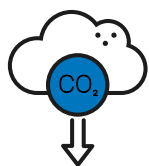


Net-zero: Aluminium

c.5% of global greenhouse gas emissions associated with materials production come from aluminium.¹

What does the **aluminium 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:



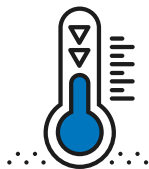
Net-zero commitment

- 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 embedded 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?



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 (e.g. water scarcity), including potential financial impacts, and evidenced measures to mitigate or adapt to them?



Targets

- Does the company have targets to increase renewable electricity uptake and, where relevant, phase out the use/sourcing of coal-fired power generation?
- Does the company have targets to increase recycling rates of aluminium scrap and improve circularity?



Collaboration

- How is the company working collaboratively across its value chain to reduce emissions (e.g. suppliers, customers, utilities sector, strategic R&D partnerships, sector initiatives)?
- Is the company advocating meaningful policy action, including from regulators, to meet global net-zero targets (e.g., 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., increase access to, and use of, renewable electricity; green hydrogen; CCUS (for both thermal energy and chemical process emissions); increase use of scrap; R&D of low-carbon primary production technologies such as inert anodes, electric boilers for low and mid-range heat processes, and mechanical vapour recompression; 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: Impacts could result from bauxite mining activities. Direct impacts from the manufacturing process include water use and the discharge of wastewater and other pollutants.



Company levers

- Growing consumer demand for low-carbon aluminium
- Circularity
- Renewable energy
- Alternative reductants in primary production
- Green hydrogen
- Carbon capture and storage

Government policies

- Carbon pricing and taxation (and border adjustments)
- Green aluminium frameworks and labels across the value chain
- Low-carbon public procurement
- Incentives for hydrogen infrastructure
- Increased recycling and support for circular design
- Jurisdictional renewable energy policies and incentives



Challenges

High cost of new technologies and infrastructure in a low-margin industry

Availability of low-cost renewable energy/ green hydrogen

Carbon capture and storage



Opportunities

Aluminium as a key enabler of emissions reductions (e.g. lightweight material for EVs, production of solar PV)

Increased partnerships across sectors

High recycling potential

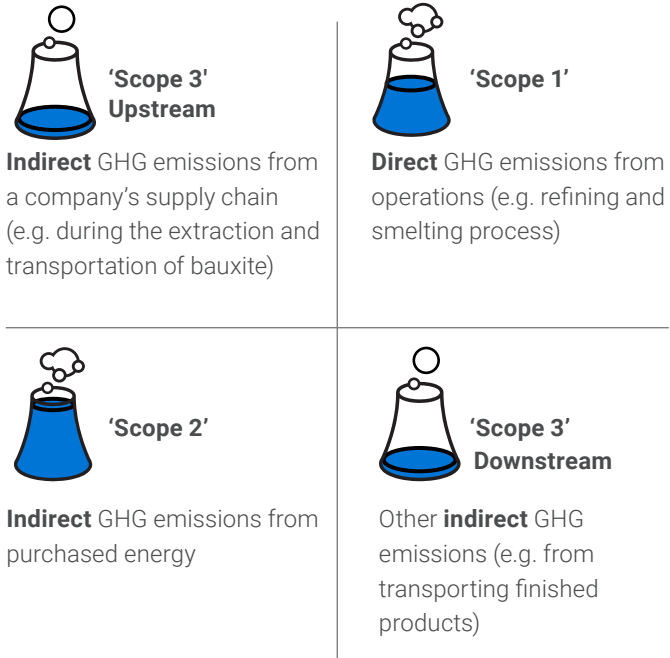


What is needed?

Company leadership	Research and innovation	Consumer behaviour
Reduce emissions from primary and recycled production through investment in new technologies and adopt measures to decarbonise the power supply and help integrate variable renewables into the electricity grid	Low-carbon primary production technologies such as inert anodes	Willingness to pay for low-carbon products
	Novel technologies for heat, steam and zero-carbon smelting	Increase scrap collection, sorting and recycling

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

Sources of emissions



'Just Transition' considerations

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

Physical risk impacts

Disruption to production facilities from extreme weather
Water availability

Source: WEF (2020)- Aluminium for Climate.



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 August 2022. 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.