



The Institutional Investors
Group on Climate Change

Investor Expectations of Companies in the Construction Materials Sector



Produced by the Institutional Investors Group on Climate Change (IIGCC) in July 2019 with lead authors from RPMI Railpen, this report is published on behalf of the four organisations that make up the Global Investor Coalition on Climate Change (GIC).



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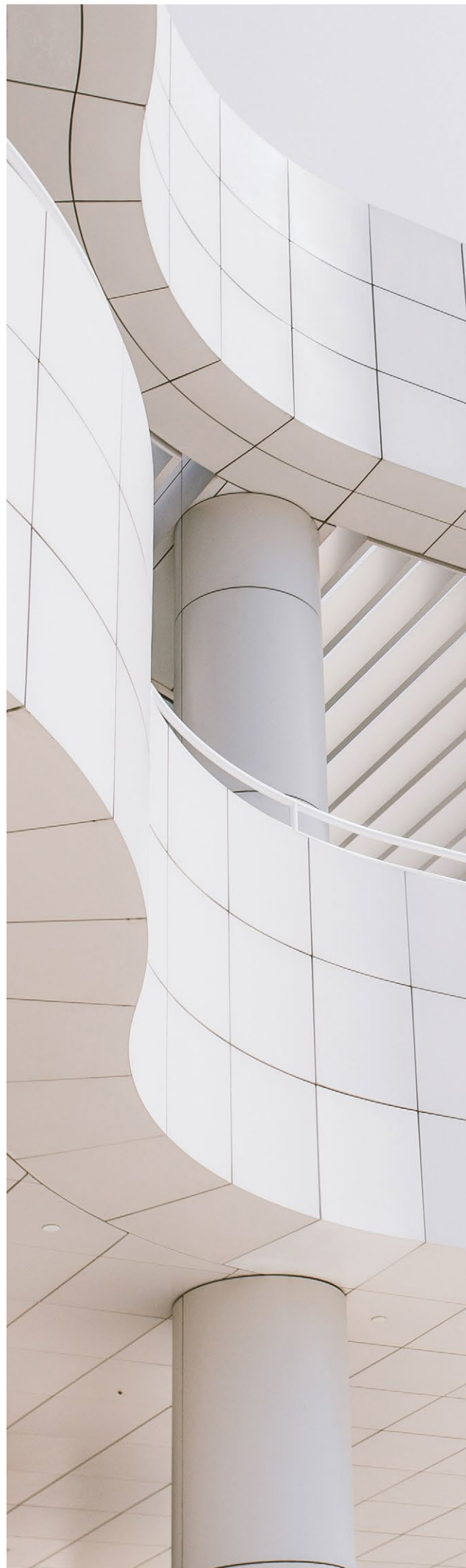
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Introduction

A growing number of investors wish to support their investee companies in managing the transition to a low-carbon economy. Many choose to do so by signing up to Climate Action 100+, an investor initiative to ensure the world's largest corporate greenhouse gas emitters, responsible for over two-thirds of annual global industrial emissions, take necessary action on climate change¹. To support productive dialogue, members of the Institutional Investors Group on Climate Change (IIGCC) have produced documents clearly setting out investor expectations regarding the climate strategy of the companies in which they invest².

This guide sets out investor expectations for climate strategies of companies operating in the construction materials sector, drawing from and building on the recommendations of the Financial Stability Board's Taskforce on Climate-Related Financial Disclosures (TCFD)³, and linked to the engagement goals of Climate Action 100+⁴. It explores the different manifestations of climate risk for the sector and highlights examples of good practice by companies in the sector with the goal of helping investors and companies to hold constructive dialogue.

Investors supporting the Climate Action 100+ initiative expect companies to make commitments:

- **Implement a strong governance framework** which clearly articulates the board's accountability and oversight of climate change risk and opportunities.
- **Take action to reduce greenhouse gas emissions across their value chain**, consistent with the Paris Agreement's goal of limiting the increase in global average temperatures to well below 2°C above pre-industrial levels, and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels.
- **Provide enhanced corporate disclosure** in line with the final recommendations of the TCFD⁵ and, when applicable, sector-specific Global Investor Coalition on Climate Change Investor Expectations on Climate Change⁶ to enable investors to assess the robustness of companies' business plans against a range of climate scenarios, including well below 2°C and improve investment decision-making.

Climate risk for the construction materials sector

Scientists anticipate that global greenhouse gas emissions must decline rapidly between 2018 and 2050, reaching net zero around 2050, in order to limit global warming to 1.5°C and deliver the goals of the Paris Agreement, ratified by 185 countries to reduce greenhouse gas emissions and accelerate the transition to a lower-carbon economy⁷.

The construction materials sector covers a range of companies involved in the production of raw materials used for both heavy and building construction including wood, cement, aggregates, metals, bricks, concrete and clay. Concrete is the most widely used construction material globally and as such is the key material considered in this report. It is composed of aggregates, water and cement. While cement makes up 7-20% of concrete, it is responsible for 95% of the carbon footprint⁸. The cement industry accounts for 7% of global man-made carbon dioxide and is the second largest industrial emitter of carbon dioxide⁹. Under the International Energy Agency's (IEA) Sustainable Development Scenario, which illustrates a possible transition for the global energy system to limit the rise in global temperatures to 1.7 – 1.8°C, cement producers will need to reduce their carbon intensity at an annual rate of 0.3% per ton of cement produced out to 2030¹⁰.

The TCFD defines categories for climate-related risks in two major categories: risks related to the transition to a lower-carbon economy and risks related to the physical impacts of climate change.

TCFD recommendations

“Transitioning to a lower-carbon economy may entail extensive policy, legal, technology, and market changes to address mitigation and adaptation requirements related to climate change... Physical risks may have financial implications for organisations, such as direct damage to assets and indirect impacts from supply chain disruption”¹¹.

The construction materials industry is exposed to both transition and physical risks resulting from climate change.

Transition risks

A key risk for companies is the potential for increasingly stringent regulation on carbon emissions. In the European Union, the emissions trading scheme (EU ETS), is a key tool for reducing greenhouse gas emissions, covering around 45% of the EU's emissions¹². The cement industry is deemed as a sector exposed to a risk of carbon leakage by the European Commission. This means that there is a risk that businesses could transfer production to countries with less stringent emissions regulation and export the finished products back into the European Union¹³. Sectors facing carbon leakage are allocated a higher share of CO₂ allowances, and in the first three phases of the EU ETS, cement companies were allocated an excess of CO₂ allowances compared to their emissions, allowing them to trade their allowances with other industrial emitters. Phase 4 of the EU ETS begins in 2021. The objective of this phase is to be more flexible in adjusting allowances and align them better with actual production. This could remove a

potential revenue stream for companies that previously sold their excess allowances, and potentially introduce a cost if companies cannot adjust their emissions quickly enough. Deutsche Bank estimates that cement prices will need to rise by 4-5% in 2020 to compensate the additional cost, which could have a negative impact between 1.3 and 5.1% of EBITDA by 2020 for European cement producers¹⁴.

In the European Union, 50% of cement is used in the construction of new buildings, 30% in infrastructure and the remaining 20% on maintenance. As a result, the construction materials sector will be impacted by changes to buildings and infrastructure regulation. While regulation on sustainable building materials is still developing, there are also voluntary initiatives that may drive change. For example, C40 cities, a network of the world's megacities to collaborate, share knowledge and drive action on climate change, has launched a Building Energy 2020 Programme to support cities to develop policies to urgently reduce emissions from existing buildings and avoid carbon lock-in by ensuring that new buildings are low or zero emissions¹⁵. The World Green Building Council, is also working on a project called “Advancing Net Zero” to support the transformation to 100% net zero carbon buildings by 2050¹⁶.

Some research suggests that cement production is already relatively energy-efficient, and there are few low-hanging fruit for companies to easily reduce their carbon emissions. For example, the 2018 IEA and Cement Sustainability Initiative (CSI) Technology Roadmap estimates that 3% of CO₂ emissions reductions from today until 2050 will be achieved by thermal energy efficiency improvements, while 48% will be driven by the deployment of carbon capture and storage (CCS). Research by Chatham House suggests that innovations in low-clinker and novel cements could achieve emissions reductions of more than 90% compared with traditional Portland Cement¹⁷. As such, companies that are not working on developing new technologies now risk being left behind.

Finally, companies may risk divestment and lack of access to capital as increasing numbers of investors seek to exclude highly-carbon intensive sectors from their portfolios to meet their own decarbonisation requirements, or expect a premium to compensate for climate risk.

Physical risks

While the cement industry is moving to less water-intensive production processes, water is still critical to the production process. As a result, companies may be affected by changes in weather patterns, such as increasing droughts. According to research by CDP, the main acute physical risk for cement companies come from flooding, storms and hurricanes which may affect their output¹⁸.

As a water resilient material, concrete may also provide opportunities to adapt to an increase in storms and flooding. The Global Cement and Concrete Association (GCCA) and construction material companies like CRH are working to promote the benefits of concrete to improve flood and storm resilience of buildings and infrastructure¹⁹.



Investor expectations

In order to facilitate engagement, we have set out expectations which are aligned with Climate Action 100+ and TCFD for investors to raise in their discussions with companies in the construction materials sector. These expectations are intended to provide guidance to investors, rather than act as a complete framework.

Implement a strong governance framework

A strong governance framework can support companies in assessing and responding to the potential risks and opportunities posed by climate change and ensure that they are factored into the company's long-term strategy. Investors can ask how climate risk is embedded in the enterprise's risk management process and how climate risk is discussed at the main board.

Investors expect corporate boards to be informed and provide oversight of climate risk. Companies should consider climate experience as part of the broader skills assessment of their boards of directors. Board members should be updated regularly on how the company assesses and manages climate-related risks, as well as receiving training on climate-related issues. Companies should assign specific responsibility for climate change to a board committee or board member, for example through the audit and risk committee, or by establishing a stand-alone committee to oversee climate risk or broader sustainability topics.

Companies should also establish a climate change governance framework at the operational level. As most cement companies have global operations, in practice this will likely be a combination of central oversight through a designated sustainability officer or team and responsibility at site level. There should also be executive level oversight and a clear reporting line to the board. This framework should include assigning responsibility for setting and meeting climate change targets that achieve carbon neutrality by 2050. Companies should also link executive remuneration to their climate targets.

Take action to reduce greenhouse gas emissions across the value chain

Investors will ask how companies are seeking to reduce emissions and whether these reductions are in line with the goals of the Paris Agreement. Investors expect companies to commit to becoming carbon neutral by 2050 at the latest, meaning that they will achieve net zero carbon dioxide emissions. Companies are expected to set short-, medium- and long-term targets to reach this goal. The targets should be science-based, meaning that they are in line with the steps necessary to deliver decarbonisation required to keep global temperatures well below 2°C, with the ambition of limiting warming to no more than 1.5 °C, and externally assured. One such external assurance is provided by the Science Based Targets initiative (SBTI)²⁰, a collaboration between CDP the United Nations Global Compact (UNGC), World Resources Institute (WRI) and the World Wide Fund for Nature (WWF), with the aim of institutionalising science-based target setting. At the date of publication, ten construction materials companies globally were supporters of SBTi and one company, HeidelbergCement, has had its target validated²¹.

In addition to setting a target, investors expect companies to outline the actions they are taking to meet the targets.

Dalmia Cement carbon negative vision

Indian cement producer Dalmia Cement has set out one of the most ambitious visions in the sector by seeking to become carbon negative by 2040. To achieve this goal, the company is looking to take a number of actions, including switching to alternative fuels, reducing clinker content, optimising clinker heat consumption and raw materials drying processes, developing low-carbon cements, and exploring new technologies such as carbon capture and utilisation and carbon sequestration²².

"The more we focus on clean climate, the more we focus on renewable energy, the more we focus on using waste, it will also be making us more profitable and also more sustainable²³."

Mahendra Singhi, CEO, Dalmia Cement (Bharat)

There is no single pathway to achieving net zero emissions across the sector. Effective abatement will require a combination of actions. According to the IEA and CSI Technology Roadmap there are four levers for cement producers to reduce their emissions: energy efficiency, fuel switching, clinker substitution and innovative technology²⁴:

- **Energy efficiency:** Companies can invest in upgrading their kilns and other production equipment to lower energy consumption and the energy intensity of cement production. Wet kilns have historically widely been used across the sector, in which water is evaporated as part of the heating process. Wet kilns use up to 85% more energy in comparison to more modern preheater kilns with precalciners²⁵.
- **Alternative fuels:** Cement production requires clinker to be heated to high temperatures in kilns. Most cement plants have been using conventional fossil fuels such as coal. Companies can use alternative fuels such as biomass and waste materials, or newer technologies being developed utilising hydrogen or heat electrification in cement kilns derived from renewable energy to reduce energy intensity in the cement production process²⁶.
- **Clinker substitution:** Clinker is the main component of Portland cement, the most commonly used type of cement. Its production accounts for c. 60% of emissions associated with cement. Under the IEA and CSI Roadmap, the current global average clinker ratio of 0.65 needs to be reduced to 0.6 by 2050 to meet the 2°C scenario, which is short of the trajectory required for carbon neutrality by 2050. Industry best practice may already also be ahead of this ratio, with LafargeHolcim reporting a ratio of 0.5. Companies may adjust the ratio of clinker in their cement to reduce emissions, or develop alternatives to clinker that have lower emissions. Currently, these alternatives include the use of blast furnace slag, fly ash or limestone.
- **New technologies:** Under the IEA and CSI roadmap, innovative technologies will play a large role in the decarbonisation of the industry. Currently, there are a number of pilot projects on using CCS technology for the cement industry, such as that showcased by HeidelbergCement (see box). Companies are also working on low-carbon products and technologies. For example, LafargeHolcim is working on a new cement and concrete technology with Solidia that could reduce CO₂ emissions by up to 70% by actively absorbing CO₂ during the cement hardening process²⁷. Concrete chemistries using less or even no cement are also being researched²⁸.

HeidelbergCement CCS

“The LEILAC project co-financed by the EU, and in which HeidelbergCement is one of the main strategic partners, started in January 2016. This project aims to demonstrate the technical and economic feasibility of a process technology for the capture of CO₂ released in its purest form during the heating of the raw material. The construction plans for the calciner were completed in 2017, and work began in 2018 on procuring the individual plant components and constructing the 60-metre-high demonstration calciner at our Lixhe cement plant in Belgium. The facility will be ready for operation by the end of the first quarter of 2019, and the actual process trials can then commence. The knowledge gathered over the past few years was disseminated at the International Conference on Innovation in Industrial Carbon Capture, which took place at the start of February 2018 in Liège, near our Lixhe cement plant. The participants included representatives of the companies involved and several technical universities in Germany, Belgium, and the Netherlands, as well as employees of EU and Belgian support agencies. The unanimous feedback from the event was that the research findings presented and the preliminary work already undertaken for this large-scale trial are very likely to lead to a successful outcome for the international research project²⁹.”

While the highlighted actions relate specifically to cement production, emissions reductions can also be achieved further down the value chain. Material Economics estimates that as much as half of the CO₂ reductions needed to achieve carbon neutrality by 2050 could be changes to how concrete is specified and used³⁰. End users of construction materials should consider the full lifecycle of the materials. Concrete for example can be recycled, while cement can also be recovered and reused if it is un-hydrated, or reprocessed if hydrated, reducing process emissions by up to 20%³¹. Other ways to reduce emissions in construction include greater efficiency of materials and longer building lifetimes.

Provide enhanced corporate disclosure

The TCFD framework details the main climate-related risks and opportunities that organizations should consider. While it is a voluntary framework, investors expect that companies in the construction materials sector should assess its applicability for their organisation and commit to be a public supporter. Yet, as of March 2019, only four companies in the construction materials sector have committed to being a public supporter of TCFD³².

The Task Force's recommendations are structured around four thematic areas: governance, strategy, risk management, and metrics and targets³³. Detailed implementation guidance is provided on the TCFD website, which includes recommended disclosures under its four themes. Supplemental guidance for the sector includes suggested indicators³⁴.

Core elements of recommended climate-related financial disclosures



Governance

The organization's governance around climate-related risks and opportunities

Strategy

The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning

Risk management

The processes used by the organization to identify, assess, and manage climate-related risks

Metrics and targets

The metric and targets used to assess and manage relevant climate-related risks and opportunities



Recommendations and supporting recommended disclosures

Governance	Strategy	Risk management	Metrics and targets
Disclose the organization's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Recommended disclosures	Recommended disclosures	Recommended disclosures	Recommended disclosures
a) Describe the board's oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	a) Describe the organization's processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management's role in assessing and managing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	b) Describe the organization's processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas emissions, and the related risks.
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

Companies are expected to disclose in line with the TCFD recommendations and report regularly on how they are met. This should cover the company's view of how it will be affected by climate-related risks and opportunities, its governance framework and the actions it is taking as outlined previously. A key aspect of this is financial materiality. Companies should also disclose their internal approach to carbon pricing.

Supplemental guidance is also provided by TCFD for the construction materials sector, which recommends companies disclose measures such as their revenues from investments in low-carbon alternatives.

The transition to a low-carbon economy will bring transitional challenges for workers, communities and countries. A just transition for the workforce and the creation of decent work was part of the 2015 Paris Agreement³⁵. The Investing in a Just Transition Initiative led by the Grantham Institute at the London School of Economics and Political Science and the Initiative for Responsible Investment at the Harvard Kennedy School, provides guidance to investors on the role they can play in connecting climate change with inclusive development³⁶. One of the areas for investor action identified is engagement with companies to include the just transition in climate strategies. Companies are therefore also expected to consider societal context and disclose how they

are working towards the goal of achieving a just transition for their employees and the communities in which they operate in their own approaches to reporting.

Companies should also follow sector-specific best practice on disclosure and reporting. Investors encourage companies to report in line with the guidelines of the GCCA, including "net" CO₂ emissions per unit of cementitious product, and report on both Scope 1 and Scope 2 emissions³⁷.

LafargeHolcim TCFD statement Annual Report 2018

"As a business leader, we must ensure transparency and action around climate-related risks and opportunities. LafargeHolcim therefore supports the voluntary recommendations of the Financial Stability Board (FSB) Task force on Climate-related Financial Disclosures. The identification, assessment and effective management of climate-related risks and opportunities are fully embedded in our risk management process which is subject to continuous improvement³⁸."



Royal Dutch Shell Industry Associations Climate Review

In April 2019, Royal Dutch Shell published its first Industry Associations Review, assessing the company's alignment with 19 key industry associations on climate-related policy, as well as a set of governance principles to manage its membership of industry associations on climate-related topics³⁹. As part of the review, Royal Dutch Shell found material misalignment with one industry association, American Fuel & Petrochemical Manufacturers and decided not to renew its membership as a result.

"We must be prepared to openly voice our concerns where we find misalignment with an industry association on climate-related policy. In cases of material misalignment, we should also be prepared to walk away"⁴⁰.

Ben van Beurden, Chief Executive Officer, Royal Dutch Shell

Call to Action

For investors

This document sets out a framework for investors to engage with companies in the construction materials sector. In addition to the resources cited here, there are a number of other resources available. For example, the Transition Pathway Initiative (TPI) is a global initiative led and supported by asset owners that assesses companies' preparedness for the transition to a low-carbon economy⁴⁴. The TPI has assessed the carbon management quality and carbon performance of a number of large cement companies and the results are publicly available. TPI has assessed the carbon intensity of LafargeHolcim and Ambuja Cements to be on track to be 2 degrees aligned by 2030⁴⁵.

Investors are also encouraged to sign up to Climate Action 100+ to join the co-ordinated dialogue with companies on climate risk. Asset managers who are not signed up to the initiative can expect to receive questions from their clients as to why not.

For companies

This document is designed to help construction materials companies to make the most of the significant opportunities to drive the low carbon transition and help achieve the goal of the Paris Agreement of limiting global warming to well below 2°C. All construction materials companies are encouraged to sign up to TCFD and start taking actions on the points raised above. Investors also expect industry associations such as the GCCA to follow this guidance.

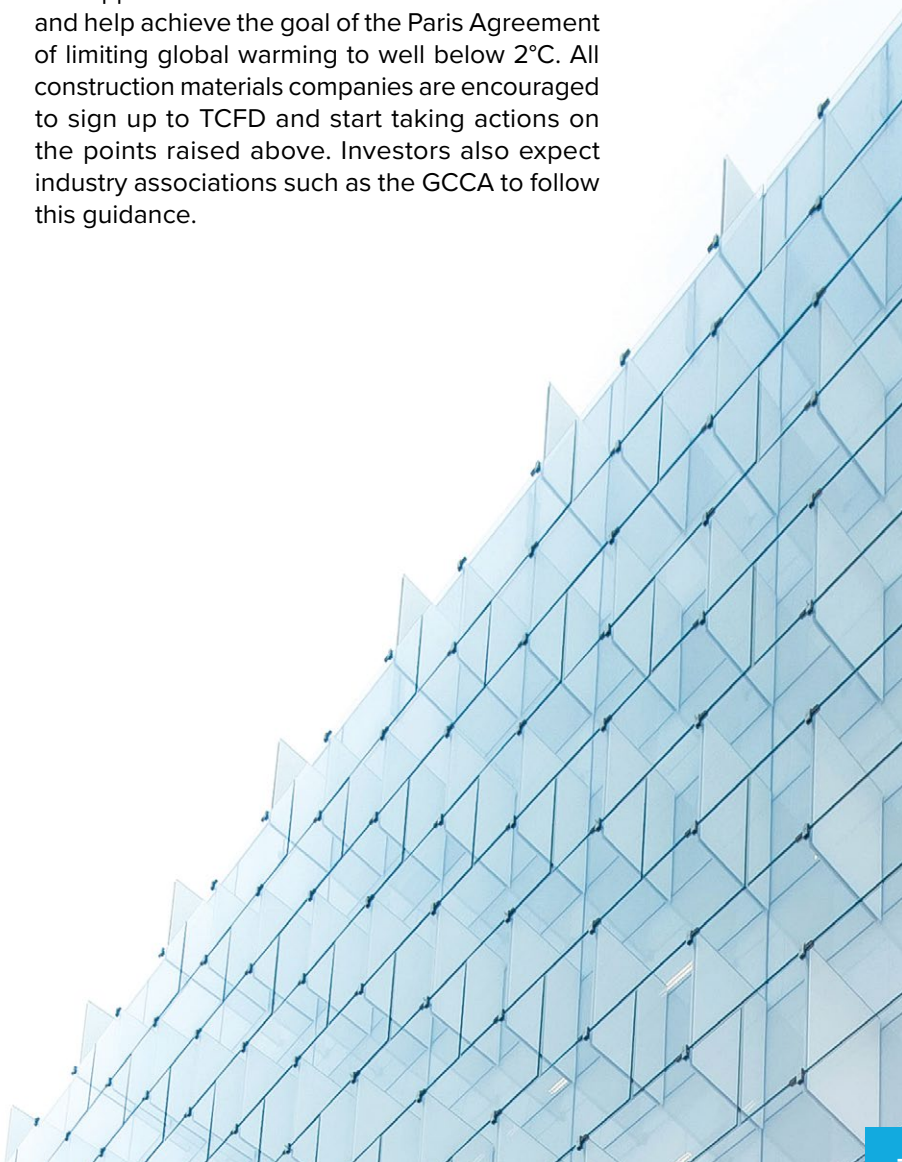
Be transparent on public policy and advocate for the Paris Agreement

The development of significant additional policy and regulation, including carbon pricing, will be necessary to achieve the goals of the Paris Agreement. Companies should disclose how they engage with public policymakers and other stakeholders. Investors expect that companies engage with policy makers to support cost-effective measures to mitigate climate change and ensure an orderly transition to a low-carbon economy. For example, the European Investor Expectations on Corporate Lobbying on Climate Change set out four investor principles on lobbying⁴¹:

1. Lobby positively in line with the Paris Agreement
2. Have robust governance procedures
3. Act when unaligned
4. Be transparent.

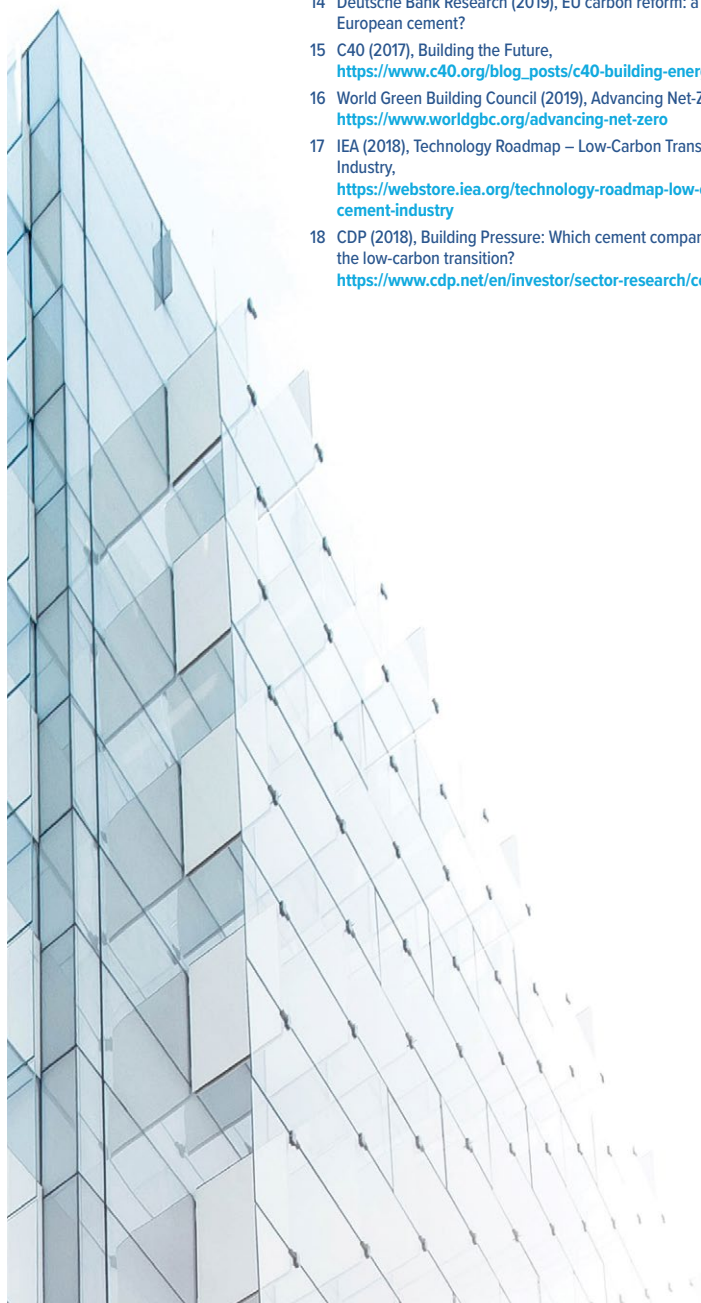
Companies in other sectors have demonstrated best practice by conducting a review into their membership of industry associations and taking action when there is a misalignment. This can range from clearly communicating any difference in policy positions, to ending their support and withdrawing from an industry association.

While there is no equivalent example to the Shell Industry Associations Review in the construction materials sector, some companies are starting to review their practices. For example, LafargeHolcim has published details of its advocacy position on the 2030 Plan sustainability strategy on its website⁴², and HeidelbergCement has committed to review its governance processes with respect to direct and indirect political lobbying in 2019⁴³.



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About IIGCC

The Institutional Investors Group on Climate Change (IIGCC) is the European membership body for investor collaboration on climate change and the voice of investors taking action for a prosperous, low-carbon future. IIGCC has more than 170 members, mainly pension funds and asset managers, across 13 countries, with over €23 trillion assets under management.

Our mission is to mobilise capital for the low carbon transition and to ensure resilience to the impacts of a changing climate by collaborating with business, policy makers and fellow investors. IIGCC works to support and help define the public policies, investment practices and corporate behaviours that address the long-term risks and opportunities associated with climate change. Members consider it a fiduciary duty to ensure stranded asset risk or other losses from climate change are minimised and that opportunities presented by the transition to a low carbon economy – such as renewable energy, new technologies and energy efficiency – are maximised.

For more information visit [@iigccnews](https://twitter.com/iigccnews) and www.iigcc.org

The logo for IIGCC, consisting of the letters 'IIGCC' in a bold, sans-serif font. The 'II' is white, and the 'GCC' is blue.

The Institutional Investors
Group on Climate Change