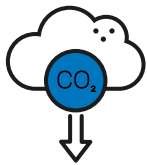


Net-zero: Cement

5-6% of human-caused greenhouse gas emissions come from the production of cement.¹

What does the **cement sector** need to do to reach net-zero?

LGIM will vote and implement investment sanctions against companies falling short of our climate expectations. LGIM expects companies' boards to oversee and publicly disclose answers to the following:



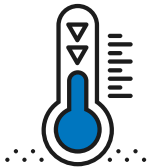
Net-zero commitment

- Does the company have a comprehensive target for net-zero by 2050 or earlier, covering scopes 1, 2 and material scope 3 emissions?
- Has the company made a commitment to certify/certified this target with the SBTi or other external independent parties?
- Does the company have a net-zero transition plan that includes short- and medium-term targets?³



Strategy

- What are the actions and investments involved in the company's plan to reach net-zero, and what is the contribution of each action towards meeting its targets?⁴
- How is the company developing a range of low emission products?
- Is executive remuneration aligned with the company's short- and/or medium-term emissions targets, as set out in the net-zero transition plan?
- Does the company's decarbonisation strategy address and incorporate the impact of the Just Transition?
- Does any use of offsetting consider the potential impacts and dependencies on biodiversity - for example, in relation to land use?



Resilience

- Has the company analysed its business model resilience to climate-related risks and opportunities using scenario analysis (including the IEA's net zero by 2050 scenario and a 'Business as usual' scenario) and disclosed how the output has influenced its strategy?
- Has the company analysed the physical climate risks to its assets, operations, and value chain, including potential financial impacts, and evidenced measures to mitigate or adapt to them?



Targets

- Does the company have targets to optimise its water usage?
- Does the company have targets to reduce its clinker-to-cement ratio?



Collaboration

- How is the company working collaboratively across its value chain to reduce emissions (e.g. with customers, finance sector, strategic R&D partnerships, sector initiatives etc)?
- Is the company advocating meaningful policy action, including from regulators, to meet global net-zero targets (e.g. with carbon pricing)?



Red lines

- Does the company have a net-zero operational emissions target?
- Does the company disclose its climate-related lobbying activities, including trade association memberships, and explain the action it will take if these are not aligned with a 1.5°C scenario?

1. UNEP (2019).

2. Aiming to cover all segments of the business, as articulated within the GHG protocol guidance.

3. Short-term refers to 2022 - 2025, medium-term 2026-2035 and long-term 2036-2050.

4. E.g., clinker alternatives, thermal energy efficiency measures, renewable electrification of cement kilns, green hydrogen, CCS/CCUS, etc.

Further areas for company consideration

Biodiversity expectations

Why? The climate and nature crises are inextricably linked.⁵ Net-zero requires both emission avoidance and sequestration. Functioning natural systems are essential to this, but increasingly vulnerable due to climate change.

LGIM's expectations: An assessment of the impacts and dependencies on nature and biodiversity, and appropriate mitigation actions.

Sector-specific considerations: A direct impact associated with quarrying activities, such as land clearance, pollution, alteration of hydro-geological systems, noise and vibrations from blasting.



Company levers

- Alternative building technologies (carbon-cured concrete, 3D printing)
- Clinker substitution and optimisation of clinker usage
- Energy efficiency
- Renewable energy and waste heat recovery
- Alternative fuels
- Carbon capture and storage
- Design improvements and alternative material



Challenges

Clinker production results in unavoidable CO2 emissions; limited substitutes

Costs of technological improvements and alternative materials

Costs of sustainable biofuels and zero-carbon electricity

Lack of scalable carbon capture



Opportunities

New business models as industry shifts from cement manufacture to sustainable construction solutions

Cost savings from fuel and energy efficiency

Government policies

- Carbon pricing
- Policies to reduce embodied carbon
- Product and design standards
- Increased recycling and materials efficiency
- Subsidy reform
- Biofuel regulation



What is needed?

Company leadership

Investment and R&D for net-zero across building life cycle

Research and innovation

Carbon capture and storage

Clinker alternatives

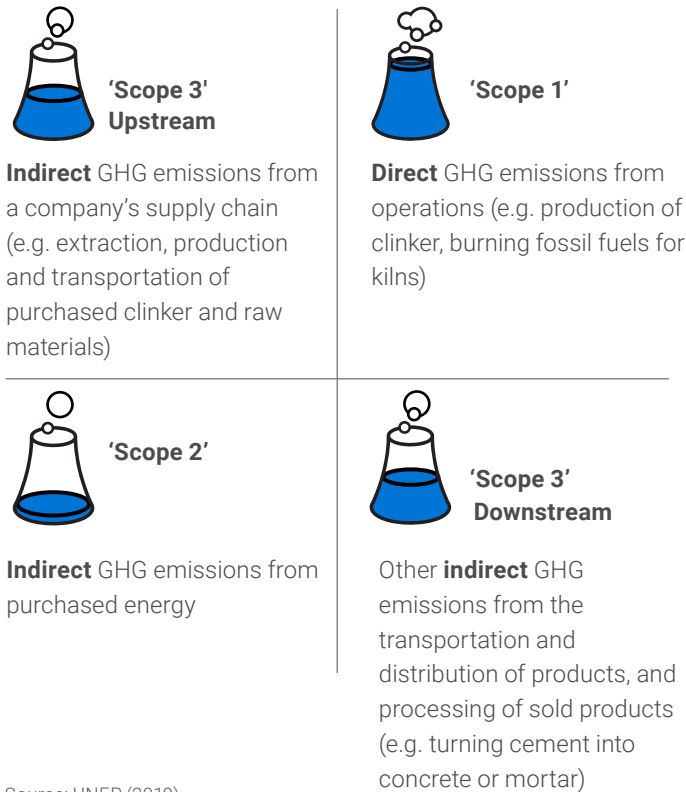
Electrification of cement kilns

Consumer behaviour

Developers and public sector customers setting targets for reducing embodied emissions

5. UN IPCC-IPEBS, [Biodiversity and Climate Change workshop report \(2021\)](#)

Sources of emissions



Source: UNEP (2019).

'Just Transition' considerations

Potential implications for employees, supply chain, customers, and communities from the transition to a lower-carbon business model.

Impacts of carbon costs on affordability of housing

Physical risk impacts

Disruption to production facilities and supply chains from extreme weather

Water scarcity



For more information and to see how companies are rated

[LGIM Climate Impact Pledge score](#)

[LGIM Climate Impact Pledge](#)

Important information

Source: LGIM as at September 2023. The value of an investment and any income taken from it is not guaranteed and can go down as well as up, you may not get back the amount you originally invested. The above information does not constitute a recommendation to buy or sell any security.