐ Policy commitment to protect the safety of contractors
- ☐ Operating guidelines on contractor safety management
- ☒ Safety training for contractors
- ☐ Prescreening of contractors for safety performance and risks

S.2.2.6 - Contractor Fatalities

75	12.50%	9.4
Raw Score	Weight	Weighted Score

Between 1 and 4 fatalities have occurred among contractors in the last three years

Sources

TCC Sustainability Report 2020 (FY2020)

The company provided feedback on 24 September 2020

Appendix

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Management Details

- ☐ Objectives or targets regarding contractor safety
- ☒ Compliance with safety guidelines included in contractual agreements.

Sources

TCC Sustainability Report 2020 (FY2020)

The company provided feedback on 28 September 2021

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GLOSSARY OF TERMS

Beta (Beta, β)






A factor that assesses the degree to which a company's exposure deviates from its **subindustry's** exposure on a **material ESG issue**. It is used to derive a company-specific issue exposure score for a material ESG issue. It ranges from 0 to 10, with 0 indicating no exposure, 1 indicating the subindustry average, and 10 indicating exposure that is ten times the subindustry average.

Corporate Governance Pillar

A pillar provides a signal about a company's management of a specific Corporate Governance issue.

ESG Risk Category

Companies' **ESG Risk Rating scores** are assigned to five ESG risk categories in the **ESG Risk Rating**:

	Negligible risk: enterprise value is considered to have a negligible risk of material financial impacts driven by ESG factors
	Low risk: enterprise value is considered to have a low risk of material financial impacts driven by ESG factors
	Medium risk: enterprise value is considered to have a medium risk of material financial impacts driven by ESG factors
	High risk: enterprise value is considered to have a high risk of material financial impacts driven by ESG factors
	Severe risk: enterprise value is considered to have a severe risk of material financial impacts driven by ESG factors

Note that because ESG risks materialize at an unknown time in the future and depend on a variety of unpredictable conditions, no predictions on financial or share price impacts, or on the time horizon of such impacts, are intended or implied by these risk categories.

ESG Risk Rating Score (Unmanaged Risk Score)

The company's final score in the **ESG Risk Rating**; it applies the concept of **risk decomposition** to derive the level of **unmanaged risk** for a company.

Event Category

Sustainalytics categorizes events that have resulted in negative ESG impacts into five event categories: Category 1 (low impact); Category 2 (moderate impact); Category 3 (significant impact); Category 4 (high impact); and Category 5 (severe impact).

Event Indicator

An indicator that provides a signal about a potential failure of management through involvement in controversies.

Excess Exposure

The difference between the company's **exposure** and its **subindustry exposure**.

Exposure

A company or **subindustry's** sensitivity or vulnerability to ESG risks.

Idiosyncratic Issue

An issue that was not deemed material at the **subindustry** level during the **consultation process** but becomes a **material ESG issue** for a company based on the occurrence of a Category 4 or 5 event.

Manageable Risk

Material ESG risk that can be influenced and managed through suitable policies, programmes and initiatives.

Managed Risk

Material ESG Risk that has been managed by a company through suitable policies, programmes and initiatives.

Management

A company's handling of ESG risks.

Management Gap

Refers to the difference between what a company has managed and what a company could possibly manage. It indicates how far the company's performance is from best practice.

Management Indicator

An indicator that provides a signal about a company's management of an ESG issue through policies, programmes or quantitative performance.

Material ESG Issue

A core building block of the **ESG Risk Rating**. An ESG issue is considered to be material within the rating if it is likely to have a significant effect on the enterprise value of a typical company within a given **subindustry**.

Subindustry

Subindustries are defined as part of Sustainalytics' own classification system.

Unmanageable Risk

Material ESG Risk inherent from the intrinsic nature of the products or services of a company and/or the nature of a company's business, which cannot be managed by the company if the company continues to offer the same type of products or services and remains in the same line of business.

Unmanaged Risk

Material ESG risk that has not been managed by a company, and includes two types of risk: **unmanageable risk**, as well as risks that could be managed by a company through suitable initiatives, but which may not yet be managed (**management gap**).

Taiwan Cement Corp.

Construction Materials Taiwan TAI:1101

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