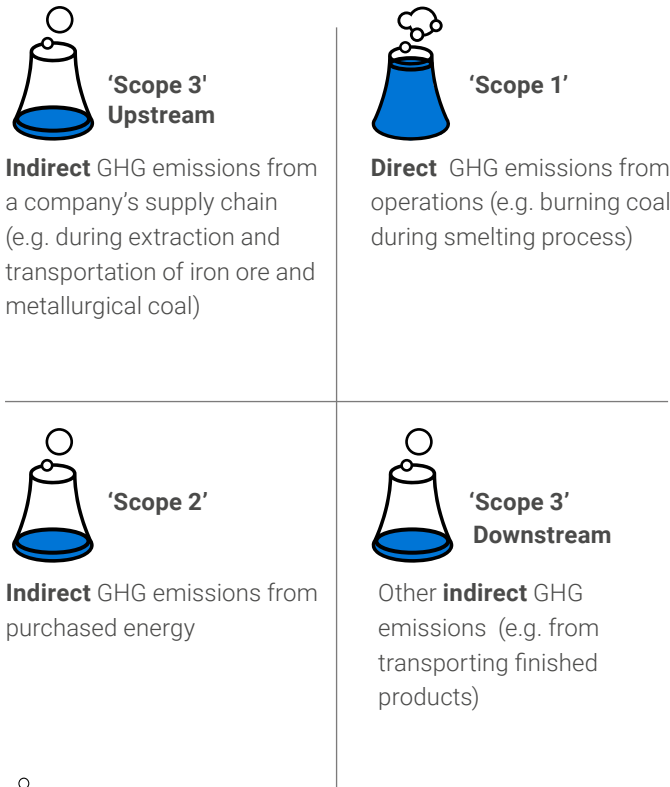


Net zero: steel

To prevent dangerous climate change, greenhouse gas emissions must reach net zero. What does the **steel sector** need to do?

7% of human-caused GHG emissions come from the production of iron and steel

Sources of emissions

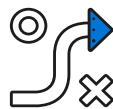


 Source: UNEP (2019)



Challenges

- 'Carbon leakage' and competitiveness
- High costs of new technologies and infrastructure in low-margin industry
- Availability of low-cost renewable energy/ biomass reductants/ green hydrogen



Opportunities

- Significant anticipated growth in steel demand
- Steel as key enabler of emissions reductions (e.g. lightweighting, production of wind turbines); increased partnerships across sectors
- High recycling potential

Companies

Governments

Key levers	Key policies
Growing consumer demand for low-carbon steel	Carbon pricing (and border adjustments)
Energy efficiency	Green steel minimum standards and labels across the value chain
Alternative reductants in primary production	Low-carbon public procurement
Increased secondary production and improved demand management	Incentives for hydrogen infrastructure
Carbon capture and storage	Increased recycling and support for circular design



Other environmental considerations

- Pollution
- Water usage

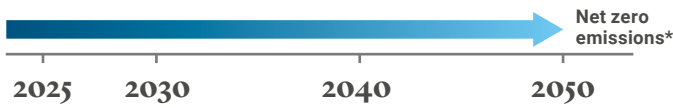
Social impacts and the just transition

Industry is source of employment and key contributor to provision of basic necessities (e.g. shelter)

Physical risk impacts

- Disruption to production facilities from extreme weather
- Water availability

Decarbonisation effort



Easier to achieve

- Energy efficiency
- More effective scrap collection and sorting
- Renewable energy for electric arc furnaces
- Gas-based direct reduced iron

Possible with effort

- Carbon capture and storage
- Green-hydrogen-based iron reduction

What is needed?



Company leadership

Investment and R&D for net zero across value chain



Research and innovation

Electrolysis: low-temperature ('electrowinning') and high-temperature (using molten oxides)



Consumer behaviour

Willingness to pay for low-carbon products

LGIM will vote and implement investment sanctions against companies falling short of our climate expectations.

*To be followed by reducing emissions of other GHGs such as methane to net zero

How are we assessing companies' net zero pathways?

Net-zero Commitment	<ul style="list-style-type: none"> Does the company support the Paris Agreement target? Does the company have a net-zero by 2050 target?
Strategy	<ul style="list-style-type: none"> How much capital is being committed to decarbonisation efforts? What percentage of R&D is allocated to low-carbon technologies?
Resilience	<ul style="list-style-type: none"> Is the company analysing the physical climate risks to its portfolio and evidencing measures to manage these? Resilience of business model in – and alignment to – climate scenarios?
Targets	<ul style="list-style-type: none"> Does the company have a target to grow revenue from "green" steel?
Collaboration	<ul style="list-style-type: none"> Evidence of the company working collaboratively across its value chain to reduce emissions? Is there evidence of the company advocating for meaningful policy action?
Red lines	<ul style="list-style-type: none"> Operational emissions target

For more information...

Please see: <https://www.lgimblog.com/categories/esg-and-long-term-themes/climate-impact-pledge>

Important information

Source: LGIM as at September 2020. 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

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