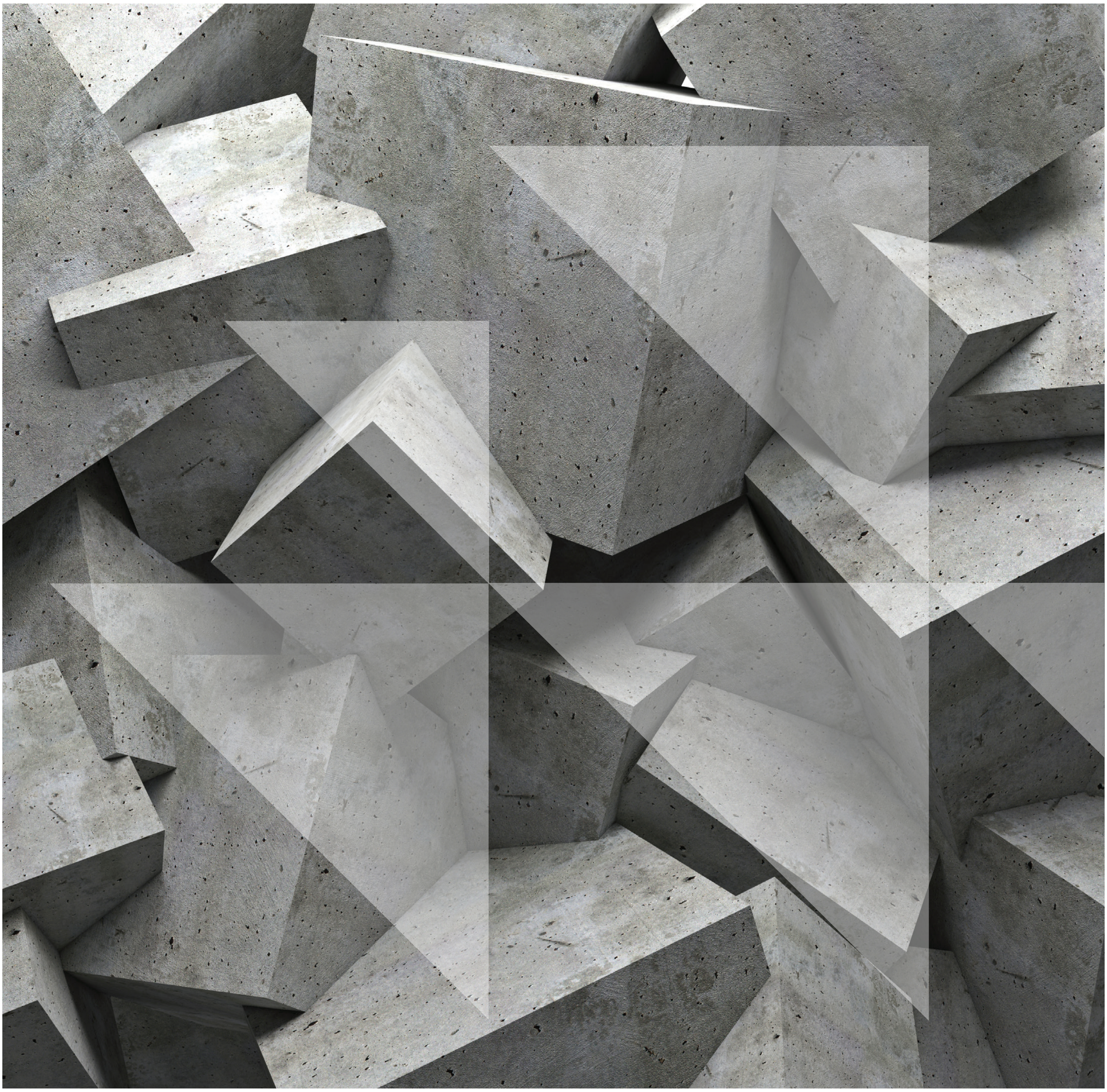
Building pressure

Which cement companies will be left behind in the low-carbon transition?
Executive Summary

April 2018



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Linking climate-related metrics to earnings for cement companies

This report updates and expands CDP's research and League Table for cement companies, first published in June 2016. It ranks 13 of the largest publicly listed cement companies on business readiness for a low-carbon economy transition. The companies in aggregate represent 15% of global cement production but cover significant portions of key markets, such as India, Europe and the US. A notable limit is related to the coverage of the Chinese cement sector, which represents more than 50% of the global market with limited disclosure preventing inclusion in our analysis.

Compared to our 2016 report, the scope of our report has been extended to include four additional Asian companies (ACC and Ambuja – both listed subsidiaries of LafargeHolcim, Dalmia Bharat and Asia Cement Corporation), while Italcementi is now part of HeidelbergCement. In addition, we analyze drivers in the built environment which could impact cement demand in the future.

The cement industry is the third largest consumer of energy and the second largest industrial emitter after the steel industry with 6% of global emissions (IEA, 2017). In its current form, it is not compatible with the commitment taken at COP21 in Paris, and needs a significant change in business-as-usual practices to align to a 2-degrees trajectory.

A majority of the sector's emissions are inherent to its production process, making them more difficult to abate compared to other sectors. This poses numerous risks to the business-as-usual models of cement incumbents. Levers on the opportunities side remain limited with the use of alternative materials and alternative fuels the main routes for decarbonization – new product development activity is relatively low with CCS technology the main route for abatement.

There are four key areas assessed in the League Table, which are aligned with recommendations for company reporting from the G20 Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD):

Transition risks: We assess companies' exposure based on emissions and thermal energy intensity, financial flexibility and exposure to downstream regulation.

Physical risks: We assess companies on exposure to acute physical risks, water stress risk and the usage and management of their water supply.

Transition opportunities: We assess companies' progress in shifting towards a low-carbon economy by looking at exposure to alternative materials and fuel, and low-carbon products and technologies.

Climate governance and strategy: We analyze companies' governance frameworks including emissions reduction targets and the alignment of governance and remuneration structures with low-carbon objectives.

Key findings

- **The universe of companies has on average reduced their emissions intensity by 1% p.a. over the last 4 years but this is not enough for a 2-degrees trajectory** and would need to more than double to meet a 2-degrees target.
- **Strong regional trends are found with Indian companies outperforming international peers with process emissions measured by the clinker ratio[1] of 69% vs 78%.** This is driven by better access to alternative materials such as fly ash and slag coming from other carbon intensive sectors, such as thermal power generation and steel production.
- **Use of alternative materials in developed markets is facing constrained supply.** European companies will need to find scalable and sustainable alternatives to fly ash and slag or develop low-carbon technologies to be able to improve current emission intensity levels.
- **Alternative fuels from waste offer another way to decarbonize at a low cost** with international companies in countries with robust waste legislation set to benefit compared to their Indian peers.
- **CCS is an important technology for this sector's decarbonization but remains at pilot stage.** HeidelbergCement leads the main projects in this space, with only limited R&D spend on CCS outside Europe.
- **R&D expenditure as a proportion of sales is low compared to other industries.** HeidelbergCement, Taiheiyo Cement and LafargeHolcim lead with 0.6% on average. Development of low-carbon products is still at a very early stage, with the Europeans leading the group.
- **Changes to water supply and weather patterns can pose risks to the cement value chain.** We performed a plant-level analysis to identify companies most exposed to the risk of droughts, floods, weather variability and water supply.
- **Carbon regulation for the sector remains benign, with the sector in Europe continuing to benefit from surplus free allowances** within the EU ETS – carbon prices need to rise by three to six times to provide incentives to deploy technologies such as CCS.
- **Regulatory risks from tightening building regulation and ambitions for low-carbon cities could drive change** which could expose companies with plants near these cities – we conduct asset level analysis to evaluate this risk.
- 11 of the 13 companies in our sample have emission reduction targets, **but only three of these meet a 2-degrees goal[2].**
- Highest ranked companies are **Dalmia Bharat**, **Ambuja Cement** and **Cementos Argos**. Lowest ranked are **Taiheiyo Cement**, **Cementir Holding** and **Asia Cement Corporation**.

1. The clinker ratio refers to the proportion of clinker in one tonne of cement. Clinker is the main component of cement and highly carbon intensive.
2. Estimates based on IEA, 2017, ETP data.

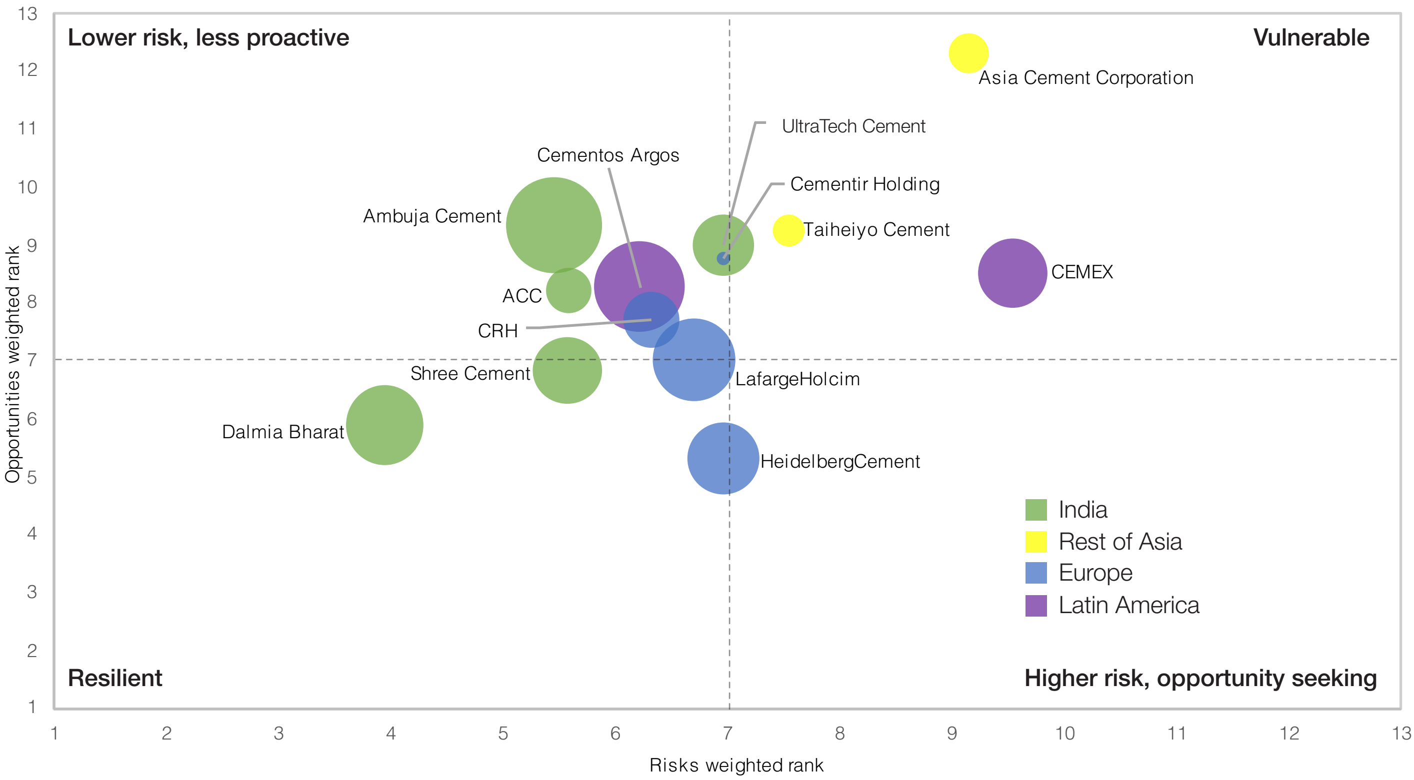
The summary League Table below presents headline company performance and ranking. It is based on detailed analysis across a range of carbon and water-related indicators which could have a material impact on company performance. The League Table is designed to serve as a proxy for business readiness in an industry which will undergo significant change as governments increase efforts to implement the Paris Agreement. Companies placed towards the bottom are deemed less prepared for a low-carbon transition.

Figure 1: League Table summary(i)

League Table rank	2016 League Table rank	Company	Ticker	Stock exchange listing	Average market cap 2017 (US$bn)(iv)	2016 cement production (million tonnes)(v)	League Table weighted rank	Transition risks rank	Physical risks rank	Transition opportunities rank	Climate governance & strategy rank
1	n/a	Dalmia Bharat	DBEL IN	NSE India	3.4	15	4.64	1	9	2	4
2	n/a	Ambuja Cement(ii)	ACEM IN	NSE India	7.7	21	5.62	3	11	12	1
3	5	Cementos Argos	CEMARGOS CB	Colombia SE	5.3	14	5.90	7	2	7	2
4	2	Shree Cement	SRCM IN	NSE India	9.4	20	5.91	2	13	3	7
5	1	LafargeHolcim(ii)	LHN SW	SIX Swiss SE	34.8	233	6.03	8	6	4	3
6	6	HeidelbergCement	HEI GR	Deutsche Borse	19.3	125	6.08	9	7	1	5
7	4	CRH	CRH ID	Irish SE	29.7	34	6.85	6	4	5	9
8	n/a	ACC(ii)	ACC IN	NSE India	4.7	23	7.02	4	10	6	10
9	8	UltraTech Cement	UTCEM IN	NSE India	17.0	48	7.32	5	12	10	8
10	7	CEMEX	CEMEXCPO MM	Mexico SE	12.6	67	8.04	12	8	8	6
11	10	Taiheiyo Cement	5233 JP	Tokyo SE	4.7	32	8.58	11	1	11	12
12	11	Cementir Holding	CEM IM	Borsa Italiana	1.1	10	9.00	10	5	9	13
13	n/a	Asia Cement Corporation(iii)	1102 TT	Taiwan SE	3.1	34	9.80	13	3	13	11
Weighting								**35%**	**10%**	**25%**	**30%**

(i) Weighted ranks are calculated for each area. We display non-weighted ranks in this summary for simplicity only.
(ii) LafargeHolcim data is inclusive of its subsidiaries ACC and Ambuja Cement.
(iii) Data only available for Taiwan plants in transition risks and transition opportunities.
(iv) Daily average market cap for calendar year 2017.
(v) Figures are 2015 production for CRH and 2016 sales for Cementir Holding and LafargeHolcim.
Source: CDP

Figure 2: Opportunity vs. risk for low-carbon transition



Bubble size: Larger bubble = stronger performance on climate governance & strategy
Source: CDP

Accessing the full report

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