

April 2024

Investor handbook: Engaging with the steel sector



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9 April 2024

Contents	
Introduction	3
1. Technology pathways	4
2. Capital allocation	10
3. Emissions disclosure and targets	11
4. Governance	15
Disclaimer	18

About ACCR

The Australasian Centre for Corporate Responsibility (ACCR) is a not-for-profit,

philanthropically-funded shareholder advocacy and research organisation that engages with listed companies and investors globally, enabling and facilitating active stewardship. Our research team undertakes company-focused research into the climate transition plans of listed companies, offering analysis, research and insights to assist global institutional capital understand investment risks and opportunities during the energy transition. For more information, follow ACCR on LinkedIn.



Introduction

This document is a resource for investors engaging with iron ore miners and steelmaking companies, developed alongside ACCR's report, "Forging pathways: Insights for the green steel transformation". It provides information to guide and support investor engagement with companies across four key areas:

- technology pathways
- capital allocation
- emissions disclosure and targets
- governance.

Each section outlines relevant questions for investors to ask during company engagements, and the best practice responses they should be looking for. It provides a list of common company responses, with supporting evidence and follow-up questions.

This handbook should be used in conjunction with the "Forging pathways" report, which includes a comprehensive summary of iron and steelmaking decarbonisation pathways and their potential; major global trends across the value chain; overview of relevant policies; and concrete recommendations for companies, investors and policymakers.

To provide a sense of broader investor sentiment we've also included highlights of a survey of 500 global investors, commissioned by ACCR. The survey asked respondents with investments in steelmaking, iron ore and/or metallurgical mining, a series of questions relating to the decarbonisation of the steel sector and its value chain. The results provide valuable insights into investor expectations for the sector.

Investors will play a major role in ensuring a decarbonised steel sector is a reality by 2050. This handbook aims to support investors in company engagement, a key tool to drive value and enable emissions reductions in the sector.



1. Technology pathways

How do you define green steel?

Best practice:

- Company's green steel definition does not include any fossil fuel-based production methods.
- Definition refers to emissions intensity, ideally either the <u>IEA's Near Zero</u> definition or <u>SBTi's</u> <u>scrap-input-dependent pathway</u>.
- Definition does not include mass balance or carbon accounting methods, including offsets.

Investor sentiment: 81% investors* believe that green steel is produced without fossil fuels (e.g. without metallurgical coal), using renewables and green hydrogen instead.

Common company responses	Evidence investors can use in company engagements	Follow-up questions investors can ask companies
There is no singular approved green steel definition; Definition still includes fossil fuel-based production	There is no standard definition, which is why it is important to ask companies exactly <i>how</i> they define it. This gives investors more information to assess the level of emissions reduction associated with the 'green' labelled product.	How does this response align with the COP28 global agreement, including [relevant country]'s transition away from fossil fuels? How have you assessed any potential greenwashing risk associated with this definition? How have you assessed that the fossil-based technologies you are relying on (Course50/CCS, etc.) will enable you to reach net zero by 2050, and can therefore legitimately be titled 'green'?



Definition of green steel includes mass balance/carbon accounting approach	Mass balance is an incremental and less impactful solution which should be employed only in transition towards fossil-free steel, with clear disclosures attached. If the mass balance approach is to be used, it should be employed transitionally only, with revenues generated from green premiums clearly and transparently reinvested in decarbonisation solutions that are proven to reduce emissions at the necessary scale.	Is the revenue from this product allocated towards decarbonisation investments? Wholly or partially? What baseline is used to calculate the emissions reduction? Does the company use a third party to verify emissions reductions allocated to this product? Which one? This information should be disclosed to the market.

What technologies will you be using to reach net zero by 2050? What proportion of emissions reduction do you expect each technology to contribute?

Best practice:

• Each company should have a clear transition pathway from high-emissions iron and/or steelmaking to technologies with green and low-emissions potential. A high level plan should detail the estimated contribution of each technology to emissions reduction, and specify the likely associated timeline with development and operation of each technology.

Common company responses	Evidence investors can use in company engagements	Follow up questions investors can ask companies
It is too expensive to transition to lower emission technologies/the capital expenditure required is unfeasible.	 <u>Bloomberg New Energy Finance</u> indicates by 2050, green steel will cost 5% less than fossil fuel-based steel production, due to: Opex lowering through cheaper renewable power costs Capex benefiting from economies of scale Development costs falling due to increased expertise. 	What scenario analysis and assumptions have you used to determine cost barriers? Can you disclose these analyses and assumptions? What are the key financial barriers you have determined?



	Fairfield Market Research expects the market size for green steel to increase, projecting a CAGR of over 122% from 2023-2030.	
Customers aren't willing to pay a premium for green steel.	 Customers are addressing their Scope 3 emissions in steel and paying more for green steel: Customers of H2 Green Steel have agreed to pay 20-30% premiums for steel. SSAB <u>estimates</u> the premium on steels with almost zero emissions will be around EUR 300/tonne by 2026, in line with the EU's Carbon Border Adjustment Mechanism (CBAM). Japan's JFE Steel Corporation currently charges a 40% premium on its mass balance approach, which allocates emissions reductions to its specific steel product, "JGreeX". 	What engagement have you undertaken with your customers on green steel? What evidence are you using to provide insights into forward demand for green steel?
Blast furnace optimisation (e.g. hydrogen and plastic injection) is a predominant strategy.	Technologies such as COURSE50 and Super COURSE50 primarily depend on CCS to reduce emissions. These approaches continue to rely on coal and have only demonstrated <u>33% emissions</u> <u>reductions</u> , casting doubt on their potential for significant decarbonisation.	How have you assessed the risks, including cost risks, associated with dependence on CCS in these technologies?
The policy environment does not enable a transition to low-emission technologies.	 Global policy environments, through substantial incentives, carbon pricing, and international collaborations and commitments - including COP28 and IDDI - are not only enabling, but actively encouraging the transition. While work is still required to tighten these global policies, there has been significant progress: Global Shift to Green Steel: the EU's Carbon Border Adjustment Mechanism (CBAM) and the USA's Inflation Reduction Act (IRA) 	What policy conditions do you think are required? What policy engagement/lobbying activities are you undertaking to address this gap? How could investors better support this?



	 provide substantial incentives for the green steel transition. Emissions trading schemes: China and Korea have ETS systems, marking important steps towards emissions reductions. However, Korea's system requires strengthening to reduce the excess free permits granted under the scheme. Meanwhile, China plans to include steel in its ETS within 2 years, emphasising the need for both countries to enhance their systems promptly for more effective emissions control in the steel sector. Renewable Energy and Hydrogen Support: Countries in Asia (particularly China), the Middle East and Oceania are at the forefront of investing and increasing capacity for renewable energy and green hydrogen, crucial for powering green steelmaking processes, demonstrating the growing global subsidies for clean energy sources essential for the steel industry's transition. COP28 and IDDI Commitments: The global agreement at <u>COP28 to phase out fossil fuels</u>, coupled with the <u>Industrial Deep</u> <u>Decarbonisation Initiative</u>'s (IDDI) commitment to low-carbon industrial materials, underlines a worldwide pledge to embrace sustainable industrial practices, including in the steel sector. 	See guidance on policy engagement for more on this topic.
There are better options to optimise returns for the company and its shareholders.	Modelling by <u>Bloomberg New Energy</u> <u>Finance</u> suggests that by 2050, green hydrogen-based direct reduction paired with electric arc furnaces (H2DRI-EAF) and molten oxide electrolysis (MOE)- both zero-carbon processes - will be more cost-effective than coal or gas-based steel	How is the company aligning its investment strategy with the projected cost competitiveness of green steel technologies?



that in 2050, the use of traditional blast furnaces, combined with CCUS and offsets, will be the most expensive net-zero option.	How does the company plan to address both the financial and environmental implications of persisting with traditional, high-emission steel production methods, including addressing emissions within the supply chain such as fugitive emissions from coal mining?
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Investor sentiment: Of 500 investors, 260 agreed that risk of stranded assets was a key motivation for engaging with steel and iron ore companies.

Category	Description	Technology Examples
Green potential	Steel production methods that have the potential to eliminate the use of fossil fuels entirely	 Renewable-powered EAF Green hydrogen-based DRI Electrolysis
Low carbon potential	Processes that significantly reduce emissions but may still utilise fossil fuels or emit carbon to some extent	 Gas-based DRI Hydrogen injection in BFs Biomass use
Limited potential	Technology solutions that offer minimal decarbonisation capabilities on their own	 Mass balance CCS/CCUS Offsetting

Source: ACCR, Forging pathways report, 2024. See <u>page 12</u> of the report for more detail.

What is the reliance on CCS/CCUS in your strategy? How can you assure investors that you will continue to provide shareholder returns with the use of CCS/CCUS, which is currently unproven at scale?

Best practice:

• In instances where CCUS technology is being trialled, full performance data should be disclosed, including actual versus intended capture rates, and their proportion relative to total plant emissions.



Common company responses	Evidence investors can use in company engagements	Follow up questions investors can ask companies
Cost-effective to maintain existing blast furnace infrastructure; will need a 'mix' of technologies.	 CCS/CCUS technology has yet to be proven at scale, with renewable-based processes now presenting a more cost-effective option. The financial and logistical challenges of CCUS, including approvals, carbon transportation, and long-term storage and monitoring, are expected to be considerable and complex. Investors may also wish to review the actual storage potential in the company's country/region. Research conducted by Agora Industry (see p. 33) in 2023 indicates CCS technology development is not progressing as rapidly as other coal-free technologies, with barely any CCS projects in the 2030 pipeline of low-carbon steelmaking announcements. BF-BOF that is retrofitted with CCS poses a number of risks, since it cannot capture 100% of emissions and does not address upstream methane emissions from coal mining. As of mid-2023, there was only one CCS project operating in iron and steel production globally, the Al Revadah CCS project in the United Arab Emirates. An analysis by ARIA on this project has found that it could capture only 13.6% of the CO₂ emitted by the steel mill it serves. 	How are these material risks recognised on the risk register? What is the Board's view on the risk appetite pertaining to this risk? What are the mitigation actions in place to reduce this risk to an acceptable level? Have you considered other options over the medium to long-term that could be more cost effective for emissions reductions?

Investor sentiment: The majority of investors* agree that the harm to their institution's reputation from investing in metallurgical coal outweighs the financial benefits.



2. Capital allocation

Can you provide more transparency on the company's capex allocation for its transition pathway?

Best practice:

Clear costed transition plan for forward 3-5 years, to include:

- Total capex per year of implementation of the transition plan
- Approximate proportion of capex being allocated to each technology as set out in the transition pathway, with an associated projected abatement value
- Further capex disclosure by country and asset, as relevant
- Details on how the company expects to fund the transition plan, including approximate proportion from reserves, debt, equity and/or government grants/subsidies.

Common company responses	Evidence investors can use in company engagements	Follow up questions investors can ask companies
The information is commercially sensitive. The company is unable to provide the capital expenditure pathway.	Shareholders rely on company disclosure of strategic capital investments to assess company value and inform decision-making. The company should be able to provide this information for shareholders without the risk of compromising commercial value.	Can you indicate when detailed disclosure of this plan will be available to shareholders?

Investor sentiment: Nearly all (98%) investors* see metallurgical coal as a risky investment by 2040, with half receiving strong signals from their customers to divest.

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3. Emissions disclosure and targets

Have you set Paris-aligned short, medium and long-term targets for Scopes 1, 2 and 3?

Best practice:

Paris-aligned short, medium and long-term targets for Scopes 1, 2 and 3 that are:

- Emission-intensity based
- Adjusted for scrap input, or split by primary and secondary steelmaking
- Comprehensive, including overseas assets and/or joint ventures
- Aligned and verified with a rigorous and holistic framework such as SBTi.

Common company responses	Evidence investors can use in company engagements	Follow up questions investors can ask companies
The company's targets are aligned with the national government targets, therefore indirectly aligned with Paris.	The company needs to set its own targets that are aligned with the Paris agreement to ensure it does not exceed the carbon budget associated with this scenario. A carbon budget refers to the cumulative amount of CO ₂ emissions that can be released into the atmosphere while keeping global temperature rise below a certain threshold, such as the 1.5°C target as set by the Paris Agreement. The company has an allocated portion of the carbon budget, determined by its country and sector, which is different to that allocated to the government. This is why setting specific company targets is important.	Can you demonstrate how your targets sit against a Paris-aligned steel sector pathway? What support or incentives would you need to close the gap and align your targets with Paris?
The company has not set short-term targets, or has instead set short-term peak emission targets.	Many companies in the steel industry have not set short-term targets, deferring action until after 2030. The continued use and investment in high-emissions processes in the short term poses a risk of carbon lock-in.	What steps are being taken to establish and meet near-term emissions reduction targets? How is the company planning to mitigate the risks associated with



		delayed near-term action?
	Peak emissions targets allow companies to increase emissions until peak year, leading to higher cumulative emissions and delaying reduction efforts.	Can the company clarify its rationale for setting a peak emissions target rather than immediate reduction targets?
		How does the company plan to manage the risk of increased cumulative emissions prior to reaching its peak emission target?
		What specific strategies are in place to accelerate emissions reduction efforts post-peak to ensure alignment with global climate goals?
The company does not use an appropriate base year for targets (e.g. in the selected base year the company produced unusually high emissions).	It is important to use a base year representative of the company's normal emissions, that is recent, in order to allow investors to accurately assess emissions reduction targets and progress in emissions reduction. This can be a single year or a mean across several years.	How was the base year for your emissions reduction targets chosen, and does it accurately reflect the company's typical emissions levels? How does the selection of base year align with best practices for setting and reporting on emissions reduction targets?
The company has not or will not set carbon intensity targets.	Absolute emissions targets are useful to provide a comprehensive, long-term view on emissions reduction, and to easily track a company's progress with annually reported emissions disclosures.	How will the company ensure its transition towards net zero is not solely dependent on reducing production?
	However, carbon intensity targets are also crucial for investors to assess whether decreasing emissions are from the adoption of green steel technologies resulting in lower emission products, or from falling production/closure of an asset. Simply lowering production or closing assets does not necessarily contribute to the transition	How does the company plan to set and report on carbon intensity targets, in a way which will distinguish genuine emissions reductions from reduced production,



	of the company towards net zero in the long-term. In the steel sector, intensity targets are also important as they offer different emissions reduction pathways for primary and secondary steelmaking, accounting for the varying levels of emissions inherent in these different production methods.	divestment or asset closure?
The company does not have targets/transition plans for its overseas assets or joint ventures, or if they do, they are less ambitious than those set for domestic operations.	The company is responsible for the emissions associated with its overseas assets and/or joint ventures, and the risks associated. The company subsequently needs to demonstrate how it is managing these risks to shareholders, and set clear Paris-aligned targets. See <u>guidance on technology pathways</u> for best practice and supporting notes for investors on company transition plans.	How will your overseas activities allow you to meet your net zero targets? How are you advocating for decarbonisation in line with the Paris agreement to other stakeholders involved (if relevant)? How effective is this advocacy?

Are your targets adjusted for scrap input or split by primary and secondary steelmaking? Are the targets aligned with a framework, e.g. SBTi?

Best practice:

- The targets should reference scrap input, either by setting a target based on the overall % of scrap input, or by setting separate targets for primary and secondary steelmaking.
- The company should report its emissions by steelmaking method, even if this is provided as an approximate proportion or percentage.
- The targets are aligned with the SBTi's scrap-input-dependent pathway or the IEA Net Zero pathways.



Common company responses	Evidence investors can use in company engagements	Follow up questions investors can ask companies
Company targets are based on a combined steelmaking pathway (not scrap-dependent as recommended by the IEA and SBTi).	Ore-based steelmaking is a very different process to scrap-based steelmaking, with a very different emissions profile. It is important to ensure that both types of steelmaking are decarbonising, prioritising ore-based steelmaking as the biggest contributor to steel sector emissions, while also promoting increased circularity to support lower emission scrap-based steelmaking. For clearer accountability, companies should set distinct carbon intensity targets for primary and secondary steelmaking (or using <u>SBTi's target setting tool</u>), reflecting the significant carbon intensity differences between these processes. General targets obscure alignment with the SBTi's Primary or Secondary pathways, potentially favouring secondary producers with lower carbon intensities.	How (and when) will the company set distinct carbon intensity targets for primary and secondary steelmaking processes? What strategies are in place to enhance circularity and reduce emissions in scrap-based steelmaking?
The company does not provide emissions reporting by steelmaking method.	The company should report its emissions as divided by steelmaking method, in order for investors to assess its current level of scrap-based steelmaking and identify what the company should strategically prioritise in its decarbonisation pathway. This type of emissions reporting is also important, so that investors can assess how progress against emissions reduction is being achieved (e.g. through higher volumes produced through secondary steelmaking, or by decarbonisation of primary processes).	How does the company plan to implement emissions reporting by steelmaking method to enable clearer investor assessment?



4. Governance

What policies do you think are needed in the countries or regions in which you operate to support the transition of your company?

Best practice:

The company should have clear and publicly available policy positions that cover all regions in which it operates, addressing key areas of strategic importance for the steel sector, including:

- Renewable energy and green hydrogen production
- Carbon markets and border adjustment mechanisms
- Financial incentives for green technologies
- Regional considerations (as relevant)
 - European and US steelmakers should be focused on increasing circularity for scrap-based production and collaborating/sharing technologies with Asia
 - Asian steelmakers and Australian iron ore miners should focus on securing access to renewables and high-quality green iron.

Investor sentiment: 59% of investors* believe robust climate policies are key to speeding up the shift to green steel, with half also pushing for government incentives to foster renewable energy development.

Common company responses	Evidence investors can use in company engagements	Follow up questions investors can ask companies
Renewable energy and green hydrogen is too expensive/not available in this region.	The levelised cost of renewable electricity (LCOE) has substantially reduced over the past decade. In 2022, the International Renewable Energy Agency (IRENA) reported that the global weighted average LCOE for solar is 29% cheaper than the cheapest fossil fuel-fired solution. Likewise, the global weighted average LCOE for offshore wind was 52% lower than the cheapest fossil fuel-fired solutions. Steelmakers facing limited access to	Have you spoken with iron ore producing stakeholders to discuss future options for importing green iron? Will local renewable energy availability grow in the region to enable electric arc furnaces to operate?



	renewable energy in their region may explore importing high-quality green iron from areas with abundant access to renewable energy, green hydrogen and raw materials.	
Low-emissions	Carbon pricing/border adjustment	Have you signalled to
technologies are not	mechanisms (most prominently, the EU's	governments the policy
yet cost-effective	CBAM) are already in place or are set to	support needed to boost
enough to introduce	launch. 'Green premiums' are set to rise.	the use of low emissions
carbon pricing/border	Advocating for equivalent mechanisms and	technology and
adjustment	policy support for low-emissions	renewable energy?
mechanisms, or	technologies can help maintain	What carbon mechanisms
penalties on fossil-fuel	competitiveness as these policy shifts arrive	do you think will help
based production.	in the coming years.	drive green premiums?

What policy engagement are you undertaking?

Best practice:

The company should have clear and publicly available policy positions that cover all regions in which it operates, addressing key areas of strategic importance for the steel sector, including:

- Global policy positions
- Commitments to align lobbying with its decarbonisation strategy and the Paris Agreement
- The review of direct and indirect lobbying alignment on (at least) an annual basis, with actions to address misalignment and to enhance the impact of its advocacy on a clear timeline.

Common company responses	Evidence investors can use in company engagements	Follow up questions investors can ask companies
The company has 'engaged' in a policy process but cannot provide further detail.	Transparency on policy engagement is key for investors to understand exactly how the company views decarbonisation, both at a systematic level but also on specific issues. Companies should provide detail on:	What internal systems do you have in place for monitoring and reviewing your advocacy engagements to ensure good governance?



	 What objectives they were seeking during policy engagement What points of difference the company has What the outcome was or is expected to be What actions the company is undertaking as a result Supporting guidance includes the <u>Global</u> Standard on Responsible Climate Lobbying (an investor-backed initiative), the <u>Climate</u> Action 100+ Benchmark (especially alignment scores from InfluenceMap) and InfluenceMap ratings and analysis. 	Does the board have oversight of advocacy engagements?
The company publishes a review of lobbying but provides little insight into misalignments or actions to address these.	 Reporting on lobbying is only credible if it is based on a robust and transparent methodology. This needs to include criteria for evaluating alignment between a company's Paris-aligned policy positions and the advocacy it pursues (directly or through industry associations). There also needs to be a clear process for addressing misalignments with: a. specific actions, and b. within defined timeframes. 	What specific policy and scientific criteria do you use to assess the alignment of your lobbying? Can you demonstrate what actions you have taken to enhance your direct advocacy positions and influence industry associations to be Paris-aligned?

Investor sentiment: 59% of investors* agree that effective climate policies are likely to positively impact their investment portfolio.



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