

MAR
2026



SteelWatch Corporate Scorecard 2026

The transition readiness gap



STEELWATCH

Bringing climate urgency to steel

Acknowledgements

The SteelWatch Corporate Scorecard was developed and delivered by the SteelWatch team. The process has drawn inputs from the wisdom of many. We extend special thanks to the members of the Technical Advisory Group, a number of partners who provided insight, advice and external review along the way, and Chris Wright for leading the drafting of this report.

Design and production provided by Matt Beer, Bruno St- Jacques and Foteini Spagopoulou from [Designers For Climate Studios](#)

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Citation: SteelWatch, 2026; SteelWatch Corporate Scorecard 2026: the transition readiness gap.

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*Workers in heavy industry
David Tadevosian*

Executive Summary

The SteelWatch Corporate Scorecard

Iron and steelmaking remains one of the most emissions-intensive sectors globally, accounting for around a tenth of global carbon emissions. In an industry shaped by long-lived assets and capital-intensive production, decisions taken or delays made by major steel companies will play a critical role in shaping global climate outcomes.

This report presents the first SteelWatch Corporate Scorecard, assessing the climate performance and transition readiness towards decarbonisation of 18 major steel companies with production sites spread across 29 countries, and headquartered in 11 of them.

The companies assessed include ones headquartered in Europe, Asia and North America, representing a mix of nationally anchored producers and increasingly internationalised companies. All currently operate virgin ironmaking processes, with 175 coal-based blast furnaces in operation in total (as of end of fiscal year 2024), so are responsible for substantial emissions and critical future decisions for the climate.

This year's report has a clear verdict: none of the 18 companies assessed is currently ready for the transition ahead.

A yawning transition readiness gap

The Scorecard is an assessment of delivery today, commitment going forward and the direction of progress already achieved, but should fundamentally be seen as a wake up call about how wide the transition gap is for so many steelmakers.

The central finding of this inaugural Scorecard is that none of the 18 companies assessed is currently "transition ready," though two are emerging from the pack. No company scored above 50 out of a possible 100 points, underscoring the scale of the transition readiness gap facing even the higher performing firms. This is not a ranking of success, but an assessment of how far major steel companies remain from being institutionally and operationally ready for coal-free steel production.

The scores are calculated based on publicly available information, mainly from companies' own reports, up to financial year 2024. Total scores are derived from performance across 21 indicators grouped into five categories: Phasing out coal, Scaling green, Climate performance, Targets and transparency and Social and environmental responsibility. The indicators in these categories have been carefully selected to assess each company's tangible progress in aligning its business model and shifting its operations toward "transition ready" for the net-zero future. The scores represent a structured, comparative judgement rather than a precise or predictive measure.

The "transition readiness gap" captures the difference between what is needed for a credible near-zero-emissions transition and what companies are actually doing. Even when companies set targets, join initiatives or pilot low-emissions technologies, they often remain poorly prepared due to ongoing reliance on coal-based assets and limited transparency.

Within these low absolute scores, relative differences still matter. SSAB is breaking away from the pack, with thyssenkrupp second, as both have begun to assemble the strategic and institutional foundations required for a transition out of coal-based steelmaking. Both have further to go but demonstrate how strategic alignment and decisive commitments can improve transition readiness, while others stall.

The central finding of this inaugural Scorecard is that none of the 18 companies assessed is currently "transition ready", though two are emerging from the pack. No company scored above 50 out of a possible 100 points, underscoring the scale of the transition readiness gap facing even the higher performing firms

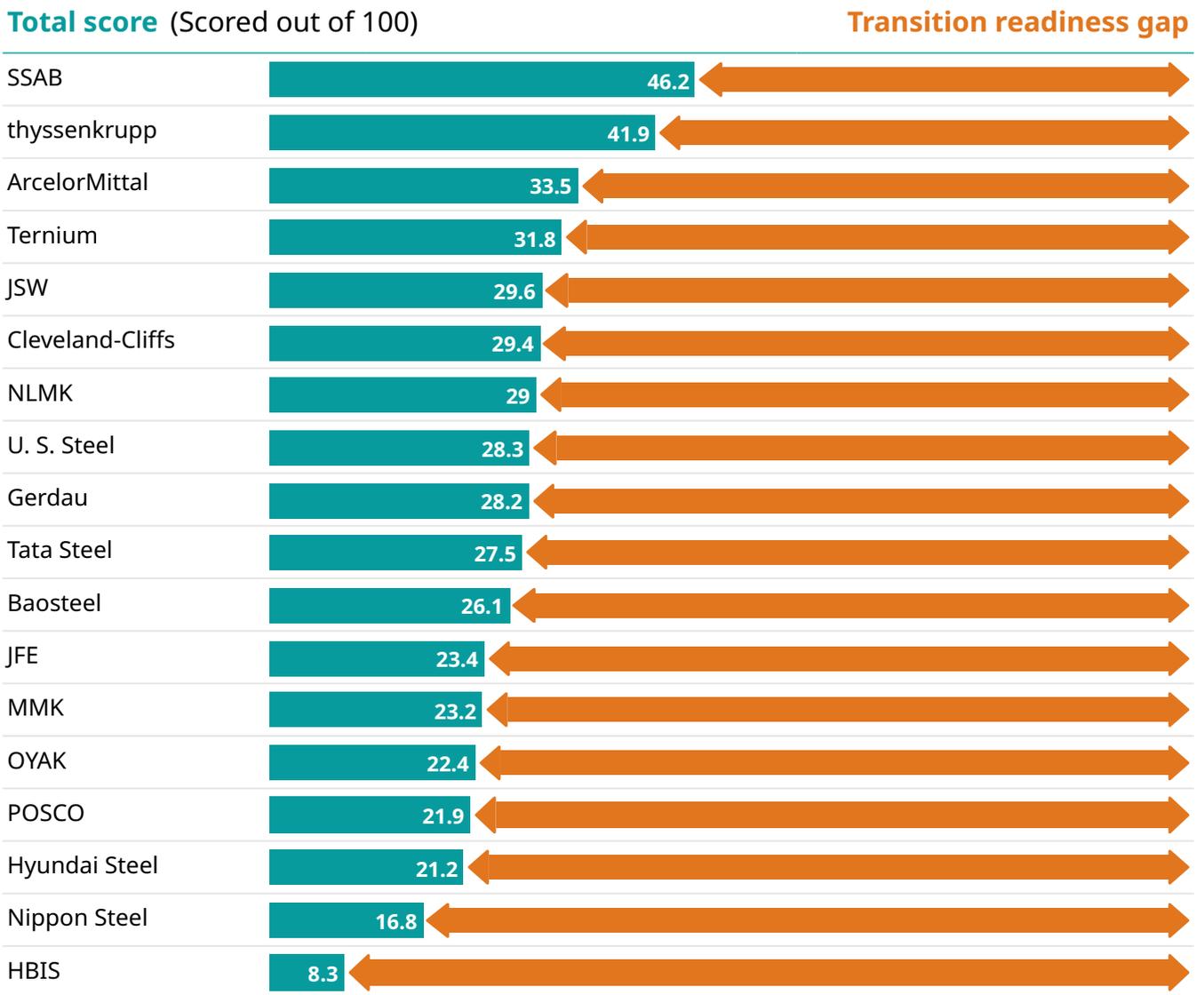


Figure 1: Company scores and the transition readiness gap

However, the vast majority of the steel companies assessed cluster together in a tight, underperforming pack, or ‘peloton’ in competitive cycling jargon. This larger group includes companies such as Baosteel, JSW Steel, Tata Steel and U. S. Steel. While they have climate plans and show improvements on several social and environmental performance indicators, their long-term decarbonisation targets are undermined by continued coal dependence, and a lack of clear, strategic transition plans with near-term actions.

At the back of the peloton, companies such as HBIS, Hyundai Steel, Nippon Steel and POSCO show limited evidence of forward momentum cleaning up their core operations. All remain structurally committed to coal-based production. Across multiple categories of the Scorecard, these companies currently signal little indication that they are substantively engaging with the operational, strategic or disclosure requirements of a deep or urgent transition.

While all four have announced investments in new low-emissions steel production facilities internationally, these initiatives currently sit alongside the continuation of coal-based production in their core operations, highlighting a persistent gap between stated intent and transition readiness.

Hyundai Steel, HBIS, Nippon Steel and POSCO show limited evidence of forward momentum cleaning up their core operations. All remain structurally committed to coal-based production

Coal dependence an Achilles heel

Across the Scorecard, coal dependence emerges as the most persistent drag on transition readiness. For some companies, coal exposure has traditionally been driven by a consequence of legacy assets and national contexts. For others, it is being actively prolonged through new capacity additions, relinings, or lifetime extensions of blast furnaces. Companies that cannot demonstrate a declining trend in coal consumption consistently score lower on readiness.

Coal exposure alone, however, does not determine outcomes. What differentiates higher performing companies is whether coal dependence is being actively addressed through time-bound plans to retire blast furnace capacity, aligned investment decisions and clear communication of transition pathways. Where coal reliance is acknowledged but not strategically addressed, the transition readiness gap widens.

Green iron uptake and renewable energy required

Increasing green iron¹ and renewable energy uptake are critical actions companies can take to close the transition readiness gap. As ironmaking is the most emissions-intensive step in steel production, early movement in this area is one of the clearest indicators of whether companies are preparing for a net-zero future.

Unfortunately, almost all companies score zero or close to zero, making it the worst performing category in the Scorecard. None of the companies assessed currently consume green iron at scale. While a handful of companies, such as AccelorMittal, SSAB, Ternium and thyssenkrupp have begun to produce or develop their capacity to expand near-zero-emissions-capable iron, they do not yet constitute a significant share of overall ironmaking capacity. None yet procure transportable green iron. This is reflective of the limited deployment of large-scale green iron globally. It exposes one of the most significant gaps in transition readiness.

Climate performance - ambition matters

On current climate performance, the companies' scores are relatively clustered, with most showing recent declines in emissions intensity. Absolute greenhouse gas intensity, however, remains high across the sector.

Differentiation is greater in relation to the ambition and verification of climate targets. Within this context, SSAB and thyssenkrupp score highest, with Tata Steel third, while Ternium and the two Russian companies, MMK and NLMK are at the back lacking any 2050 net-zero target.

Transparency, safety and environment as key enablers

Transparency and disclosure function as critical enabling conditions for transition readiness, as the lack of them constrains the ability of stakeholders to assess credibility and progress. Ternium and Gerdau perform relatively well on disclosure, while companies such as thyssenkrupp and HBIS score well below the Scorecard average due to limited data availability or consistency.

The ability to manage social impacts and local environmental performance is critical to a company's ability to deliver an equitable and resilient transition. The Scorecard's assessment is based largely on recent trends and current performance. Recent sustained improvements in workforce safety and local environmental performance strengthen the credibility and durability of transition strategies, particularly in jurisdictions facing heightened social and political scrutiny. In this category, JSW Steel and Tata Steel score relatively well, while companies such as Hyundai Steel and POSCO score lower, reinforcing their broader transition readiness challenges.

¹ SteelWatch defines green iron as iron production with a maximum greenhouse gas (GHG) emissions level of 350 kgCO₂e per tonne, following [the proposal](#) by the Rocky Mountain Institute (RMI). This includes green iron consumed but not produced by a company.

What this means for companies and their leadership

For steel companies, improving transition readiness requires moving beyond high level ambitions. It requires a move toward time-bound plans to reduce coal dependence and scale up low-emissions iron and steel production. Plans will need to include clear commitments on blast furnace retirements, green iron use, renewable energy uptake and alignment of business strategies.

For leaders of these companies, the Scorecard is a warning that preserving the patterns of the past is a mindset that leads to delay and damage, whereas confronting the climate crisis with the elements of structural decarbonisation assessed here, is an opportunity to build future-fit companies.

For policymakers, investors and steel buyers, the Scorecard clarifies the distinction between companies that are nominally engaged with the transition, and those that are institutionally preparing to navigate it.

From pledges to action

Closing the transition readiness gap will not be achieved through pledges alone. Long-term goals like Net Zero by 2050 require near-term actions that lay the groundwork for structural transition. These actions cannot be delayed, as steelmaking assets are long-lived and capital-intensive, and therefore the associated operational and investment decisions shape emissions trajectories for decades.

Reducing CO₂ emissions sooner is more impactful than cutting them later- when achieving the same result requires far more significant reductions. The central question for the companies assessed is whether they can move beyond entrenched coal dependence, and start meaningfully transitioning towards low-emissions steel production this decade.

The SteelWatch Corporate Scorecard supports this shift by making corporate transition readiness visible, comparable and contestable.



*Hybrit joint venture between SSAB, LKAB, and Vattenfall.
Toko Tomita / SteelWatch*

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Glossary

BF-BOF	A blast furnace (BF) is where iron oxides are mixed with coal to produce molten iron. The iron is then processed into steel in a basic oxygen furnace (BOF). This overall iron and steelmaking process is referred to as BF-BOF.	Near-zero-emissions steel	Steel produced with residual greenhouse gas emissions at a level consistent with a sectoral 1.5C-aligned pathway as outlined by the IEA (2022). This would be achieved through the onsite emissions reductions rather than offsets.
Blast furnace relining	Major refurbishment that extends the operational life of a blast furnace, typically by 15-20 years, prolonging coal-based production.	Near-zero-emissions-capable	The current or potential capacity to reasonably produce near-zero-emissions iron and steel (see above), based on available technology or infrastructure.
Blast furnace retirement	The permanent closure of a blast furnace	Net zero	A state in which greenhouse gas emissions are reduced as far as possible and any remaining emissions are balanced by removals.
Carbon lock-in	The long-term entrenchment of high-emissions production resulting from investment in fossil fuel-based assets that are intended to operate for many years to come.	Peloton	In cycling or long-distance running, the main pack of riders or runners often group together as a means of reducing wind resistance. In this report, the term refers to the cluster of companies grouped closely together in overall Scorecard performance, reflecting similar levels and approaches towards transition readiness.
Coal phase-out	The planned and time-bound retirement of coal-based ironmaking assets.	ResponsibleSteel Certified Steel	An independent, international standards body assessing environmental, social and governance performance at specific steel production sites. Steel products (rather than sites) can be “certified” once they meet ResponsibleSteel’s production and chain-of-custody requirements.
DRI	Direct reduction of iron oxides (DRI) is an ironmaking process that is an alternative to the blast furnace. Unlike the blast furnace which cannot function without coal-based products, DRI can operate with a broad range of materials (coal, fossil gas, hydrogen) to reduce iron oxides.	ResponsibleSteel Core Site certification	Site-level certification from ResponsibleSteel indicates that a steelmaking or processing site meets over 300 environmental, social, and governance (ESG) standards.
EAF	An electric arc furnace (EAF) is a furnace that uses electricity to make liquid steel from iron and other raw materials. It can be fed by scrap iron or by certain forms of virgin iron.	SBTi (Science Based Targets initiative)	An organisation that validates corporate climate targets against scientific benchmarks aligned with the Paris Agreement.
Final investment decision (FID)	A company’s formal decision to proceed with a project and commit capital expenditure.	Scrap	Recycled steel used as feedstock mainly in electric arc furnaces.
Green iron	Iron produced with a greenhouse gas emissions intensity below 350 kg CO ₂ -e per tonne. This would likely be achieved through the direct reduction of iron with green hydrogen.	Structural transition	Fundamental changes in production technologies and industrial processes required to transition toward near-zero-emissions-steel production.
Green iron capable	A facility that is likely currently producing iron utilising a gas-fuelled direct reduction process, but has the technical capability to transition towards the full uptake of green hydrogen.	Transition readiness	A company’s demonstrable progress in aligning its business model and structurally transforming its operations on a credible and timely transition to near-zero-emissions steelmaking.
Green steel	Steel produced via production routes that avoid emissions-intensive, coal-based ironmaking and conventional BF-BOF pathways. While remaining technologically neutral, this would ideally combine an ironmaking greenhouse gas emissions intensity below 350 kg CO ₂ -e per tonne, and ensure that final steel production is carried out using renewable-powered electric arc furnaces.	Transition readiness gap	The difference between what is needed for a credible transition to near-zero-emissions and what companies are actually doing.



AcelorMittal's Fos Sur Mer, France
Jeremy Sutton-Hibbert / SteelWatch

Introduction: Why assess steel companies

The steel transition is often discussed in terms of countries' economic development, industry strategy or national security agenda. These are all critically important, but the reality is that the major steel companies, such as the ones assessed in this Scorecard, are responsible for their own investment decisions that will deliver the exit from fossil-fuel based steelmaking.

Corporate action is critical to unlocking the steel sector's potential, as even the most supportive national policies will have limited impact if companies are not ready or willing to act.

Why the SteelWatch Corporate Scorecard is needed

Despite the critical role of corporate action, there is surprisingly little visibility or comparability of how steel companies are performing. Public data is patchy, geographically inconsistent and often limited to headline pledges or buried deep in corporate reports. While international standards and certification regimes are developing, they are usually focussed on specific sites or steel products. This fails to provide a complete picture for understanding broader corporate readiness, making it almost impossible to dynamically compare transition progress between companies.

Before developing this Scorecard and the [Steelmaker Transformation Tracker](#), it was difficult to find a standardised framework for comparing across companies, or to compare a company's current performance, with its future preparedness.

That is why Steelwatch developed the SteelWatch Corporate Scorecard. It is a tool that aims to effectively capture the multidimensional nature of the steel transition. It assesses and scores recent trends², current performance, future commitments and supplementary signals of corporate readiness to systematically compare transition readiness between major steelmakers.

Focus and approach

The Scorecard assesses each company's demonstrable progress in aligning its business model and transforming its operations on a credible and timely pathway for steel sector decarbonisation. This amounts to the "transition readiness" of the company. In this first year, the Scorecard results clearly highlight a "transition readiness gap": a gap between what is needed for a steel company to be on track with a credible near-zero-emissions transition and what it has done so far.

The multidimensional assessment of this Scorecard takes into account 21 indicators that indicate whether a steelmaker is making the structural changes required for a deep transition to near-zero-emissions.

The Scorecard examines 18 major steelmakers, headquartered across 11 countries and producing iron and steel across 29 different countries. This selection includes at least one company headquartered in each of the 9 largest steel producing countries³ in the world. This group was chosen through a combined focus on size, geographic diversity and climate impact.

The Scorecard relies on data that is publicly available (primarily from each company's own reports), carefully interrogated and enables comparisons between companies. The information used is based on company reports published up until October 2025, covering financial year 2024 and earlier years. Some companies could not be fully assessed due to data limitations and transparency challenges.

Prior to publication, company-specific data and scores were shared with the assessed companies for their review. While this process does not constitute formal assurance, it allows companies to indicate potential errors, register disagreements, bring additional disclosure to attention and engage in constructive dialogue with SteelWatch.⁴

-
- 2 Indicators based on trends generally cover the most recent four years, up to the end of each company's 2024 financial year (2021-2024). Data availability varies by company and indicator, so in some cases fewer data points were used.
 - 3 Using the WorldSteel-published overview of the 100 largest crude steel producers, a maximum of two ore-based producers per country were selected, aiming for the largest producers where data was available. This resulted in a selection that included at least one company headquartered in each of the 10 largest steel producing countries in the world.
 - 4 Of the 18 assessed companies, 10 have responded to the pre-publication engagement so far. Companies with emerging inquiries can contact SteelWatch directly at info@steelwatch.org



Figure 2: Companies assessed in the Scorecard, with location of headquarters

What deep transformation requires

Steel is foundational to modern economies, underpinning construction, transport, energy systems, and industrial supply chains. It is also one of the most emissions-intensive sectors globally, accounting for around a tenth of anthropogenic CO₂ emissions, driven primarily by coal-based ironmaking routes embedded in [blast furnace–basic oxygen furnace \(BF-BOF\)](#) production routes.

The SteelWatch Corporate Scorecard shows that while setting long-term climate goals and exploring low-emissions technologies has become common across the cohort of companies assessed, none of them are decarbonising at an acceptable pace. The next decade must see decisive action. Incremental steps are insufficient to deliver the deep transformation required to decarbonise steel at scale, and closing the transition gap requires a rapid shift from setting goals to executing at scale.

This chapter sets out what SteelWatch considers the minimum conditions for deep transformation for a net-zero future in iron and steelmaking. These are system-level actions that translate transition readiness today into the ability to deliver structural change over coming decades. Readiness is the first step. Deep transformation is the true goal.

Readiness is the first step. Deep transformation is the true goal

Three below core requirements together show what deep transformation is at the corporate level, and provide a focused lens on the key strategic and operational actions that corporate steelmakers need to take.

Phase out coal-based iron and steelmaking

Continued expansion, extension, or structural dependence on coal-based ironmaking remains a central barrier to transition readiness.

Coal remains deeply embedded in global steel production systems. Blast furnaces and associated infrastructure are long-lived assets, and decisions to build or extend them lock in emissions for decades. SteelWatch's [climate explainer](#) shows that close to 90% of the sector's direct emissions originate from coal-based ironmaking, where coke is used as a reductant and an energy source.

As long as coal-based production routes dominate asset portfolios and production plans, other transition signals cannot materially change outcomes.

Breaking this lock-in requires more than mere commitments to phase out coal in a few decades time. It requires near-term decisions that prevent further coal dependence from being entrenched. These include:

- Avoiding blast furnace life extensions that delay the transition;
- Establishing credible timelines to retire blast furnaces and pathways to transform existing sites to near-zero-emissions-capable facilities; and
- Avoiding new coal-based capacity.

Without such decisions, transition readiness remains constrained. Continued reliance on coal locks in high-emissions production and fundamentally undermines the effectiveness of targets, pilots or participation in any transition initiative. Addressing coal dependence is a critical precondition for deep transformation in steelmaking.

As long as coal-based production routes dominate asset portfolios and production plans, other transition signals cannot materially change outcomes

Scale up green iron and steel

Deep transformation requires near-zero-emissions technologies to move from experimental projects to commercial scale production. Green iron is a critical input to scaling up green production.

While many companies have announced pilot projects, partnerships or feasibility studies, transition readiness depends on whether green iron is being materially integrated into companies' decarbonisation strategy. This includes either developing significant green iron production capabilities in-house, or securing long-term green iron offtake agreements, and treating it as a strategic input, rather than a marginal addition. Pilot production lines and limited trials are important early steps, but transition readiness depends on whether these efforts are replacing rather than supplementing coal-based production.

Scaling green steel production also requires scaling and securing access to renewable energy. Companies that delay, risk hamstringing their ability to decarbonise quickly and completely enough.

Align production decisions transparently with targets

Steel producers must make decisions to fundamentally reshape production methods this decade to close the transition readiness gap: breaking away from coal dependence, securing and scaling green iron and ensuring that targets and operating systems are actively aligned on clear transition roadmaps

Transition readiness requires that long-term climate targets are directly aligned with operational decisions and investments. When targets are disconnected from production, they have limited effect on outcomes.

Equally important is transparency. Reporting on targets, production and investment enables other stakeholders to judge whether ambitions are credible and actionable.

Successfully closing the transition readiness gap also depends on supportive conditions for workplace safety and sustained environmental performance. Strong safety outcomes, social and environmental engagement and transparent performance tracking are critical supportive conditions needed to execute transformation at the scale, attention and pace required.

Taken in totality, these requirements describe the critical actions each steelmaker will need to take to drive deep transformation of their company. Progress on one dimension cannot compensate for inaction on others. Pilots cannot offset continued coal expansion. Targets cannot substitute for production-facing decisions. Engagement cannot replace execution.

The “transition readiness gap” is a critical hurdle standing in the way of realising deep transformation across the sector. Steel producers must make decisions to fundamentally reshape production methods this decade to close the transition readiness gap. That means breaking away from coal dependence, securing and scaling green iron and ensuring that targets and operating systems are actively aligned on clear transition roadmaps.

The chapters that follow examine how companies measure up against these expectations, and where the gap between stated ambition and delivery on the climate transition remains most acute.

Assessing transition readiness

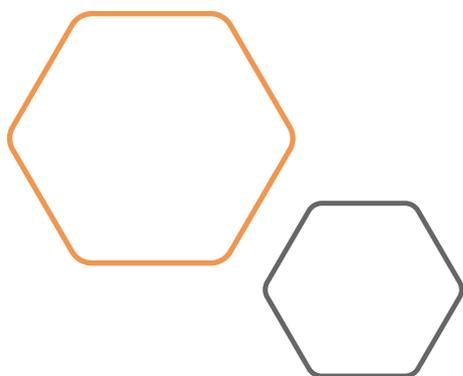
The SteelWatch Corporate Scorecard evaluates 18 steelmakers across 21 indicators in five categories that holistically assess the steps steel companies need to take to ensure steel production becomes near-zero-emissions ensuring social and worker safety in the process. This criteria is applied regardless of where each company is headquartered or operates.

For most indicators, company performance is assessed based on intensity, direction of change, and relative progress over time, rather than absolute size. This allows the Scorecard to focus on whether steelmakers are genuinely decarbonising.

Each of the five categories contributes differently to the total score:

- Phasing out coal – 25%
- Scaling green – 25%
- Climate performance – 15%
- Targets and transparency – 15%
- Social and environmental responsibility – 20%

Within each category, indicator values are converted into scores using consistent formulas designed to reflect their relative importance and assess both current performance levels and trends over time (see [Annex](#) for more information on methodology).



*Nippon Steel Kimitsu Works
SteelWatch*

Total score (Scored out of 100)

Transition readiness gap

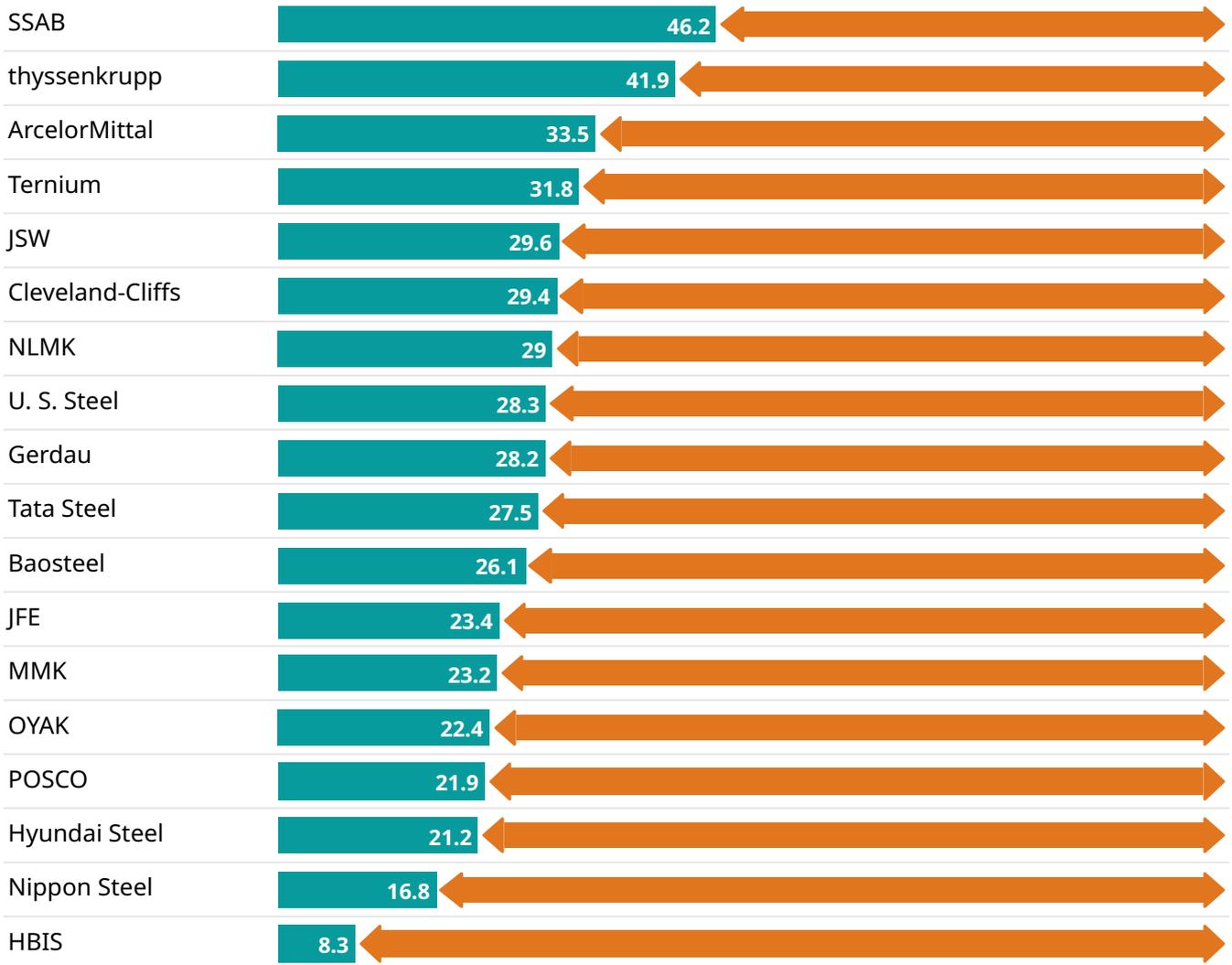


Figure 3: Total scores by company expose the transition readiness gap

Across the 18 steelmakers assessed, a common pattern emerges: while there is widespread recognition of the need for transition, most companies are not yet sufficiently prepared to deliver on their own transition requirements, and certainly not at the pace and scale necessary. The scores demonstrate the transition readiness gap.

As a result, while there are some heartening actions among the top performers, they end up being the “least worst” of an underperforming group.

While none of the companies assessed is currently “transition ready”, two companies are putting key elements in place. The total scores for SSAB (headquartered in Sweden) and thyssenkrupp (Germany) illustrate how strategic alignment and decisive commitments can materially improve transition readiness.

Behind them, sits a larger group of companies, ‘the peloton’, a term borrowed from competitive cycling, that have each developed long-term climate plans, demonstrated some positive performance trends, and scored relatively well on transparency. However, they largely remain structurally dependent on coal.

For the companies at the bottom of the Scorecard, these structural challenges are compounded by a lack of positive indicators of incremental progress, and often severe transparency limitations.

Category 1

Phasing out coal

The core structural challenge for decarbonising steel is eliminating coal dependence. Coal-based blast furnaces currently account for close to 70% of global crude steel production, and are responsible for [90% of the sector's direct CO₂ emissions](#). Simply put, phasing out coal remains the biggest structural challenge to overcome.

As such, this is the highest weighted category of the Scorecard, contributing to 25% of the total score.

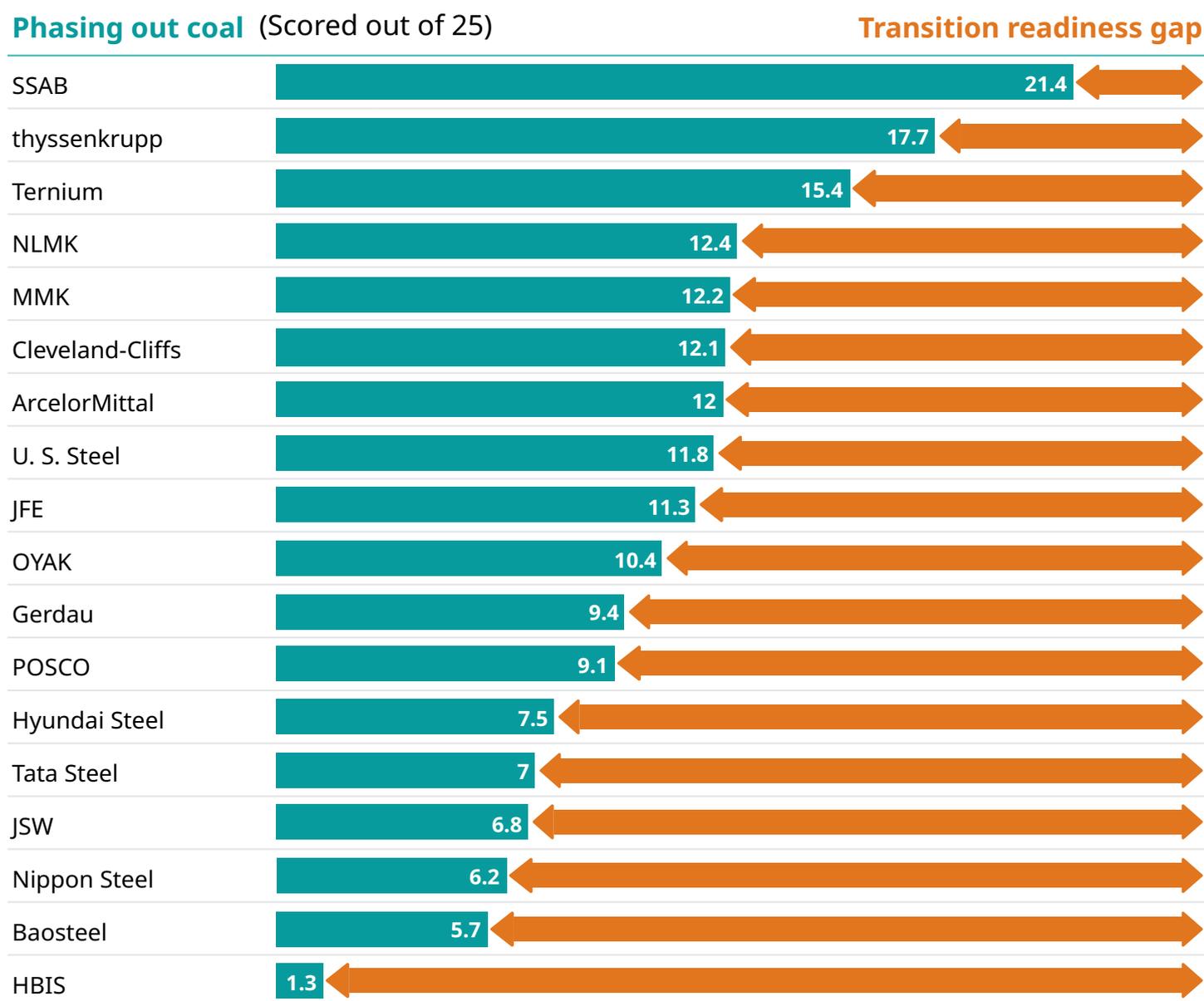


Figure 4: Company scores for phasing out coal

Indicators for Phasing out coal

This category incorporates several indicators that collectively show whether a company is heavily investing in coal-based production or is moving away from coal, with a total of **25 points** available:

1.1 Size of blast furnace fleet	5 points
Capacity of operating blast furnace fleet in million tonnes of iron per annum.	
1.2 Blast furnaces under construction	5 points
Is the company building new blast furnace capacity?	
1.3 Blast furnace investments	5 points
Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?	
1.4 Blast furnace retirement	5 points
The share of blast furnace capacity with retirement announced.	
1.5 Coal consumption trend	5 points
Has absolute coal consumption (in million tonnes) declined over a four-year period?	
	25 points

The higher the activity in blast furnace operation or investment, the lower the score.

What the Scorecard reveals

The clearest positive signal in this category comes from SSAB which stand out as the only company to score points in each sub-category. Decisive moves towards exiting coal include plans for blast furnace fleet retirement, no recent investments, no new construction, and a downward trend in coal use.

Most companies have scored between 7 and 12 out of a potential 25 in this category, and can broadly be considered to fall into a “status quo” band. While companies in this band did not construct new blast furnaces during the assessed period, a lack of announced retirements⁵ for their existing fleets suggests they may seek relinings or maintenance investments in future. The uncertainty and lack of decisive directions in the companies’ strategy to retire all blast furnaces kept them at the lower end of the score.

This is especially common in regions where steel demand is still growing or where strong policy signals for green ironmaking are not yet in place.

Differences within the middle band

Even among companies maintaining broadly similar portfolios of coal-based assets, there are notable differences in their coal consumption trends:

- **ArcelorMittal** has the highest absolute coal consumption of all the assessed companies that disclosed their coal consumption. Nevertheless, it gains points for a decreasing trend in coal consumption due to asset divestment, no blast furnace construction and announced retirement plans for some of its existing blast furnaces, noting that the joint venture in India falls outside the data used in this Scorecard.⁶
- **U. S. Steel** has reduced coal consumption as it substitutes more scrap into its melt mix.
- **JFE** in Japan, has been able to partly reduce its coal use, but this has been achieved through production declines, rather than technological change.
- **Cleveland-Cliffs** has also scored relatively higher on this category due to declining coal use over time.

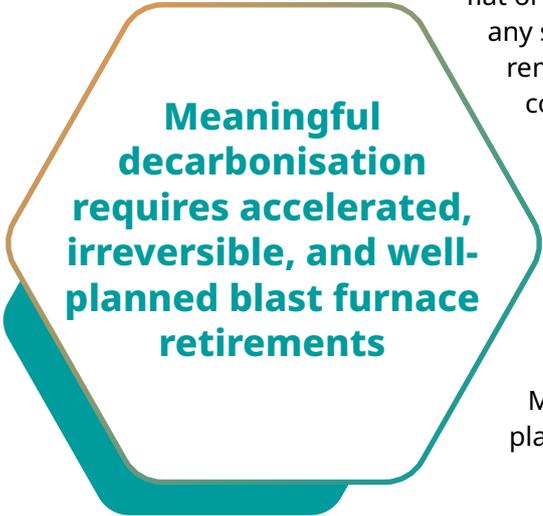
5 Data on blast furnace retirements is inadequate in most cases. GEM categorisation is used where companies fail to report. Recent or announced investments generally cover the latest 3 reporting years (FY 2024, 2023, 2022), and announcements of future investment made before October 2025.

6 The ArcelorMittal Nippon Steel India (AM/NS India) joint venture is not included in the data used in this Scorecard, despite it being majority-owned by ArcelorMittal, because it falls outside ArcelorMittal sustainability reporting. The Scorecard has to rely on data and data boundaries reported by companies. As a result, ArcelorMittal scores 5 points for the absence of blast furnaces under construction, as it does not take into account constructions by AM/NS India..

These shifts however are incremental or production-aligned changes rather than transformational improvements. They highlight how operational decisions can shape short term trends of coal consumption, but without clear strategic commitments, also represent a limitation to their transitional readiness.

Companies maintaining or expanding coal-based capacity

Most companies scoring lowest in this category have proactively sought to maintain or expand their blast furnace fleets. Nippon Steel (Japan), Baosteel (China) and HBIS (China) all fall into this group. Coal consumption trends are flat or insufficiently disclosed, with limited clarity on the timing or scale of any shift away from blast furnaces. Taken together, these configurations remain structurally incompatible with a deep transition and indicate that coal exit planning has not materially progressed.



Meaningful decarbonisation requires accelerated, irreversible, and well-planned blast furnace retirements

This category exposes the central bottleneck of the steel transition across the 18 companies assessed. Coal-based assets continue to dominate global production, and most companies assessed have yet to commit to retiring them, creating a structural transition readiness gap. Short-term reductions in coal consumption, while necessary, are insufficient on their own.

Meaningful decarbonisation requires accelerated, irreversible, and well-planned blast furnace retirements.



Category 2 Scaling green

If phasing out coal represents a critical break away from the old system, shifting to near-zero-emissions iron (green iron) to make steel is the way to cement continued decarbonisation performance, and close the transition readiness gap.

This category assesses whether steelmakers are increasing their consumption of green iron and renewable energy, irrespective of whether they buy or produce it. It also assesses whether they are developing production capacity that is capable of transitioning to make near-zero-emissions iron with green hydrogen. Because ironmaking is currently the most emissions-intensive step in the steel value chain, early movement in this area is one of the clearest indicators of whether companies are preparing for a net-zero future, or reinforcing the status quo. As such, this category also contributes 25% of the total score.

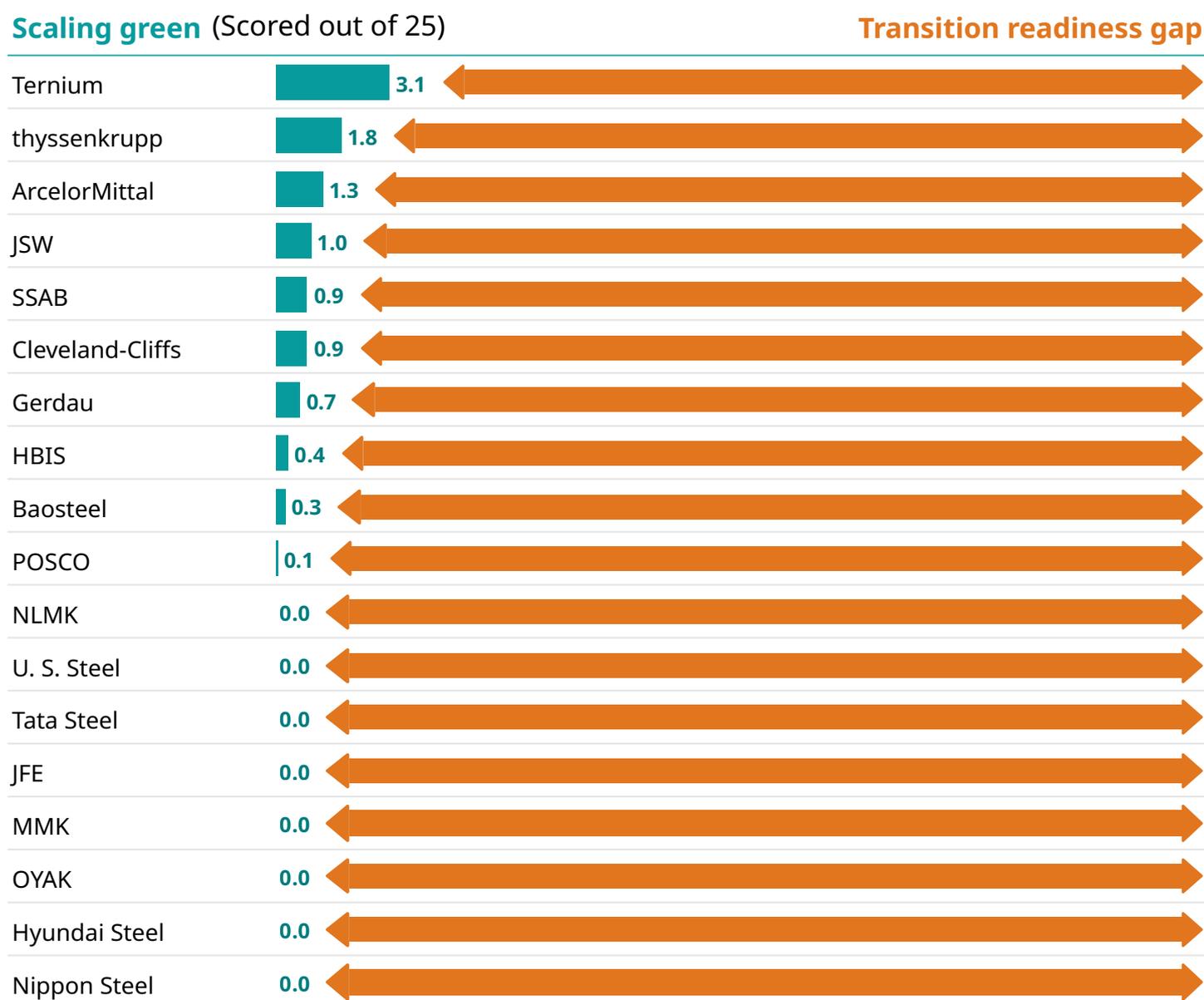


Figure 5: Company scores for scaling green

Indicators for Scaling green

This category uses four key indicators designed to reveal whether companies are currently building or utilising the green capacity needed to close the transition readiness gap, with a total of **25 points** available:

2.1 Green iron consumption	5 points
Volume of green iron consumed, in million tonnes.	
2.2 Green iron share	5 points
Share of green iron out of total ore-based iron consumption.	
2.3 Green iron capable production capacity	10 points
The percentage of total iron production capacity that is near-zero-emissions-capable, either operational or under development (min FID stage).	
2.4 Renewable energy uptake	5 points
Share of renewable energy in total energy consumption, primarily used to power iron and steelmaking processes.	
	25 points

The third and fourth indicators reward companies that are actively laying the groundwork for near-zero-emissions steelmaking. Companies that are transition-ready would be scoring substantial points on these indicators today. The first and second indicators, by contrast, act as performance measures for real change at commercial scale, where companies will score well once the transition is underway.

What the Scorecard reveals

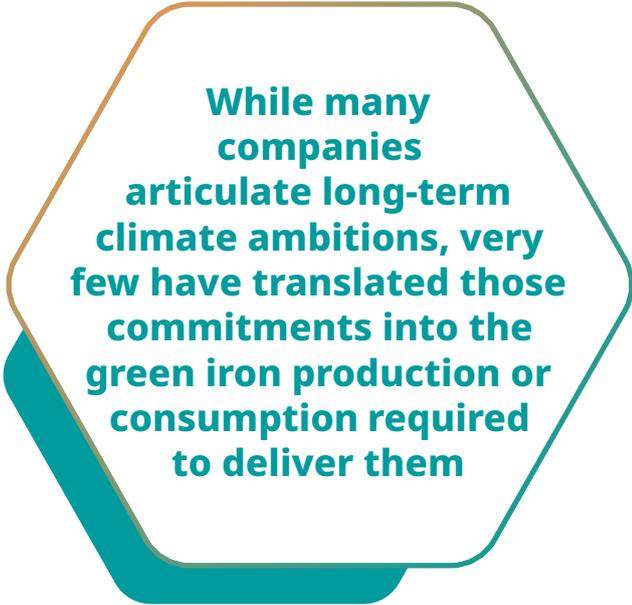
In this year's Scorecard, almost all companies score zero or close to zero in this category. While many articulate long-term climate ambitions, very few have translated those commitments into the green iron production or consumption required to deliver them.

The highest score achieved in this category is a mere 3.1 out of 25, as companies remain structurally tied to coal-based ironmaking. This outcome reflects the nascent stage of low-emissions iron production and trading.

Even the first steps, developing capacity for near-zero-emissions-capable ironmaking and scaling renewable energy remain extremely limited across the cohort. SSAB scores for a notable share of renewable energy. Ternium (Luxembourg-headquartered, with its main operations in Latin America) ranks highest in this category, due to a noticeable share of near-zero-emissions-capable iron capacity in operation or development. Similarly, thyssenkrupp has ongoing construction of a major direct reduced iron (DRI) plant that will become a significant share of its ironmaking capacity once operational. Other companies with DRI projects include ArcelorMittal (headquartered in Luxemburg, with steelmaking operations in 15 countries) and JSW Steel (India).

Some companies have announcements that have not reached final decision or delivery, so do not yet score, but could help close the transition gap in future. SSAB plans to source green iron from LKAB, an international mining and minerals group. However, LKAB still has not taken the final investment decision to build a large-scale DRI plant. DRI developments at varying scales by Baosteel (China), HBIS (China) and POSCO (South Korea) are likely to show up in future scores.

As green iron projects move from announcement to operation, this category will become increasingly important and a key differentiator between companies that are actively closing the transition gap and those that are not.



While many companies articulate long-term climate ambitions, very few have translated those commitments into the green iron production or consumption required to deliver them

Category 3

Climate performance

Assessing climate performance means tracking the carbon intensity of steel production today across each of the 18 companies assessed, and whether each company has meaningfully reduced that intensity over the last four years.

This focus on greenhouse gas intensity (GHGs per tonne of steel), rather than absolute emissions, means scores are independent of company size. The inclusion of a four-year trend can reward companies which still have high emissions intensity but have made progress in the right direction.

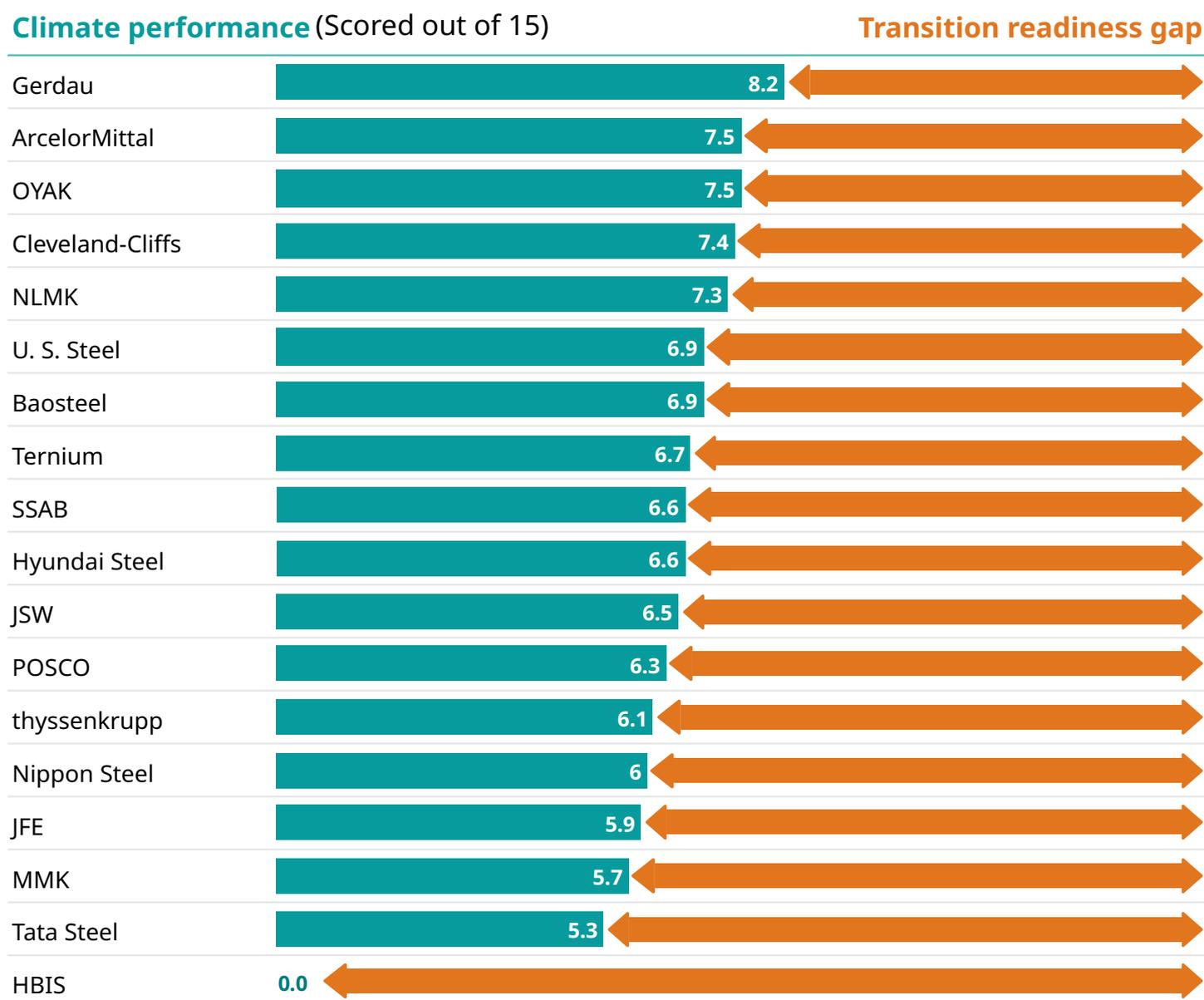


Figure 6: Company scores on climate performance

Indicators for Climate performance

This category is built on two complementary indicators that together provide a rounded picture of operational emissions performance, with a total of 15 points available:

3.1 Current emissions intensity	12 points
The tonnes of CO ₂ -equivalent greenhouse gases emitted per tonne of steel produced (scope 1 and 2 emissions only).	
3.2 Emissions intensity trend	3 points
The trend in GHG emissions per tonne of steel over a four-year period.	

15 points

What the Scorecard reveals

Across the Scorecard, most companies fall within a relatively narrow GHG intensity range consistent with the global sectoral average, scoring between 6 and 8 out of a possible 15. Differences largely reflect operational choices, such as scrap steel use, gas-based DRI processes and efficiency improvements.

Among the 18 steelmakers, Gerdau, ArcelorMittal and OYAK (Türkiye) score higher than most peers. Gerdau reports the lowest GHG intensity, due to high scrap and recycled steel use which lowers emissions across its operations. ArcelorMittal has seen modest declines in GHG intensity over four years due to a modest uptake of EAFs and disposal of dirtier coal-based assets. However, the company still relies on blast furnaces for [87% of its ironmaking capacity](#). OYAK similarly has seen its relatively high GHG intensity decline since the company began consolidated reporting in 2022.

A larger group of companies, including Baosteel, Ternium and U. S. Steel (USA) show modest but consistent reductions in GHG intensity over recent years, reflecting operational improvements and efficiency gains.

By contrast, JFE (Japan), Nippon Steel and Tata Steel (India-headquartered, with operations in India and Europe) score lower due to high GHG intensities and limited uptake of scrap or other decarbonising measures, resulting in little change over time.

Some companies, such as HBIS score poorly because of a lack of GHG intensity disclosure, which automatically results in a zero. This reinforces a key principle of the Scorecard: without transparency, progress cannot be meaningfully assessed.

This snapshot of climate performance is a critical indicator of just how far these 18 companies have to go on their transition readiness journey. With most companies scoring between 6 and 8 out of a possible 15 points, it shows that climate performance is not where it needs to be.

Category 4

Targets and transparency

Most of the 18 companies assessed in this year's Scorecard have clear net-zero commitments, signalling recognition of the need for a long-term transition in steel production.

However, a long-term target alone does not demonstrate credibility. Assessing whether commitments represent meaningful transition pathways requires examining how companies plan to deliver them and whether they provide a roadmap with time-bound targets and transparent reporting.

Without a clear roadmap, robust disclosure and independently verified short-and medium-term targets, it is difficult to judge whether a company is genuinely preparing to move away from coal-based steelmaking or merely paying lip service to climate ambition.

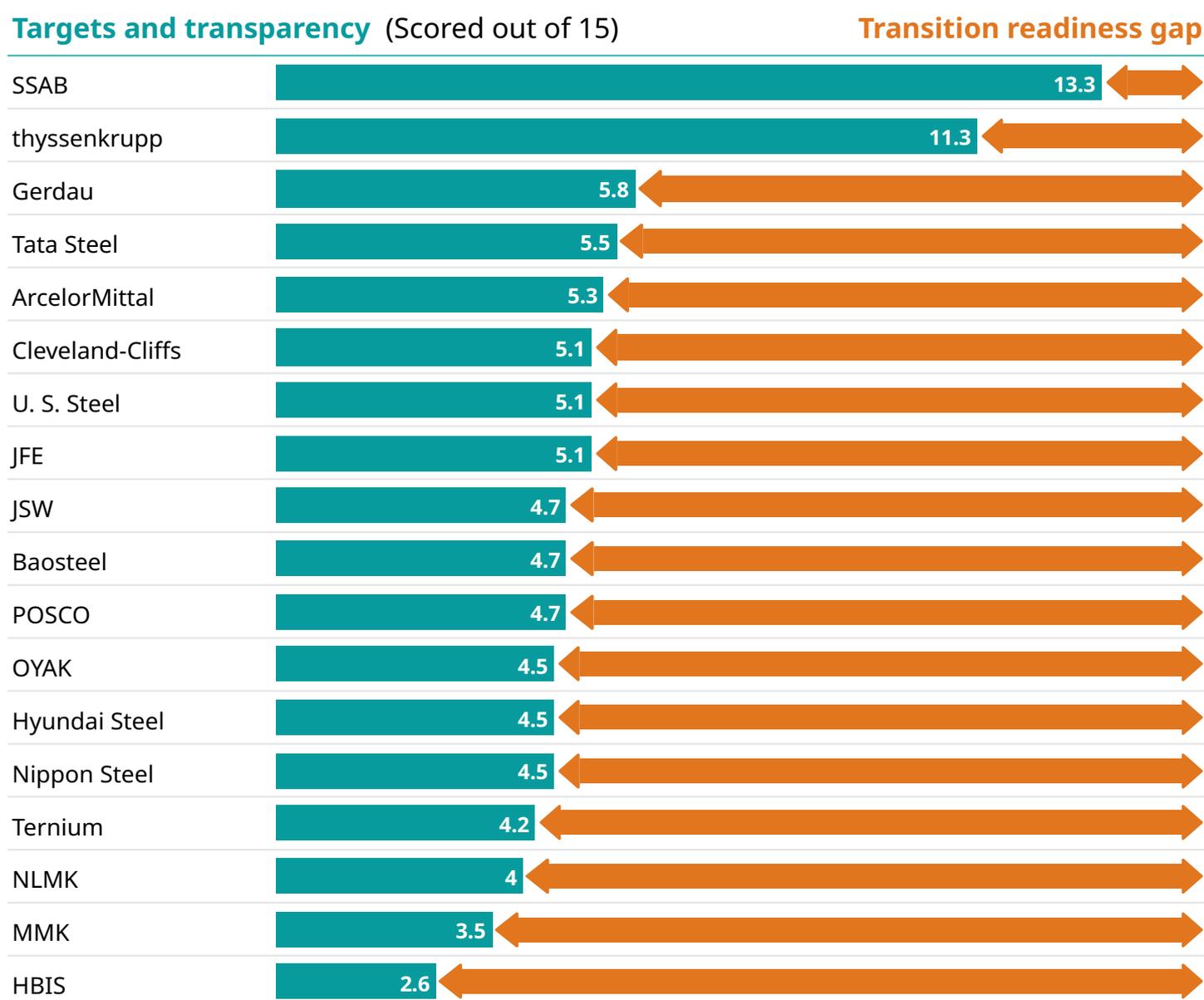


Figure 7: Company scores on targets and transparency

This category in the Scorecard evaluates the existence and credibility of medium and long-term decarbonisation targets, alongside disclosure practices that reveal progress toward these goals.

Indicators for Targets and transparency

This category has a total of 15 points available and evaluates three elements:

4.1 Net-zero target	3 points
Whether the company has a target of net-zero emissions by 2050 or earlier.	
4.2 SBTi verified emissions reduction target	7 points
Whether the company has SBTi-verified 1.5C targets.	
4.3 Transparency & data disclosure	5 points
The extent to which the company meets 12 key public disclosure indicators.	

15 points

What the Scorecard reveals

This category highlights one of the clearest contrasts across the Scorecard. Only two companies, SSAB and thyssenkrupp, have SBTi-verified climate targets, showing how rare robust ambition that seeks to align with 1.5C remains in the steel industry.

Most companies have adopted net-zero 2050 targets. This includes ArcelorMittal, Baosteel, Cleveland-Cliffs, Gerdau, JFE, JSW Steel (India), Nippon Steel, POSCO and U. S. Steel. These commitments signal a long-term intention, but without SBTi verification, it is difficult to assess the pace at which change is planned. A 2050 target alone does not guarantee serious action today.

Some corporate commitments differ in timing or structure. Tata Steel has a 2045 net-zero target, which is notable, given its multinational footprint across emerging and developed markets. Ternium, by contrast, has a carbon neutrality ambition with no target year, placing it among a small group of outliers.

However, disclosure quality strongly shapes results in this category. Several companies, including ArcelorMittal, Cleveland-Cliffs, Gerdau, JFE, JSW Steel and U. S. Steel, provide above-average transparency, allowing their commitments to be interpreted, tracked and challenged.

Others illustrate the opposite dynamic: HBIS and Hyundai Steel (South Korea) have net-zero targets but weak disclosure, limiting insight into whether their plans are credible. Similarly, thyssenkrupp achieves full points for climate targets, but below-average scores on transparency as reporting is less extensive than for most other steel companies because its reporting covers the broader conglomerate rather than just the steel business.

Taken together, these patterns highlight a clear tension across the assessed companies. Long-term climate commitments are increasingly common; but credible and verifiable pathways remain scarce. Most companies now signal future ambition, but few provide evidence that shows how or whether they intend to deliver. This gap underscores why verified targets and disclosure are central to assessing transition readiness.

Category 5

Social and environmental responsibility

A credible and just transition of the steel sector requires not only decarbonising iron and steelmaking, but also protecting the workers and communities exposed to its immediate environmental and health impacts.

Improvements in occupational health and safety (OH&S), air pollution and [ResponsibleSteel](#)⁷ certification provide valuable supportive indicators that change is taking root in current operations.

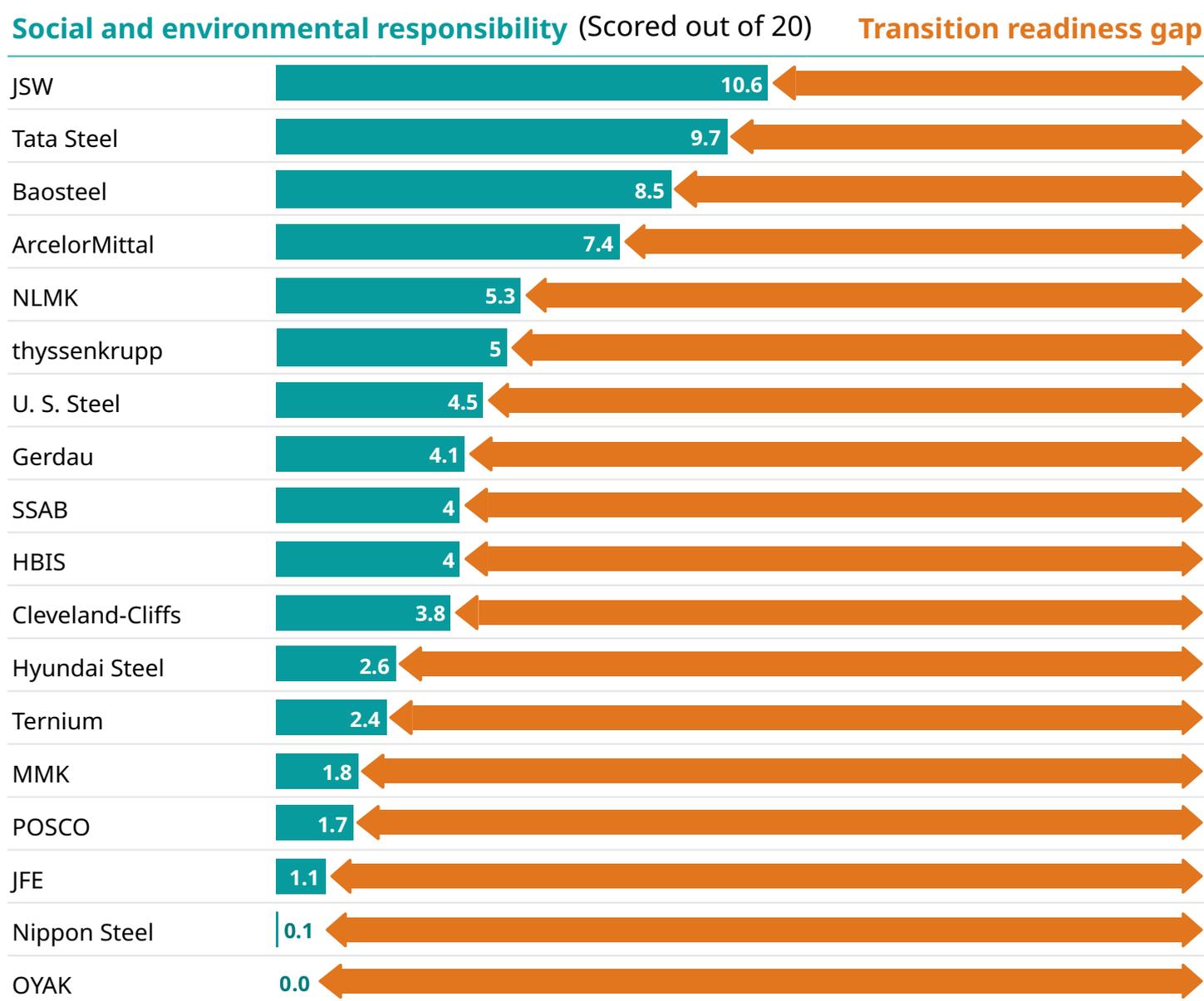


Figure 8: Company scores on social and environmental responsibility

7 ResponsibleSteel's certification process assesses steelmaking sites against a range of ethical production criteria, ranging from biodiversity and decarbonisation to labour and community rights. It is audited by independent certification bodies every 18 months.

There are a variety of established approaches for assessing corporate responsibility to workers and local communities, many of which use complex, site-level methodologies developed by third parties. Rather than attempt to replicate this complexity, the Scorecard uses ResponsibleSteel site certification as a proxy for these broader dimensions of operational responsibility. At the same time, we recognise that this is not the only way of assessing these complex operational realities.

This category on social and environmental responsibility evaluates whether companies are reducing harm over time, rather than comparing absolute performance between companies. This distinction is essential: OH&S and pollution reporting methodologies vary widely across geographies, and absolute levels are not directly comparable. The Scorecard therefore focuses on the direction and pace of change, assessing whether companies are becoming safer and cleaner, regardless of their starting point.

Indicators on Social and environmental responsibility

The indicators in this category assess three dimensions of protection and accountability, giving a total of 20 points:

5.1 Health & safety trend	4 points
Has the company reduced the amount of work-place injuries over the last three years?	
5.2 Air pollution trend	6 points
A combined score based on the rate of improvement for SO _x and NO _x gases and particulate matter per tonne of steel.	
5.3 ResponsibleSteel Core Site certification	5 points
Percentage of steel production capacity covered by ResponsibleSteel Core Site certification.	
5.4 ResponsibleSteel Certified Steel	5 points
The number of ResponsibleSteel Certified Steel certificates	
20 points	

Companies score higher when they show consistent improvement in safety and pollution indicators. This is then combined with a company's total production capacity that is certified under ResponsibleSteel, as well as the total number of facilities certified. Companies score poorly either when performance worsens, stagnates, or they have a relatively small share of capacity covered by ResponsibleSteel certification.

What the Scorecard reveals

Across the Scorecard, there is wide variation in whether companies are closing gaps in worker protection, community health impacts and achieving ResponsibleSteel certification of sites.

Several companies show strong positive trends and represent cases where the transition readiness gap is narrowing:

- **JSW Steel** and **Tata Steel** have both demonstrated substantial improvements in both air pollution intensity and OH&S over the last few years. Tata Steel has reported significant reductions in multiple pollutants and major improvements in worker safety, supported by extensive ResponsibleSteel Core Site certification across its portfolio.
- **Baosteel** has also reported large decreases in air pollution intensity and marked improvement in OH&S over the assessment period.

These improvements are noteworthy but likely occurred from higher baselines in terms of absolute emissions and OH&S incidents, as the Scorecard focuses on measuring a rate of change over time rather than absolute number. This highlights the opportunities for short term improvements in regions where local pollution burdens are high.

Closing the transition readiness gap requires companies to reduce air pollution, improve workplace safety and take responsibility for social realities of their operations

A second group of companies demonstrate partial improvement, signalling directionally positive but uneven progress. thyssenkrupp is the only steel producer of this year's Scorecard to have 100% of its steel production capacity being ResponsibleSteel Core Site certified. However, the lack of disclosure of steel-specific occupational health and safety and air pollution data (conglomerate-level data are reported but not specific to its steel business) limits its score in this category. ArcelorMittal reported major reductions in air pollution intensity and widespread ResponsibleSteel Core Site certification, though its OH&S improvements are less consistent.

A third group of companies showed limited improvements over time, or scored low due to limited data disclosure. Companies, such as POSCO, Hyundai and OYAK, struggled in this category due to inconsistent OH&S improvements and limited reductions in reported air pollution. East Asian companies in particular across China, Japan and South Korea have no sites achieving certification from ResponsibleSteel, limiting third-party verification of safety and environmental performance. Finally, Nippon Steel and JFE were scored low in this category due to a lack of a consistent decreasing trend in air pollution and reported workplace safety.

Some companies have demonstrated strong and consistent improvements for workers and their local communities. This highlights that progress is possible in the short term with proactive operational and transparency improvements. However, closing the transition readiness gap requires companies to reduce air pollution, improve workplace safety and take responsibility for social realities of their operations.

Key Takeways

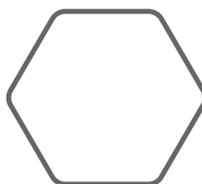
While two companies have begun to make the deep operational shifts required this decade, a number of companies assessed in this year's Scorecard are completely unprepared to transition their operations.

Across the 21 indicators in 5 categories, very few companies show the depth of transition that verified, climate-aligned pathways require. While some companies are beginning to alter their longstanding portfolios and trajectories, the vast majority of companies assessed remain structurally tied to the high emissions, coal-dependent systems of the past.

What is more concerning is that, in several areas, particularly the existing production capacity and consumption of green iron, the transition has hardly begun. Here, the readiness gap is most stark.



Stack of non-ferrous metal rods
Flegere

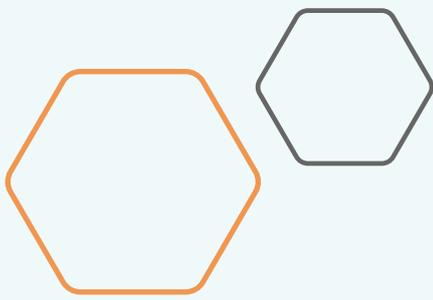


Overall company positions



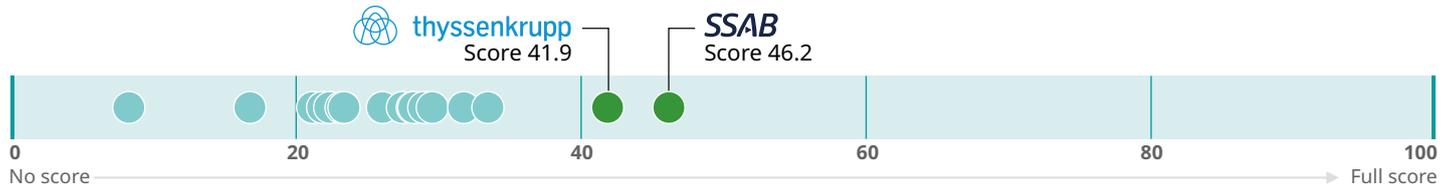
Table 1: Summary table of all 18 companies scores by category

2026 SteelWatch Corporate Scorecard Scores by category	Category 1 Phasing out coal	Category 2 Scaling green	Category 3 Climate performance	Category 4 Targets and transparency	Category 5 Social and environmental responsibility
SSAB 46.2 / 100 Total score	21.4 / 25	0.9 / 25	6.6 / 15	13.3 / 15	4.0 / 20
thyssenkrupp 41.9 / 100 Total score	17.7 / 25	1.8 / 25	6.1 / 15	11.3 / 15	5.0 / 20
ArcelorMittal 33.5 / 100 Total score	12.0 / 25	1.3 / 25	7.5 / 15	5.3 / 15	7.4 / 20
Ternium 31.8 / 100 Total score	15.4 / 25	3.1 / 25	6.7 / 15	4.2 / 15	2.4 / 20
JSW 29.6 / 100 Total score	6.8 / 25	1.0 / 25	6.5 / 15	4.7 / 15	10.6 / 20
Cleveland-Cliffs 29.4 / 100 Total score	12.1 / 25	0.9 / 25	7.4 / 15	5.1 / 15	3.8 / 20
NLMK 29.0 / 100 Total score	12.4 / 25	0.0 / 25	7.3 / 15	4.0 / 15	5.3 / 20
U. S. Steel 28.3 / 100 Total score	11.8 / 25	0.0 / 25	6.9 / 15	5.1 / 15	4.5 / 20
Gerdau 28.2 / 100 Total score	9.4 / 25	0.7 / 25	8.2 / 15	5.8 / 15	4.1 / 20
Tata Steel 27.5 / 100 Total score	7.0 / 25	0.0 / 25	5.3 / 15	5.5 / 15	9.7 / 20
Baosteel 26.1 / 100 Total score	5.7 / 25	0.3 / 25	6.9 / 15	4.7 / 15	8.5 / 20
JFE 23.4 / 100 Total score	11.3 / 25	0.0 / 25	5.9 / 15	5.1 / 15	1.1 / 20
MMK 23.2 / 100 Total score	12.2 / 25	0.0 / 25	5.7 / 15	3.5 / 15	1.8 / 20
OYAK 22.4 / 100 Total score	10.4 / 25	0.0 / 25	7.5 / 15	4.5 / 15	0.0 / 20
POSCO 21.9 / 100 Total score	9.1 / 25	0.1 / 25	6.3 / 15	4.7 / 15	1.7 / 20
Hyundai Steel 21.2 / 100 Total score	7.5 / 25	0.0 / 25	6.6 / 15	4.5 / 15	2.6 / 20
Nippon Steel 16.8 / 100 Total score	6.2 / 25	0.0 / 25	6.0 / 15	4.5 / 15	0.1 / 20
HBIS 8.3 / 100 Total score	1.3 / 25	0.4 / 25	0.0 / 15	2.6 / 15	4.0 / 20



Scoring position insights

Breaking away from the pack



Both demonstrating

Clear signals of a coal-free future

- Have 1.5C-aligned and verified targets
- Blast furnace retirement plans underway
- No reinvestment planned or recently carried out

Staying ahead will require meeting

Future challenges

- Scaling use of green iron
- Implementation of blast furnace fleet retirement
- Securing renewable energy

Figure 9: Companies breaking away from the pack

Across this year's SteelWatch Corporate Scorecard, most steelmakers cluster in a tight pack, with absolute scores between 21-34 out of 100. If these companies were competitive cyclists, this cluster would form into a peloton, a tight pack of riders keeping, in this case, a conservative pace with each other, each minimising both their effort and risk. Net-zero commitments are commonly found across this group, but they rarely translate into operational decisions that materially change how steel is produced.

In contrast, SSAB emerges as the company putting in place the ingredients to transition out of coal, with thyssenkrupp in second place. While neither performs strongly across all categories, their early, explicit choices narrow their transition readiness gaps, bumping them ahead of their peers.

Total scores

SSAB is the top ranked company in this year's Scorecard, with a score of 46.2, and thyssenkrupp comes second with 41.9 out of 100. These are not high absolute scores, and reflect the scale of corporate transformation still required. While none of the 18 companies assessed are fully "transition ready", what distinguishes SSAB and thyssenkrupp is their positioning and direction. Their relative scores demonstrate how climate ambition, asset strategy and future capacity planning are being translated into concrete operational decisions.

The differentiators: phasing out coal and scaling green

SSAB achieves the highest score in the phasing out coal category because it not only has a comprehensive blast furnace retirement plan, but it has also avoided reinvestment in coal-based assets and displayed a clear decreasing trend in coal consumption. thyssenkrupp also scores positively for blast furnace retirement, and no new investment, although its score could be significantly higher if it was more transparent in reporting current coal consumption.

Both companies also score relatively high in the scaling green category. This reflects early, decisive moves toward replacing coal-based production, but for either company, the capacity is yet to come online commercially. thyssenkrupp's large DRI plant in Duisburg, Germany, is the company's first near-zero-emissions-capable ironmaking facility currently under construction. This early adoption of DRI technology places it second in this category. SSAB's score is driven by its above-average share of renewable energy in its total energy consumption.

In other categories, both SSAB and thyssenkrupp have relatively strong but more mixed scores. Both score strongly on future climate commitments through SBTi-verified, 1.5C-aligned climate targets, placing their net-zero commitments on a fundamentally different footing from their peers. Both have a net-zero target set for 2045 - an earlier date than others matched only by Tata Steel. However, neither SSAB nor thyssenkrupp leads the Scorecard on climate performance, due to the lack of a declining trend in GHG intensity.

Neither company performs strongly on environmental and social metrics. This largely reflects the limited positive trends in air pollution and worker safety over recent years, even as thyssenkrupp is the only company with 100% of steel production covered by ResponsibleSteel Core Site certification. These results highlight additional opportunities for both companies.

Staying ahead of the transition pack depends on delivery

Taken together, SSAB and thyssenkrupp stand out because they have set a clear signal of future direction, especially regarding the end of coal-based iron and steelmaking. Going forward, their remaining challenges are largely questions of delivery: whether or not they will be able to scale green iron production and consumption, retire the remaining blast furnaces, secure renewable energy and increase transparency throughout the transition.

The rest of the pack

Beyond the breakaway pair at the front of the Scorecard, most of the remaining companies assessed are a tightly grouped 'peloton', scoring between 18 and 34 out of 100 points overall. While this group of 16 companies differ in geography, scale and ownership; their scores cluster largely because they are yet to make decisive structural decisions required to phase out coal-based ironmaking and scale up near-zero-emissions iron and steel production.

Coal dependence, a drag on all

Coal dependence remains the single most important factor holding the peloton back. In the vast majority of cases, blast furnaces are being kept alive through reinvestment, relinings or extensions.

Within this peloton a number of companies have reported a decline in their coal consumption over time. This includes ArcelorMittal, Cleveland-Cliffs, JFE, Ternium and U. S. Steel. However, these improvements often reflect downsizing, divestments or utilisation changes, rather than a clear commitment to exiting coal-based ironmaking altogether.

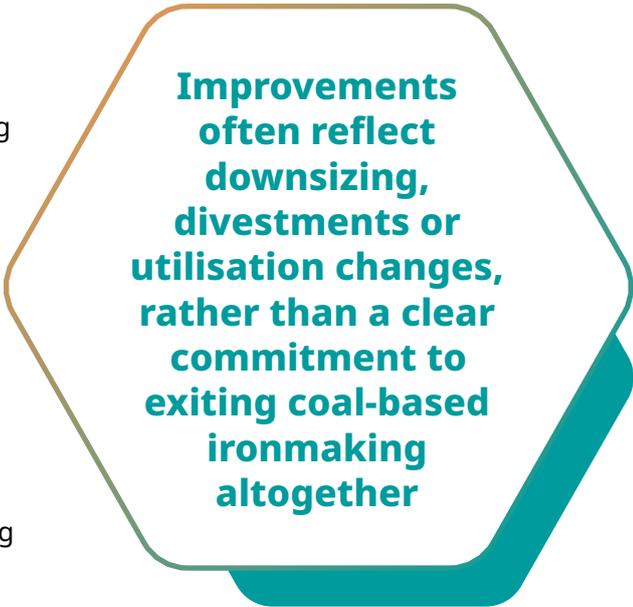
In contrast, Baosteel, HBIS and JSW Steel stand out for moving in the opposite direction, with rising coal consumption and expanding blast furnace fleets.

Green iron remains marginal

A similar clustering appears in regards to the uptake of green iron and renewable energy. For most companies in the peloton, scores sit at or near zero. A handful of companies stand slightly apart. Ternium scores highest within the peloton due to a more significant share of near-zero-emissions-capable iron capacity. Gerdau also stands out due to its relatively high share of renewable energy use. Even so, these signals remain partial and insufficient to show a full shift away from coal-based production.

Momentum on climate, but not transformation

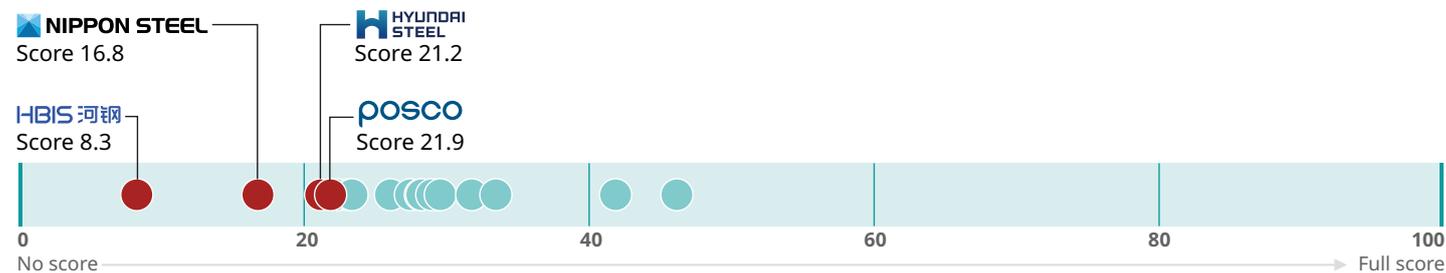
Climate performance similarly does little to break up the peloton. The Scorecard captures meaningful declines in emissions intensity for some companies, but these improvements often start from a high emissions baseline, and are not necessarily driven by proactive abatement. In several cases, declines in emissions intensity coexist with continued coal dependence and limited progress on productive replacement capacity.



Improvements often reflect downsizing, divestments or utilisation changes, rather than a clear commitment to exiting coal-based ironmaking altogether

Here, Gerdau stands out with the lowest emissions intensity overall, largely due to its high scrap use in its steel production, while Tata Steel and JSW remain among the highest emissions intensity producers. JSW Steel's improving trend lifts its score, but only from a very high baseline that reflects ongoing structural reliance on blast furnace ironmaking.

Trailing the pack



All demonstrating

Little sign of moving away from coal

- High emissions intensities
- Heavy reliance on coal-based blast furnaces
- Minimal operational improvements

Catching up will require meeting

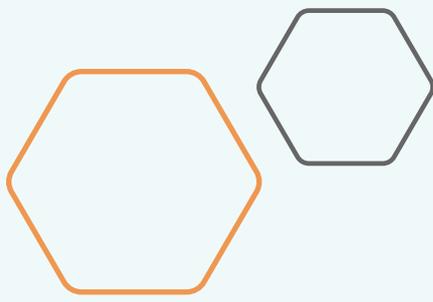
Future challenges

- Halting investment in coal-based assets
- Announcing plans to retire all blast furnaces
- Secure green iron supply

Figure 10: Companies trailing the pack

Taken together, the peloton reflects a steel sector where climate commitments are not being met with current investments, and critical transition decisions are being delayed just when they are urgently needed.

At the back of the pack HBIS, Hyundai Steel, Nippon Steel and POSCO embody the challenge of combining heavy reliance on coal-based blast furnace production with minimal operational improvements and limited transparency. Emissions intensities remain high, and progress on renewable energy or reporting is limited. Incremental efficiency gains certainly exist, but they are too little, and coming too late, relative to the scale of transformation required.



Geographical insights

Steel production occurs in distinct policy, industrial, and market contexts, which shape current and future transition pathways. This context is critical to better understand the challenges and opportunities facing different companies around the world.

Three geographical spotlights - on companies in China, India and Europe - introduce how these contextual dynamics influence steel production and transition readiness. These spotlights show how transition readiness is shaped by national and regional contexts in which steelmakers operate, but also through the diversity of their corporate responses to these policy and market contexts. This underlines the role of corporates in the steel transition that this Scorecard emphasises.

Spotlight on China through Baosteel and HBIS

Baosteel and HBIS occupy very different positions in this year's Scorecard, reflecting variation in how China's steel transition is implemented at the company level. Both report improving trends in environmental controls and workplace protections, but scores remain constrained by continued reliance on coal-based ironmaking and limited transparency. Despite operating under the same national policy framework, their readiness profiles reflect contrasting approaches.

HBIS is overseen by the Hebei provincial government and is a central steel producer for the provincial industry. Baosteel, by contrast, is a core subsidiary of China Baowu Steel Group, the world's largest steelmaker by output. Within China Baowu, Baosteel plays an innovation role, piloting advanced steel technologies such as hydrogen-based direct reduced iron (DRI) trials at the Baosteel [Zhanjiang site](#).

Baosteel scores closer to the Scorecard average, supported by more developed emissions reporting, stronger environmental and occupational safety performance and a sustained decline in emissions intensity in recent years. These trends suggest that efficiency improvements and regulatory compliance measures are being implemented and tracked across its operations, even if deep structural decarbonisation has not yet occurred.

HBIS ranks lowest overall in this year's assessment, scoring near the bottom across multiple categories. This result primarily reflects limited publicly available information on emissions, coal use and transition planning, which constrains assessment of its operational trends and future trajectory. The contrast between the two companies highlights differences in disclosure and data availability more than divergence in formal alignment with national climate objectives.

Despite these differences, both companies face a shared structural constraint: continued dependence on coal-based blast furnace production. Neither company has articulated clear timelines for blast furnace retirement or a managed phase-out of coal use, leaving a critical gap in transition readiness.

In the 2024 data on which this Scorecard is based, preparation for a low-emissions steel system remains limited. While both operate ironmaking facilities capable of lower- or near-zero-emissions production, these assets represent only a small share of total capacity. Baosteel's more flexible facility reflects its role as a platform for piloting transition technologies, but overall production pathways remain largely unchanged. Both companies have adopted net-zero by 2050 targets, consistent with China's long-term climate objectives. However, it will be important to assess whether announcements and developments occurring since the finalisation of 2024 data translate into higher scores and a smaller transition readiness gap, in future years.

These dynamics sit within a broader structural context shaped by China's governance approach. This includes centralised Five-Year Planning, regional experimentation, and the gradual national integration of different climate instruments. The 14th Five-Year Plan (2021–2025) prioritised emissions intensity control, energy efficiency, and

strengthened environmental enforcement, with development of regional carbon markets and the emerging national emissions trading system. As China prepares for the 15th Five-Year Plan period (2026–2030), policy attention is expected to increasingly focus on absolute emissions and coal-use constraints, with implications for technology deployment in heavy industry. As the world's largest steel producer, with expanding electric arc furnace (EAF) capacity and a growing green hydrogen sector, China possesses substantial industrial capability to support a shift toward lower-emissions steelmaking.

Baosteel and HBIS illustrate how China's steel transition will ultimately depend not only on national targets, but also on how enterprises translate them into disclosure, investment decisions and managed adjustment of existing coal-based capacity.

Spotlight on India through JSW Steel and Tata Steel

JSW Steel and Tata Steel sit within the main peloton in this year's Scorecard, with an overall score of 29.6 and 27.5 respectively. Their scores are supported by improvements in workplace protections and air pollution performance, but constrained by continued coal dependence and limited green iron capacity. Together they illustrate how India's growth-oriented steel market can widen the transition readiness gap in the absence of strong incentives to shift away from coal-based production.

JSW Steel's operations are largely concentrated in India, with a growing but limited international presence. Tata Steel has a more diversified footprint, with major operations across India as well as the Netherlands, the United Kingdom, Singapore and Thailand. Both companies demonstrate important elements of readiness. Tata Steel stands out globally as the only non-EU headquartered producer in the Scorecard with an early net-zero target, set for 2045, signalling relatively strong long-term ambition. JSW Steel delivers the strongest performance on social and environmental responsibility across the Scorecard, with positive trends in occupational health and safety, substantial reductions in air pollution intensity and extensive ResponsibleSteel Core Site certification.

These strengths coexist with some of the deepest structural gaps identified in the Scorecard. Coal remains central to both companies' expanding production capacity. Tata Steel operates a large blast furnace fleet, has announced only limited retirements - primarily in its international operations) and coal consumption is not disclosed. JSW Steel's challenge is more explicit: coal consumption and blast furnace capacity have increased sharply alongside production growth. In both cases, the absence of clear coal phase-down pathways and defined blast furnace retirement timelines remains a critical transition readiness gap.

Global investment trends reinforce these dynamics. New blast furnace capacity is increasingly being developed in India. This reflects strong demand growth, access to relatively cheap domestic coal, high costs of importing fuels such as fossil gas and limited policy incentives to redirect new capacity toward low-emissions alternatives. Investments made today will shape emissions trajectories for decades, and coal-based capacity risks locking in future emissions.

Climate performance underscores the scale of the challenge. Tata Steel has the highest emissions intensity in the Scorecard, with no consistent downward trend. JSW Steel ranks second highest, although its absolute emissions have declined. Both begin from very high baselines driven by blast furnace reliance and low scrap use.

This comes in a national context of the Indian government setting an [ambitious production target](#) to effectively triple the country's steelmaking capacity to 300 million tonnes (mt) of steel by 2030-31, which has led to production increases in excess of [10% per annum](#). In light of this, decisions made in the coming years will be pivotal in determining whether growth entrenches coal dependence or enables leadership in green steel.

Spotlight on companies in Europe

The Scorecard covers four steelmakers that are headquartered in Europe: ArcelorMittal (Luxembourg), SSAB (Sweden), Ternium (Luxembourg) and thyssenkrupp (Germany), of which only the latter has single-country operations, and the other three operate beyond Europe. The Scorecard also covers four more companies that have operations in Europe (operating during the 2024 year of data reporting): HBIS (Serbia), JSW Steel (Italy), and Tata Steel (Netherlands⁸) U. S. Steel (Slovakia). In addition, Oyak is headquartered in Türkiye, and MMK and NLMK have operations in Türkiye.

⁸ With operations paused in the UK in mid 2024

Steelmakers operating in Europe, particularly the European Union (EU), have for some years had a policy environment which has set a clearer direction of travel for industrial decarbonisation than in many other jurisdictions, even where near term investment conditions remain challenging and some policy uncertainty continues. Within the global context, EU policy frameworks, including the EU Climate Law and the Emissions Trading System (EU-ETS) with its staged phase-out of free allowances has set clear policy signals that influence the business case for continuing coal-based production or shifting towards decarbonisation.

The Europe-based companies have some similarities in their scores and some differences. They tend to score above the average on phasing out coal, as none have new blast furnaces under construction and some have retirement plans. They gain some of the few points earned for greening capacity, owing to either DRI plant or renewable energy use. They are very slightly above the average on climate performance, gaining points on absolute intensity rather than on the trend line of decline, and have divergent scores on targets and transparency, and on social and environmental responsibility.

While some companies are actively translating European policy signals into investment and execution, others have adopted more cautious or incremental approaches. This divergence underscores both the strength of Europe's policy architecture and the remaining challenges of resource constraints and necessary demand to scale first-mover action across the sector

Against this backdrop, the scores of SSAB and thyssenkrupp in particular can be seen as illustrating the facilitative role of European policy frameworks. The stronger progress made by these two companies has evolved in a context of emerging carbon pricing, public sector subsidies and public expectations for decarbonisation. However, the results also highlight that company responses remain uneven. While some companies are actively translating European policy signals into investment and execution, others have adopted more cautious or incremental approaches. This divergence underscores both the strength of Europe's policy architecture and the remaining challenges of resource constraints and necessary demand to scale first-mover action across the sector.

Overall, the Scorecard shows that EU policy does not ensure rapid transition,, but it provides market signals that enable earlier investment, technology piloting and market preparation, giving EU-exposed companies a structural advantage over peers in less-regulated jurisdictions.

Conclusion

Of the 18 major steel companies assessed, nearly all have announced long-term climate goals, but none of them are transition ready, so far failing to fully align their strategy and operations with the scale and pace required for a stable climate.

Out of a total “readiness” score of 100, corporate scores ranged from 8.3 to 46.2. This highlights not only the diversity of companies assessed, but the broader lack of transition readiness among this cohort. While the two emerging ahead of the pack have put in place some of the structural shifts needed for the transition, among most companies, structural preparation is sorely lacking.

The Scorecard intentionally scores companies on a combination of trends over the most recent 4 years, current performance, and forward-facing plans. Where companies have scored points for recent trendline improvements, these are often incremental changes such as increased scrap use or selling dirty assets that affect intensity. They are not changes that will lead to structural operational change and higher scores over time. Several companies score 5 out of 5 available points for not having blast furnaces under construction: halting expansion is an essential first step. The number of companies that are clearly moving forwards in phasing out coal, is however, much smaller.

Coal dependence remains a critical roadblock for the vast majority of companies assessed. Very few companies have begun to integrate green iron into their supply chains, and most companies remain structurally unprepared for producing or procuring near-zero-emissions iron.

The SteelWatch Corporate Scorecard highlights that in order to significantly improve their transition readiness, companies must move beyond intention to demonstrate tangible, structural progress. Net-zero targets are not enough on their own, but can be transformational when built on a platform of clearly reported near-term milestones and investments. Three key recommendations emerge for nearly all companies:

- Publicly-announced retirement dates and transition plans for blast furnaces are critical to overcome long-term lock-in of carbon-intensive infrastructure.
- Usage of near-zero-emissions iron must replace, rather than merely supplement, iron produced in coal-based blast furnaces.
- Clear, transparent reporting is integral to ensuring commitments translate into investments, and verification by SBTi provides external assurance that the pace of change is ambitious and timely.

The steel sector is dynamic, contextually diverse and constantly changing. Many companies have announced new plans and ventures since the data for 2024 was reported and analysed for the scores presented in this Scorecard. For fiscal year 2025, the Scorecard will be able to present evidence of whether true progress is made in the transition, which up until now was buried in complexities of diverse corporate reporting. Improved levels of data disclosure by steelmakers will also be a key factor for measuring progress. As new projects reach a final investment decision, they will be reflected in corporate reports and as they reach substantial scale, they will impact transition readiness.

The imperative is clear: structural transformation is no longer optional. Companies must rapidly scale near-zero-emissions iron and steel production, retire or convert coal-based capacity and demonstrate credible and transparent improvements in air pollution and worker safety. Those that act decisively will be better positioned to meet tightening policy, market and disclosure expectations, in a sector where decarbonisation can have a truly global impact.



The SteelWatch Corporate Scorecard highlights that in order to significantly improve their transition readiness, companies must move beyond intention and demonstrate tangible, structural progress



Company Profiles

SSAB



thyssenkrupp



ArcelorMittal



Ternium

JSW Steel



CLIFFS



U. S. Steel



GERDAU

TATA STEEL



BAOSTEEL



JFE



POSCO

HYUNDAI STEEL



NIPPON STEEL

HBIS

SSAB



Steel production (total crude steel)

7 Mtpa Million tonnes in 2024 → **18th largest** of 18 selected companies

Blast furnaces

5 units operating end of 2024 → **7 Mtpa** nominal capacity

Europe

Finland Sweden

North America

United States

SSAB

Total score

46.2 / 100

Rank

1st

of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

SSAB is currently ahead of the pack as it has made explicit decisions to phase out coal-based steelmaking, with remaining challenges in low-emissions ironmaking scale-up and social and environmental performances.

The company has a significant share of near-zero-emissions-capable iron production capacity (mostly fossil gas-based DRI), which boosts its score in scaling near-zero-emissions-capable iron. At 3.1 out of a possible 25, they scored the highest among the companies assessed.

However, it still clearly falls short of the scale of transition required and the shift to actual near-zero-emissions iron.

SteelWatch Corporate Score by category

Total score	46.2 / 100
1 Phasing out coal	21.4 / 25
2 Scaling green	0.9 / 25
3 Climate performance	6.6 / 15
4 Targets and transparency	13.3 / 15
5 Social and environmental responsibility	4.0 / 20

1 Phasing out coal

Score

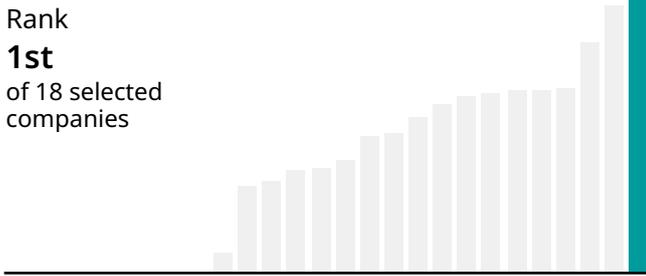
21.4 / 25

Rank

1st

of 18 selected companies

Transition readiness gap



SSAB stands out as one of the few companies to have explicitly accepted that coal-based ironmaking has no role in its future production system. Its plan to retire all existing blast furnaces is paired with a clear decreasing trend in coal consumption over the past few years.

1.1 Size of blast furnace fleet

3.3 / 5

Total capacity of the company's operating blast furnace fleet

Smallest fleet 4.8 Mtpa Average capacity 24 Mtpa Largest fleet 61 Mtpa



1.2 Blast furnaces under construction

5.0 / 5

Is the company building new blast furnace capacity?

No **0 Mtpa** under construction in 2024

1.3 Blast furnace investments

5.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

No **0** projects

1.4 Blast furnace retirement

5.0 / 5

Has the company announced the retirement of all operating blast furnace capacity?

Yes **100%** of capacity with retirement announced

1.5 Coal consumption trend

3.1 / 5

Has absolute coal consumption decreased between 2021 and 2024?

Yes
Coal consumption trend decreased



2 Scaling green

Score

0.9 / 25

Rank

Equal 5th

of 18 selected companies

Transition readiness gap



SSAB's iron supply strategy highlights a clear direction, including its plan to source green hydrogen-based DR iron, through the HYBRIT joint initiative with LKAB. While this supply is not yet operational at scale, the Scorecard recognises the alignment between SSAB's coal exit plans and its future ironmaking strategy.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt The company did not use any green iron in steelmaking processes

Million tonnes of green iron in 2024
0 Mt Average consumption of all 18 companies in 2024

2.2 Green iron share

0.0 / 5

Green iron consumption as a share of total ore-based iron used in steelmaking

Average share 0% 100%



2.3 Green iron capable production capacity

0.0 / 10

Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)

Lowest 0% Avg 4.8% Highest share 30% 100%



2.4 Renewable energy uptake

0.9 / 5

Share of renewable energy in total consumption of energy

Lowest 0% Avg 2.8% Highest share 18% 100%

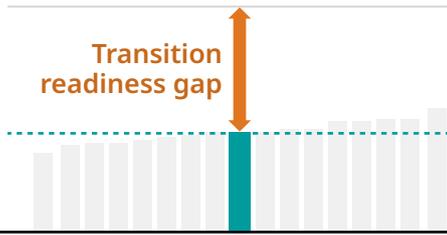


3 Climate performance

Score
6.6 / 15

Rank

Equal 9th
of 18 selected companies



SSAB records a lower GHG intensity, compared with most companies assessed, which is likely due to a higher share of scrap use in its production system. However, the company does not disclose exact scrap utilisation rates, which limits the precision of this assessment and constrains their total score in this category.

3.1 Current emissions intensity

6.6 / 12

Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)



3.2 Emissions intensity trend

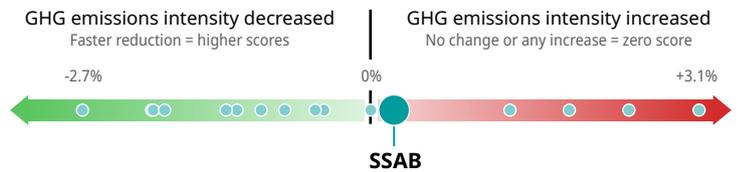
0.0 / 3

Emissions intensity change between 2021 and 2024



SSAB
GHG emissions intensity in 2024
1.46 tCO₂e / t steel

Tonnes of CO ₂ e per tonne of steel			
1.42	1.51	1.42	1.46
2021	2022	2023	2024



4 Targets and transparency

Score
13.3 / 15

Rank

1st
of 18 selected companies



SSAB achieves the highest score in the Scorecard for climate targets and transparency. This reflects its early net-zero target of 2045, SBTi-verified climate targets and above-average transparency and disclosure practices relative to its peers. However, further improvements in disclosure would be required to achieve full marks in terms of transparency, particularly in relation to operational detail and production inputs.

4.1 Net-zero target

3.0 / 3

Does the company have a target of net-zero emissions by 2050 or earlier?

Yes 3 companies have target set earlier than 2050
12 companies have target set for 2050
3 companies do not have a net-zero target

Net-zero by 2045

Company wording

"net-zero greenhouse gas emissions for Scope 1, Scope 2 and Scope 3 by 2045"

4.2 SBTi verified emissions reduction target

7.0 / 7

Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?

Yes 2 companies have targets verified by SBTi
16 companies do not have any targets verified by SBTi

4.3 Transparency & data disclosure

3.3 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?

- | | |
|---|---|
| <input checked="" type="checkbox"/> List all assets | <input checked="" type="checkbox"/> Quality of scrap use reporting |
| <input checked="" type="checkbox"/> Disclose non-financial metrics for all assets | <input checked="" type="checkbox"/> Quality of coal consumption reporting |
| <input checked="" type="checkbox"/> Quality of scope 1 emissions reporting | <input checked="" type="checkbox"/> Quality of renewable energy use reporting |
| <input checked="" type="checkbox"/> Quality of scope 2 emissions reporting | <input type="checkbox"/> Disclosure of methane emissions associated with coal mining (scope 1 or 3) |
| <input checked="" type="checkbox"/> Quality of scope 3 emissions reporting | <input checked="" type="checkbox"/> Quality of OHS reporting / Lost Time Injury Frequency Rate |
| <input checked="" type="checkbox"/> Quality of GHG intensity reporting | <input checked="" type="checkbox"/> Overall easiness of access to information |

5 Social and environmental responsibility

Score
4.0 / 20

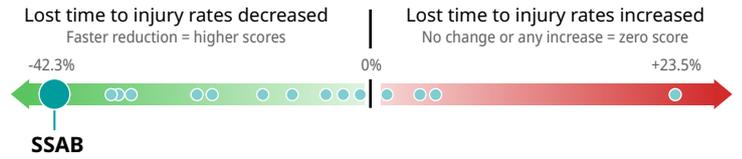
Rank
Equal 9th
of 18 selected companies

Transition
readiness gap

Despite strong performance in other categories, SSAB's lack of significant declines in air pollution over time, and its lack of certification under ResponsibleSteel limited its score in this category. This highlights potential opportunities for short improvement that would increase its score in the future.

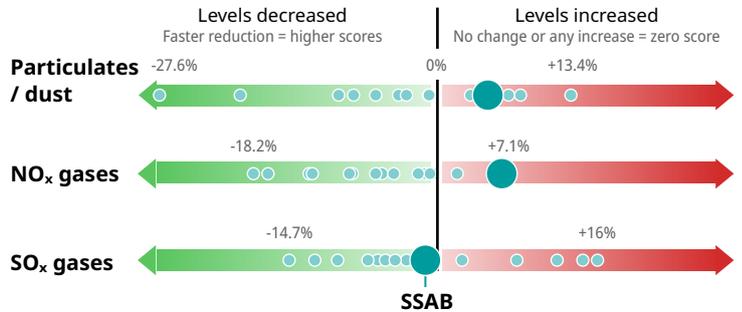
5.1 Health & safety trend 3.8 / 4

Has the rate of workplace injuries changed between 2021 and 2024?



5.2 Air pollution trend 0.2 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification 0.0 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel 0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Secure and scale up green iron supply

With credible climate targets and an aligned asset strategy already in place, SSAB's current challenge is in translating commitments into operations at scale. Developing and scaling green iron supply with partner, LKAB, is priority.

2 Improve transparency

Strengthening transparency and disclosure, including greater clarity on scrap use and production inputs will further improve SSAB's ahead-of-the-curve climate strategy.

3 Improve broader social and environmental performance

Demonstrate consistent improvements in air pollution performance, while also seeking out Core Site and Certified Steel site certification through ResponsibleSteel.



Steel production (total crude steel)

10 Mtpa Million tonnes in 2024 → **15th largest** of 18 selected companies

Blast furnaces

4 units operating end of 2024 → **11 Mtpa** nominal capacity



thyssenkrupp

Total score

41.9 / 100

Rank

2nd

of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

thyssenkrupp is putting the pieces in place to transform, but it has further to go on transparency and delivery.

thyssenkrupp ranks second overall in this year's Scorecard, with a score of 41.9 out of 100. This places the company well ahead of most of its peers, with a clear future direction and credible long-term climate targets. However, a significant transition readiness gap remains due to the climate impacts of its current coal-based steelmaking processes, as well as additional transparency limitations due to the company's corporate structure.

SteelWatch Corporate Score by category

Total score	41.9 / 100
1 Phasing out coal	17.7 / 25
2 Scaling green	1.8 / 25
3 Climate performance	6.1 / 15
4 Targets and transparency	11.3 / 15
5 Social and environmental responsibility	5.0 / 20

1 Phasing out coal

Score

17.7 / 25

Rank

2nd

of 18 selected companies

Transition readiness gap

thyssenkrupp has signaled intent to build new plants that could replace blast furnaces, which would represent a structural shift in its current operations once fully implemented. In 2025, the company initially shut down blast furnace No. 9 (BF9) at its site in Duisburg-Bruichausen. Going forward it will be critical to transform this intent into a clear retirement pathway, including efforts to transition or transform its future production. This clarity is similarly needed regarding its coal consumption, which limits our ability to assess recent consumption trends.

1.1 Size of blast furnace fleet

2.7 / 5

Total capacity of the company's operating blast furnace fleet



1.2 Blast furnaces under construction

5.0 / 5

Is the company building new blast furnace capacity?

No → **0 Mtpa** under construction in 2024

1.3 Blast furnace investments

5.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

No → **0** projects

1.4 Blast furnace retirement

5.0 / 5

Has the company announced the retirement of all operating blast furnace capacity?

Yes → **100%** of capacity with retirement announced

1.5 Coal consumption trend

0.0 / 5

Has absolute coal consumption decreased between 2021 and 2024?

No data

Coal consumption in million tonnes (Mt)



2 Scaling green

Score

1.8 / 25

Rank

2nd

of 18 selected companies

Transition readiness gap

thyssenkrupp is developing a DRI facility in Duisburg, which, once completed, will shift a significant share of the company's ironmaking to near-zero-emissions-capable capacity. While this is not yet operational, and will need to transition further to green hydrogen, it reflects the company's green iron growth potential.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt → The company did not use any green iron in steelmaking processes

Million tonnes of green iron in 2024

0 Mt Average consumption of all 18 companies in 2024

2.2 Green iron share

0.0 / 5

Green iron consumption as a share of total ore-based iron used in steelmaking

Average share 0%

100%



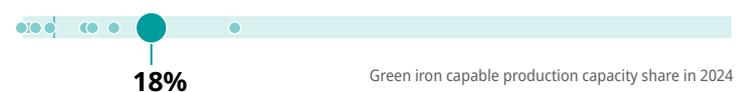
2.3 Green iron capable production capacity

1.8 / 10

Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)

Lowest 0% Avg 4.8% Highest share 30%

100%



2.4 Renewable energy uptake

0.0 / 5

Share of renewable energy in total consumption of energy

Lowest 0% Avg 2.8% Highest share 18%

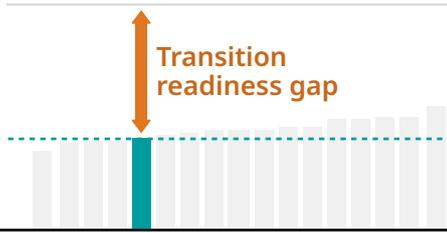
100%



3 Climate performance

Score
6.1 / 15

Rank
13th
of 18 selected companies

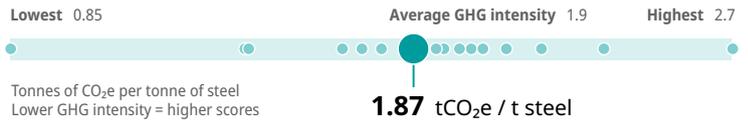


thyssenkrupp has a GHG intensity close to the average. However, based on the limited data available, the company has not been on a declining trend in recent years.

3.1 Current emissions intensity

6.1 / 12

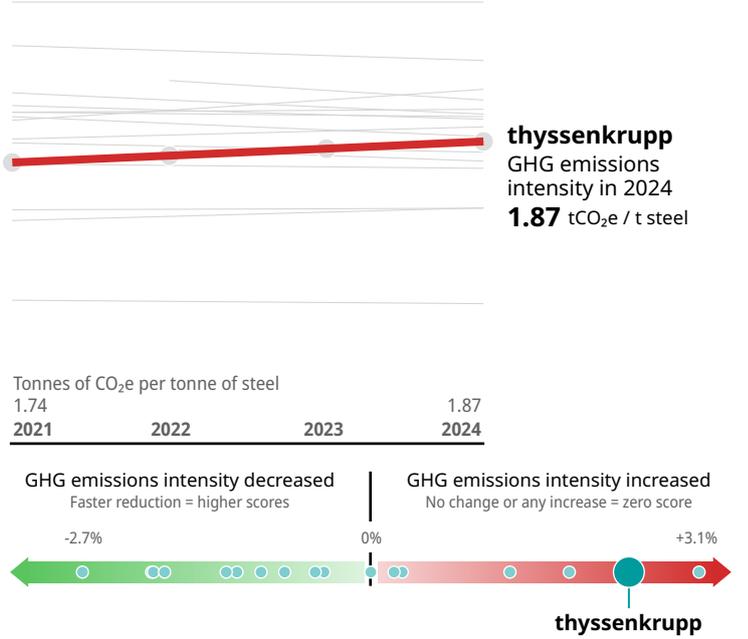
Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)



3.2 Emissions intensity trend

0.0 / 3

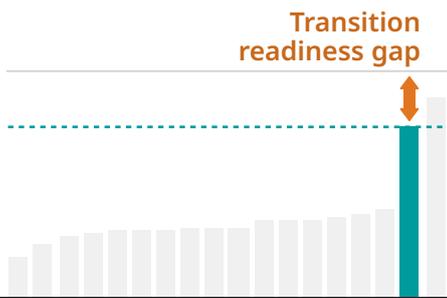
Emissions intensity change between 2021 and 2024



4 Targets and transparency

Score
11.3 / 15

Rank
2nd
of 18 selected companies



thyssenkrupp scores strongly on future climate ambition, achieving a full score on climate targets due to its SBTi-verified climate targets. However, this strength is offset by a low score on transparency and disclosure. Sustainability reporting is largely conducted at the broader conglomerate level, and not specifically for its steel business. As a result, key steel-specific metrics such as coal consumption, and occupational health and safety (OHS), are insufficiently reported.

4.1 Net-zero target

3.0 / 3

Does the company have a target of net-zero emissions by 2050 or earlier?



4.2 SBTi verified emissions reduction target

7.0 / 7

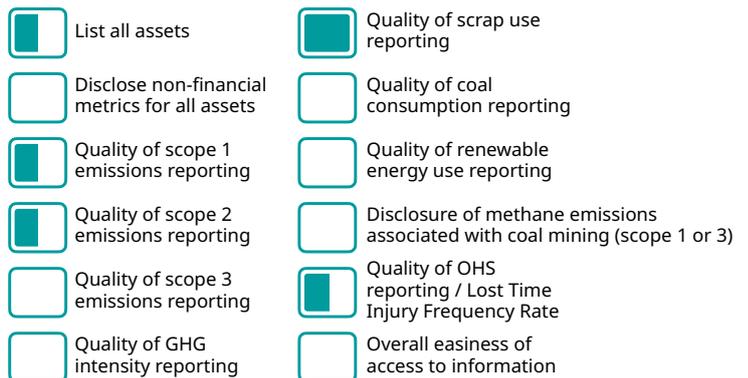
Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?



4.3 Transparency & data disclosure

1.3 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?



5 Social and environmental responsibility

Score
5.0 / 20

Rank
6th
of 18 selected companies

Transition readiness gap

Key transparency improvements, for example regarding steel-specific OHS, would significantly improve thyssenkrupp's score. thyssenkrupp stands out as the only company in this year's Scorecard with 100% of its steel production capacity covered by ResponsibleSteel Core Site certification.

5.1 Health & safety trend 0.0 / 4

Has the rate of workplace injuries changed between 2021 and 2024?

Lost time to injury rates decreased

Faster reduction = higher scores

Lost time to injury rates increased

No change or any increase = zero score

-42.3%

0%

+23.5%

No data

5.2 Air pollution trend 0.0 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?

Levels decreased

Faster reduction = higher scores

Levels increased

No change or any increase = zero score

Particulates / dust

-27.6%

0%

+13.4%

NO_x gases

-18.2%

+7.1%

SO_x gases

-14.7%

+16%

thyssenkrupp

5.3 ResponsibleSteel Core Site certification 5.0 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification

Lowest coverage 0% Avg 18%

Highest coverage 100%

Share of sites certified in 2024

Higher share = higher scores

100%

5.4 ResponsibleSteel Certified Steel 0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Invest in securing green iron inputs

Operationalising the Duisburg DRI plant will be a first step towards low-emissions ironmaking capacity. thyssenkrupp should move decisively to transition the DRI to green hydrogen, and announce next steps to ensure green iron supply replaces the remaining blast furnaces.

2 Improve steel-specific transparency

Ensuring sustainability-related disclosure specifically for the steel business will improve thyssenkrupp's transparency in implementing its climate strategy.

3 Achieve ResponsibleSteel Certified Steel status

thyssenkrupp advancing beyond ResponsibleSteel Core Site certification and achieving ResponsibleSteel Certified Steel status will improve and demonstrate measurable improvements across social and environmental responsibilities.

ArcelorMittal



Steel production (total crude steel)

58 Mtpa → **Largest**
Million tonnes in 2024 of 18 selected companies

Blast furnaces

32 units → **61 Mtpa**
operating end of 2024 nominal capacity

Europe

Belgium Poland
France Romania
Germany Spain
Luxembourg Ukraine
Bosnia and Herzegovina

North America

Canada United States

South America

Argentina Brazil

Africa

Morocco South Africa



ArcelorMittal

Total score

33.5 / 100

Rank

3rd

of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

ArcelorMittal's transition readiness remains partial and uneven, with a clear gap in its climate ambition and little in the way of decisive moves towards coal-free steelmaking.

ArcelorMittal's score reflects incremental progress across a very large and diversified global asset base, rather than a decisive shift away from coal-based steelmaking. The company has been adjusting its production portfolios, with reductions in coal use achieved via selling off assets. The majority of its ironmaking capacity remains blast furnace-based, and key transition decisions have yet to be taken at scale. It has stalled all of its recently announced projects for low-emissions ironmaking, missing the marks for transition readiness.

SteelWatch Corporate Score by category

Total score		33.5 / 100
1	Phasing out coal	12.0 / 25
2	Scaling green	1.3 / 25
3	Climate performance	7.5 / 15
4	Targets and transparency	5.3 / 15
5	Social and environmental responsibility	7.4 / 20

1 Phasing out coal

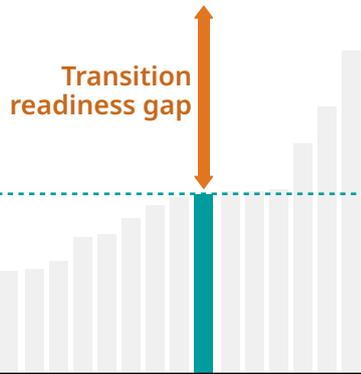
Score

12.0 / 25

Rank

7th

of 18 selected companies



ArcelorMittal has announced plans to retire some blast furnaces and has no new blast furnaces under construction, except in its joint venture with Nippon Steel in India (AN/NS India), which is not included in its corporate reporting and not covered by this assessment. However, recent reinvestments in existing blast furnaces in Europe indicate continued reliance on coal-based ironmaking in, at least, the near term. Its decline in coal consumption is therefore best understood as a result of downsizing and asset reshaping, not a decisive exit from coal.

1.1 Size of blast furnace fleet

0.4 / 5

Total capacity of the company's operating blast furnace fleet



1.2 Blast furnaces under construction

5.0 / 5

Is the company building new blast furnace capacity?

No → 0 Mtpa under construction in 2024

1.3 Blast furnace investments

0.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

Yes → 3 projects

1.4 Blast furnace retirement

2.1 / 5

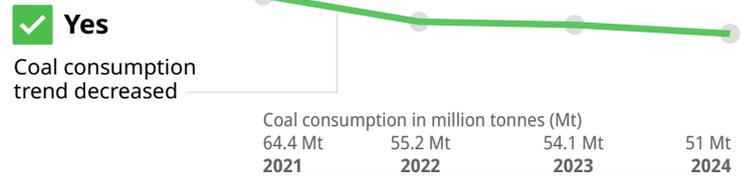
Has the company announced the retirement of all operating blast furnace capacity?

No → 43% of capacity with retirement announced

1.5 Coal consumption trend

4.4 / 5

Has absolute coal consumption decreased between 2021 and 2024?



2 Scaling green

Score

1.3 / 25

Rank

3rd

of 18 selected companies



ArcelorMittal operates some near-zero-emissions-capable ironmaking capacity, primarily fossil gas-based DRI, but it is unclear if any are hydrogen-ready. In absolute terms, this capacity represents a small share of its total ironmaking fleet, and is not yet sufficient to materially alter the company's emissions profile. No large-scale expansion of near-zero-emissions-capable ironmaking has yet reached a final investment decision.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt → The company did not use any green iron in steelmaking processes

0 Mt Average consumption of all 18 companies in 2024

Million tonnes of green iron in 2024

2.2 Green iron share

0.0 / 5

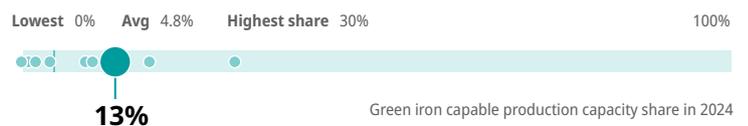
Green iron consumption as a share of total ore-based iron used in steelmaking



2.3 Green iron capable production capacity

1.3 / 10

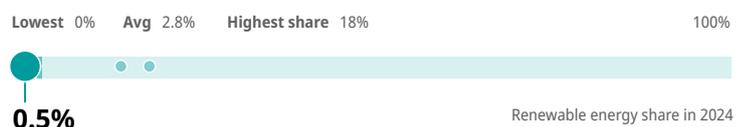
Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)



2.4 Renewable energy uptake

0.0 / 5

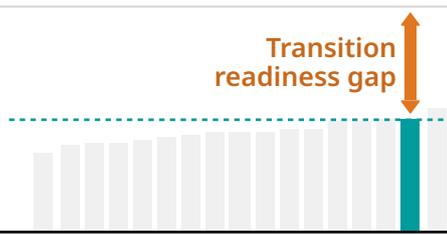
Share of renewable energy in total consumption of energy



3 Climate performance

Score
7.5 / 15

Rank
Equal 2nd
of 18 selected companies

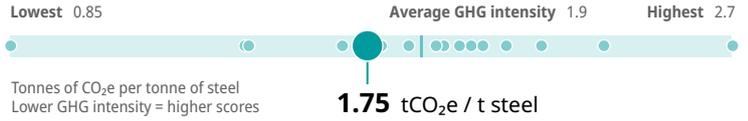


The company's decreasing trend in GHG intensity largely reflects production changes, asset divestments and portfolio diversification, rather than a full transformation of its operating fleet. While these changes have lowered reported emissions intensity, they do not yet amount to a sector-leading structural transition.

3.1 Current emissions intensity

6.2 / 12

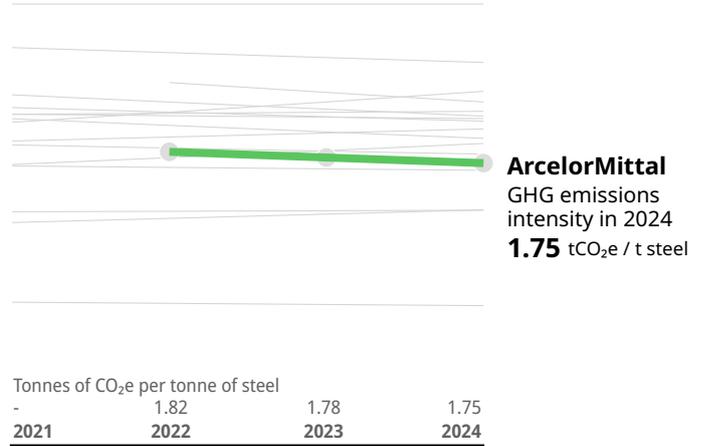
Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)



3.2 Emissions intensity trend

1.3 / 3

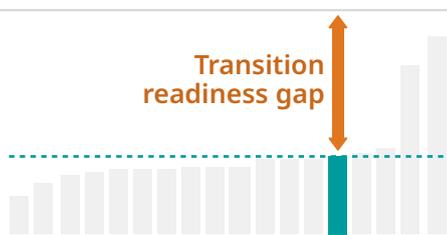
Emissions intensity change between 2021 and 2024



4 Targets and transparency

Score
5.3 / 15

Rank
5th
of 18 selected companies



ArcelorMittal has committed to a net-zero 2050 target and reports at an above-average level of transparency. However, the absence of SBTi-verified climate targets means its transition pathway lacks independent validation and clarity on near- and medium-term delivery.

4.1 Net-zero target

2.0 / 3

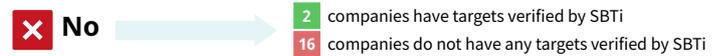
Does the company have a target of net-zero emissions by 2050 or earlier?



4.2 SBTi verified emissions reduction target

0.0 / 7

Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?



4.3 Transparency & data disclosure

3.3 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?

- List all assets
- Disclose non-financial metrics for all assets
- Quality of scope 1 emissions reporting
- Quality of scope 2 emissions reporting
- Quality of scope 3 emissions reporting
- Quality of GHG intensity reporting
- Quality of scrap use reporting
- Quality of coal consumption reporting
- Quality of renewable energy use reporting
- Disclosure of methane emissions associated with coal mining (scope 1 or 3)
- Quality of OHS reporting / Lost Time Injury Frequency Rate
- Overall easiness of access to information

5 Social and environmental responsibility

Score
7.4 / 20

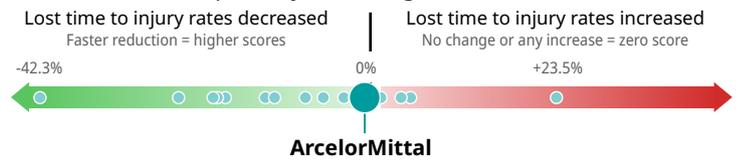
Rank
4th
of 18 selected companies

Transition readiness gap

ArcelorMittal scores above the average in this category, due to decrease in air pollution intensity and ResponsibleSteel Core Site certification. Air pollution intensities have fallen substantially, however occupational health and safety performance does not yet show a consistent improving trend, and the company has not attained ResponsibleSteel Certified Steel certification.

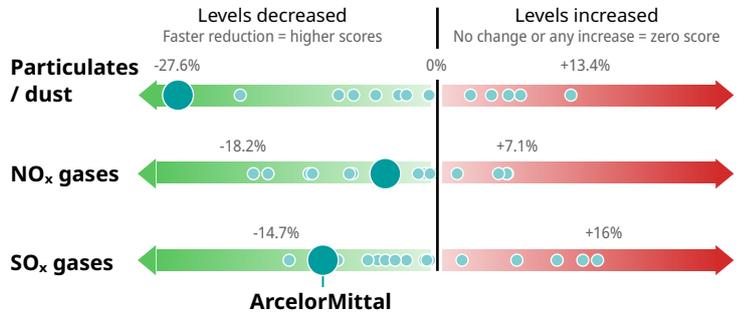
5.1 Health & safety trend 0.3 / 4

Has the rate of workplace injuries changed between 2021 and 2024?



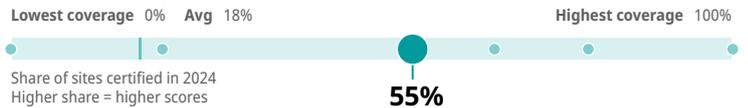
5.2 Air pollution trend 4 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification 2.8 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel 0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Adopt retirement plans for all existing blast furnaces

Clear, time-bound retirement schedules are needed to demonstrate a genuine exit from coal-based ironmaking and prevent further carbon lock-in in ArcelorMittal's globally diverse assets.

2 Invest in large-scale hydrogen-based DRI projects

ArcelorMittal should take final investment decisions on a portfolio of large-scale DRI projects with a time-bound plan to transition to hydrogen-based DRI. These investment decisions should capitalise on renewable energy opportunities, secure offtake for green hydrogen and provide green iron supplies for steelmaking across its portfolio.

3 Adopt SBTi-verified climate targets

Adopting and realigning its climate strategy to SBTi-verified climate targets would anchor ArcelorMittal's operational improvements within a credibly verified transition pathway.

Ternium



Steel production (total crude steel)

9 Mtpa Million tonnes in 2024 → **16th largest** of 18 selected companies

Blast furnaces

4 units operating end of 2024 → **9 Mtpa** nominal capacity



Total score

31.8 / 100

Rank

4th

of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

Despite modest early uptake of near-zero-emissions-capable ironmaking capacity, Ternium's lack of a net-zero target or blast furnace retirement plans limit transition readiness.

Headquartered in Luxembourg with production in Central and South America, Ternium demonstrates moderate progress towards transition readiness. While the company has shown operational improvements in emissions intensity and near-zero-emissions-capable iron production, it lacks long-term strategic commitments, such as a net-zero target with a date or blast furnace retirement plans. Overall, Ternium's position reflects a company making progress on operational efficiency, but remains exposed to long-term transition risk, particularly relative to peers that have established clear time-bound targets, and retirement plans for carbon-intensive assets.

SteelWatch Corporate Score by category

Total score		31.8 / 100
1	Phasing out coal	15.4 / 25
2	Scaling green	3.1 / 25
3	Climate performance	6.7 / 15
4	Targets and transparency	4.2 / 15
5	Social and environmental responsibility	2.4 / 20

1 Phasing out coal

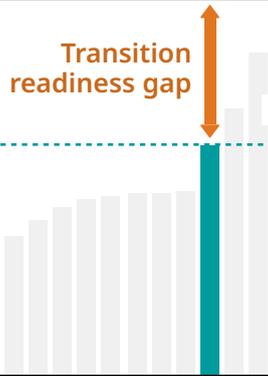
Score

15.4 / 25

Rank

3rd

of 18 selected companies



In coal use, the company shows a decreasing trend in coal consumption, which is reflected in its slightly above-average score for this category. However, Ternium has not announced retirement plans for any blast furnaces, leaving its long-term exposure to coal-based ironmaking unresolved.

1.1 Size of blast furnace fleet

2.9 / 5

Total capacity of the company's operating blast furnace fleet



9.3 Mtpa

1.2 Blast furnaces under construction

5.0 / 5

Is the company building new blast furnace capacity?

No → 0 Mtpa under construction in 2024

1.3 Blast furnace investments

5.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

No → 0 projects

1.4 Blast furnace retirement

0.0 / 5

Has the company announced the retirement of all operating blast furnace capacity?

No → 0% of capacity with retirement announced

1.5 Coal consumption trend

2.5 / 5

Has absolute coal consumption decreased between 2021 and 2024?

Yes

Coal consumption trend decreased



2 Scaling green

Score

3.1 / 25

Rank

1st

of 18 selected companies



The company has a significant share of near-zero-emissions-capable iron production capacity (mostly fossil gas-based DRI), which boosts its score in scaling near-zero-emissions-capable iron. At 3.1 out of a possible 25, they scored the highest among the companies assessed. However, it still clearly falls short of the scale of transition required and the shift to actual near-zero-emissions iron.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt → The company did not use any green iron in steelmaking processes

Million tonnes of green iron in 2024

0 Mt Average consumption of all 18 companies in 2024

2.2 Green iron share

0.0 / 5

Green iron consumption as a share of total ore-based iron used in steelmaking

Average share 0%

100%



2.3 Green iron capable production capacity

3.0 / 10

Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)

Lowest 0%

Avg 4.8%

Highest share 30%

100%



2.4 Renewable energy uptake

0.1 / 5

Share of renewable energy in total consumption of energy

Lowest 0%

Avg 2.8%

Highest share 18%

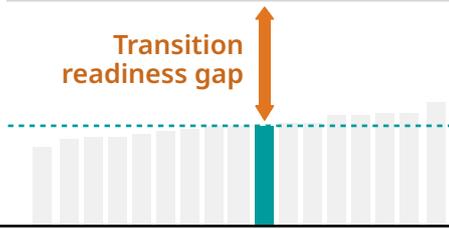
100%



3 Climate performance

Score
6.7 / 15

Rank
8th
of 18 selected companies

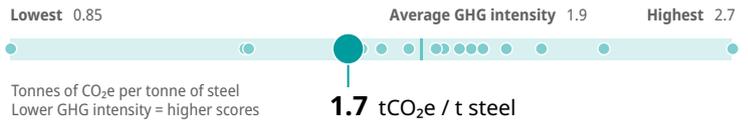


Ternium's GHG intensity is also below the average among its Scorecard peers, largely due to its higher scrap usage and DR iron contribution, which improves operational efficiency.

3.1 Current emissions intensity

6.3 / 12

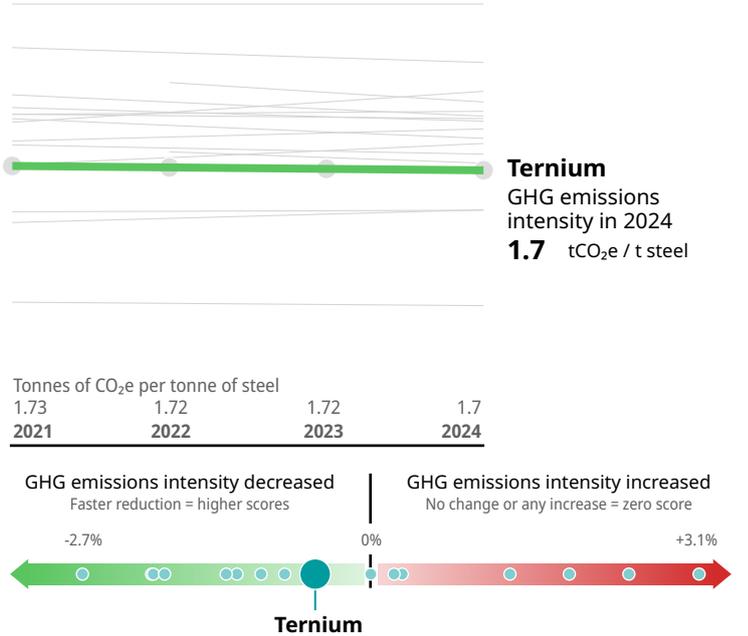
Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)



3.2 Emissions intensity trend

0.4 / 3

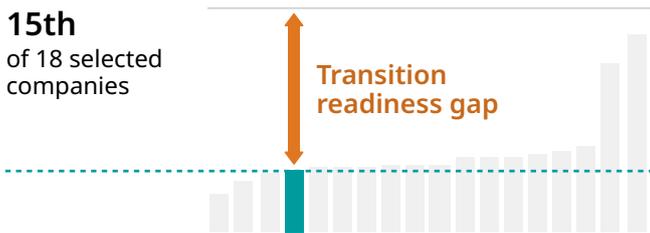
Emissions intensity change between 2021 and 2024



4 Targets and transparency

Score
4.2 / 15

Rank
15th
of 18 selected companies



Ternium's score in this category is significantly constrained by the absence of a net-zero target with a date, and the lack of a SBTi-verified pathway. Reporting transparency is a notable strength for Ternium, with the company achieving the highest transparency score in this category among all companies assessed. Its reporting quality provides an important foundation for accountability and could support future progress if coupled with stronger strategic commitments.

4.1 Net-zero target

0.0 / 3

Does the company have a target of net-zero emissions by 2050 or earlier?

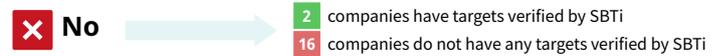


Company wording

4.2 SBTi verified emissions reduction target

0.0 / 7

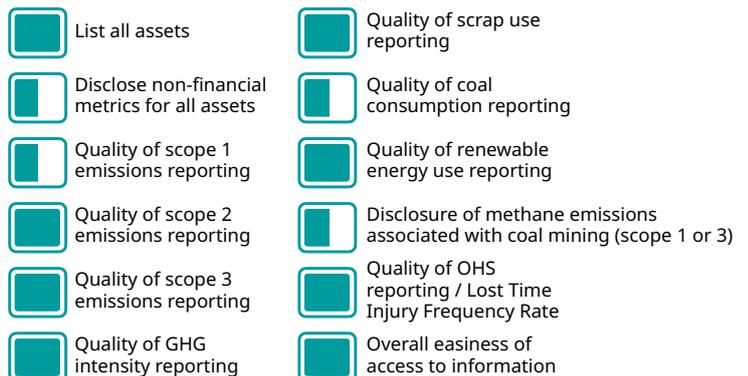
Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?



4.3 Transparency & data disclosure

4.2 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?



5 Social and environmental responsibility

Score
2.4 / 20

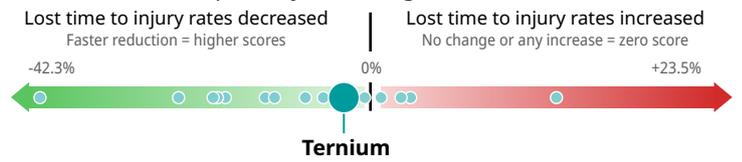
Rank
13th
of 18 selected companies

Transition
readiness gap

Ternium scores very low, showing limited improvements in occupational health and safety, rising air pollution intensity, and non-participation in ResponsibleSteel. Without improvements in these areas, Ternium risks lagging in broader performance on environmental, social and governance issues, even if operational emissions intensity continues to decline.

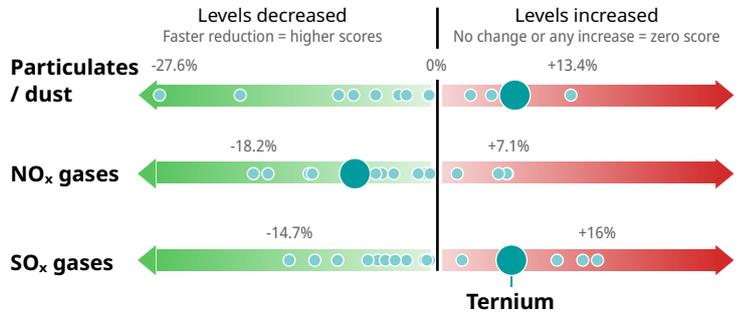
5.1 Health & safety trend 1.2 / 4

Has the rate of workplace injuries changed between 2021 and 2024?



5.2 Air pollution trend 1.2 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification 0.0 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel 0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Adopt retirement plans for all existing blast furnaces

A firm commitment to exiting carbon-intensive ironmaking is critical for Ternium to avoid long-term carbon lock-in.

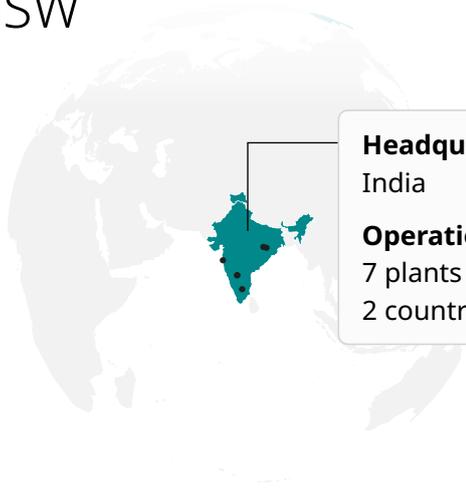
2 Invest in near-zero-emissions ironmaking

Ternium should expand and transition its current DRI capacity to near-zero-emission ironmaking. A green iron strategy should take advantage of the opportunities for renewable energy and green hydrogen in its locations, while creating clear market demand to drive evolution of the value chain.

3 Set a SBTi-aligned net-zero target

Ternium urgently needs to set a net-zero target by or earlier than 2050, and have it be SBTi-verified.

JSW



Headquarters
India

Operations
7 plants in
2 countries

Steel production (total crude steel)

28 Mtpa Million tonnes in 2024 → **7th largest** of 18 selected companies

Blast furnaces

12 units operating end of 2024 → **28 Mtpa** nominal capacity



Total score
29.6 / 100

Rank
5th
of 18 selected companies

Transition readiness gap
The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

Despite operational improvements, JSW Steel is at risk of structurally locking-in coal-based production through its major capacity expansion.

India's second largest steel producer, JSW Steel has performed better than its peers on improving trends in occupational health and safety and air pollution, and has a growing fleet of near-zero-emissions-capable iron production. However, the most significant hurdle for the company's transition readiness is its coal dependence. Its rapidly expanding blast furnace fleet leaves it structurally misaligned with a timely transition to near-zero-emissions production.

SteelWatch Corporate Score by category

Total score	29.6 / 100
1 Phasing out coal	6.8 / 25
2 Scaling green	1.0 / 25
3 Climate performance	6.5 / 15
4 Targets and transparency	4.7 / 15
5 Social and environmental responsibility	10.6 / 20

1 Phasing out coal

Score

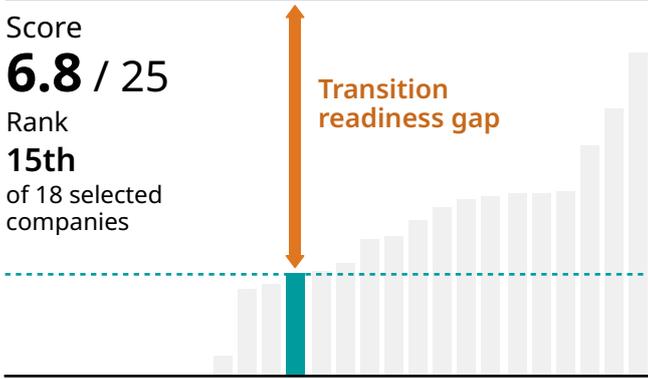
6.8 / 25

Rank

15th

of 18 selected companies

Transition readiness gap



In recent years, the company has sharply increased coal consumption while expanding its blast furnace fleet in India. With only one blast furnace retirement currently planned, continued investment in coal-based capacity risks locking in emissions for decades, especially amid India's rapidly growing steel demand.

1.1 Size of blast furnace fleet

1.4 / 5

Total capacity of the company's operating blast furnace fleet



1.2 Blast furnaces under construction

5.0 / 5

Is the company building new blast furnace capacity?

No 0 Mtpa under construction in 2024

1.3 Blast furnace investments

0.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

Yes 7 projects

1.4 Blast furnace retirement

0.4 / 5

Has the company announced the retirement of all operating blast furnace capacity?

No 8% of capacity with retirement announced

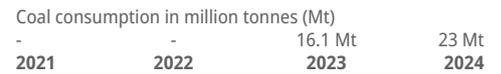
1.5 Coal consumption trend

0.0 / 5

Has absolute coal consumption decreased between 2021 and 2024?

No

Coal consumption trend increased



2 Scaling green

Score

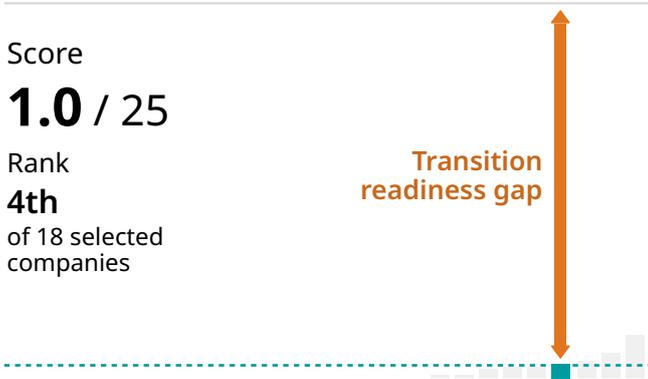
1.0 / 25

Rank

4th

of 18 selected companies

Transition readiness gap



Unlike many peers, JSW Steel has a noticeable share of near-zero-emissions-capable ironmaking capacity relative to its total ironmaking base, and has also announced plans for further DRI-EAF expansion that is not covered in the current scores. These plants and plans highlight the potential for JSW's transition, but its current near-zero-emissions-capable iron share remains small, and the company reports just 0.61% renewable energy use.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt

Million tonnes of green iron in 2024

The company did not use any green iron in steelmaking processes

0 Mt Average consumption of all 18 companies in 2024

2.2 Green iron share

0.0 / 5

Green iron consumption as a share of total ore-based iron used in steelmaking

Average share 0%

100%



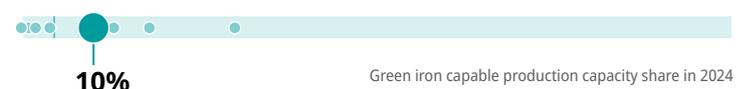
2.3 Green iron capable production capacity

1.0 / 10

Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)

Lowest 0% Avg 4.8% Highest share 30%

100%



2.4 Renewable energy uptake

0.0 / 5

Share of renewable energy in total consumption of energy

Lowest 0% Avg 2.8% Highest share 18%

100%



3 Climate performance

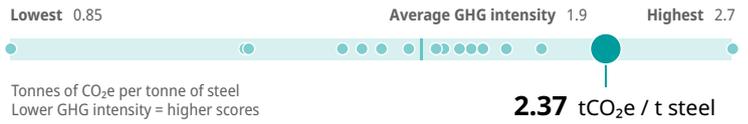
Score
6.5 / 15
Rank
11th
of 18 selected companies



JSW Steel's GHG emissions intensity is the second highest in this Scorecard. While the company has managed to reduce its emissions intensity in recent years, heavy reliance on blast furnaces and low scrap use are locking in high emissions, and while operational improvements are taking place, they are at a very high baseline which makes it a structural challenge to its transition readiness. As the only steelmaker in this analysis operating predominantly in India, its score reflects both corporate decisions, but also the broader grid, policy and market environment JSW Steel operates in.

3.1 Current emissions intensity 5.6 / 12

Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)

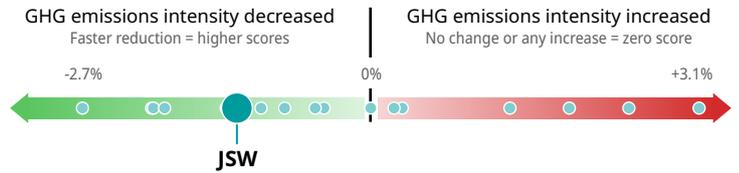


3.2 Emissions intensity trend 0.9 / 3

Emissions intensity change between 2021 and 2024

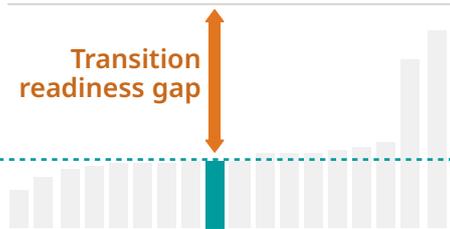


Year	2021	2022	2023	2024
Tonnes of CO ₂ e per tonne of steel	2.5	2.36	2.44	2.37



4 Targets and transparency

Score
4.7 / 15
Rank
Equal 9th
of 18 selected companies



When looking further into its potential future outlook, JSW Steel sits close to the Scorecard average. The company has a net-zero 2050 target and provides above-average disclosure, but lacks SBTi-verified climate targets, leaving open questions about its ability to meet the pace and depth of transition required.

4.1 Net-zero target 2.0 / 3

Does the company have a target of net-zero emissions by 2050 or earlier?



Company wording
"net neutral in carbon emissions for all operations under our direct control by 2050"

4.2 SBTi verified emissions reduction target 0.0 / 7

Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?



4.3 Transparency & data disclosure 2.7 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?

- List all assets
- Disclose non-financial metrics for all assets
- Quality of scope 1 emissions reporting
- Quality of scope 2 emissions reporting
- Quality of scope 3 emissions reporting
- Quality of GHG intensity reporting
- Quality of scrap use reporting
- Quality of coal consumption reporting
- Quality of renewable energy use reporting
- Disclosure of methane emissions associated with coal mining (scope 1 or 3)
- Quality of OHS reporting / Lost Time Injury Frequency Rate
- Overall easiness of access to information

5 Social and environmental responsibility

Score
10.6 / 20

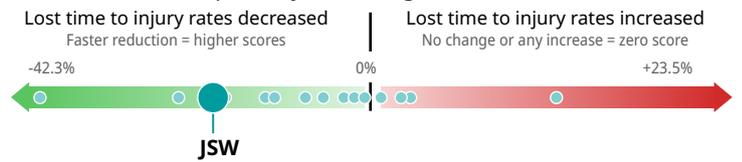
Rank
1st
of 18 selected companies

Transition readiness gap

JSW Steel demonstrates best-in-the-pack relative improvements in safety and pollution, achieving the highest score amongst the companies in the Scorecard. The score is driven by significant reductions in air pollution intensity, major improvements in occupational health and safety, and the vast majority of the company's steel production capacity certified by ResponsibleSteel Core Site certification.

5.1 Health & safety trend 3.6 / 4

Has the rate of workplace injuries changed between 2021 and 2024?



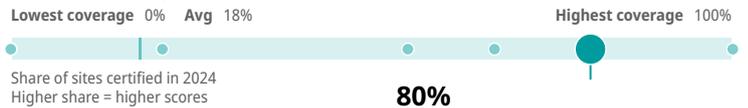
5.2 Air pollution trend 3.0 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification 4.0 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel 0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Peak and phase down coal consumption

JSW Steel's operating contexts have led to significant increases in coal consumption. A clear roadmap to tip from expansion of coal use to a transition out of coal is needed.

2 Scale up near-zero-emissions-capable production capacity

JSW Steel should scale up hydrogen-ready DRI capacity beyond its overseas export oriented production and develop a roadmap to transition blast furnace ironmaking to green iron.

3 Adopt SBTi-verified climate targets

Adopting and realigning its climate strategy to SBTi-verified climate targets would anchor JSW Steel's operational improvements within a credibly verified transition pathway.

Cleveland-Cliffs



Steel production (total crude steel)

18 Mtpa Million tonnes in 2024 → **10th largest** of 18 selected companies

Blast furnaces

8 units operating end of 2024 → **19 Mtpa** nominal capacity



Total score

29.4 / 100

Rank

6th

of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

Near-zero-emissions-capable ironmaking capacity could set Cleveland-Cliffs on a transition path, but it is constrained by ongoing coal dependence.

The largest flat-rolled steel producer in the United States, Cleveland-Cliffs sits in an intermediate position in this Scorecard. The company has demonstrated some incremental improvements in emissions reductions and total coal use. Yet without decisive commitments to retire blast furnaces, scale clean iron production, and strengthen social and environmental performance, Cleveland-Cliffs will remain a middle-of-the-pack player in a transition that increasingly demands structural change.

SteelWatch Corporate Score by category

Total score		29.4 / 100
1	Phasing out coal	12.1 / 25
2	Scaling green	0.9 / 25
3	Climate performance	7.4 / 15
4	Targets and transparency	5.1 / 15
5	Social and environmental responsibility	3.8 / 20

1 Phasing out coal

Score

12.1 / 25

Rank

6th

of 18 selected companies

Transition readiness gap

Declining coal consumption is a bright spot for Cleveland-Cliffs in this assessment. The company shows one of the more significant downward trends in coal use among the companies assessed, contributing to an above-average score in its coal transition performance. This derives from both production cuts and operational shifts, but the company's progress is weakened by the lack of time-bound retirement plans for its existing blast furnace fleet. Cleveland-Cliffs has signalled plans to reinvest in some blast furnaces rather than prepare them for closure, risking long-term carbon lock-in.

1.1 Size of blast furnace fleet

1.9 / 5

Total capacity of the company's operating blast furnace fleet



1.2 Blast furnaces under construction

5.0 / 5

Is the company building new blast furnace capacity?

No **0 Mtpa** under construction in 2024

1.3 Blast furnace investments

0.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

Yes **2 projects**

1.4 Blast furnace retirement

0.6 / 5

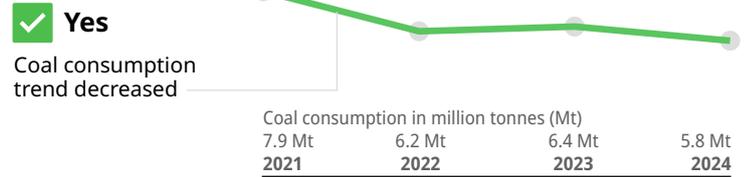
Has the company announced the retirement of all operating blast furnace capacity?

No **11%** of capacity with retirement announced

1.5 Coal consumption trend

4.7 / 5

Has absolute coal consumption decreased between 2021 and 2024?



2 Scaling green

Score

0.9 / 25

Rank

Equal 5th

of 18 selected companies

Transition readiness gap

Cleveland-Cliffs performs better than many of its peers on clean iron preparedness, albeit from a low base. The company has a noticeable share of near-zero-emissions-capable ironmaking capacity, contributing to an above-average score in this category. This provides a meaningful foundation for future transition, particularly if fossil gas-based DRI can be progressively shifted toward near-zero-emissions production.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt The company did not use any green iron in steelmaking processes

Million tonnes of green iron in 2024

0 Mt Average consumption of all 18 companies in 2024

2.2 Green iron share

0.0 / 5

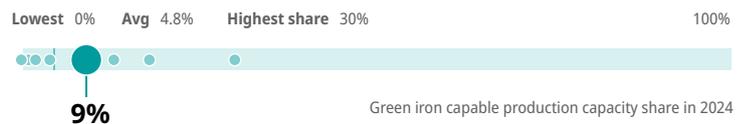
Green iron consumption as a share of total ore-based iron used in steelmaking



2.3 Green iron capable production capacity

0.9 / 10

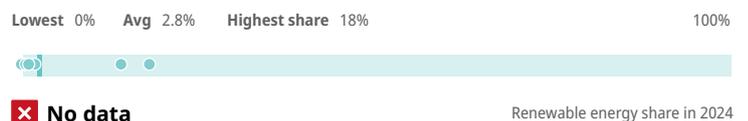
Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)



2.4 Renewable energy uptake

0.0 / 5

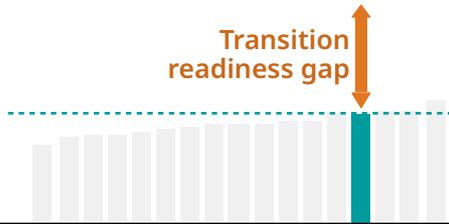
Share of renewable energy in total consumption of energy



3 Climate performance

Score
7.4 / 15

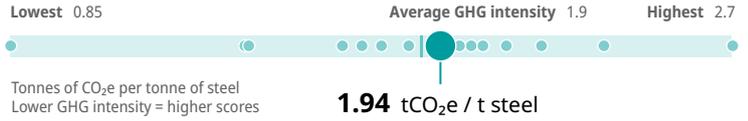
Rank
4th
of 18 selected companies



In terms of climate performance, Cleveland-Cliffs' GHG emissions intensity is slightly below the average of the companies assessed. This is largely explained by a higher share of scrap use and the operation of fossil gas-based DRI capacity. While this positions the company more favourably than many peers, these advantages represent legacy capacity, rather than transformational changes.

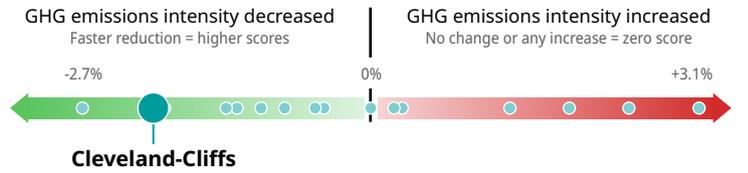
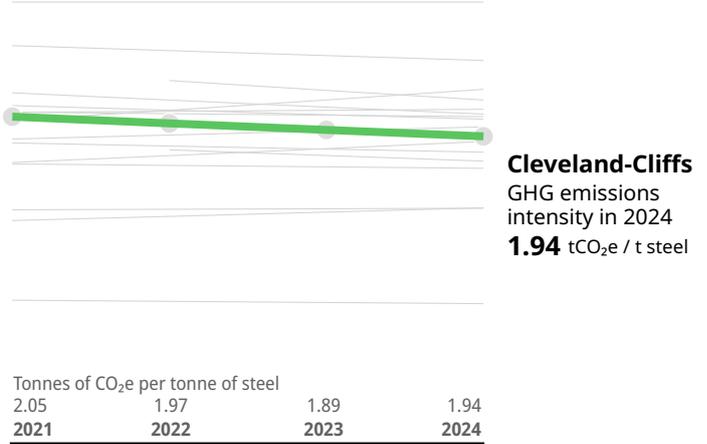
3.1 Current emissions intensity 6.0 / 12

Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)



3.2 Emissions intensity trend 1.4 / 3

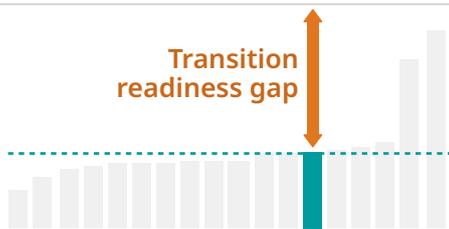
Emissions intensity change between 2021 and 2024



4 Targets and transparency

Score
5.1 / 15

Rank
Equal 6th
of 18 selected companies



On targets and transparency, Cleveland-Cliffs scores near the average of the companies assessed. The company has committed to a net-zero by 2050 target and demonstrates above-average transparency and disclosure. However, the absence of SBTi-verified targets weakens confidence that its transition is aligned with the emissions reductions required this decade.

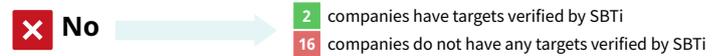
4.1 Net-zero target 2.0 / 3

Does the company have a target of net-zero emissions by 2050 or earlier?



4.2 SBTi verified emissions reduction target 0.0 / 7

Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?



4.3 Transparency & data disclosure 3.1 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?

- List all assets
- Quality of scrap use reporting
- Disclose non-financial metrics for all assets
- Quality of coal consumption reporting
- Quality of scope 1 emissions reporting
- Quality of renewable energy use reporting
- Quality of scope 2 emissions reporting
- Disclosure of methane emissions associated with coal mining (scope 1 or 3)
- Quality of scope 3 emissions reporting
- Quality of OHS reporting / Lost Time Injury Frequency Rate
- Quality of GHG intensity reporting
- Overall easiness of access to information

5 Social and environmental responsibility

Score
3.8 / 20

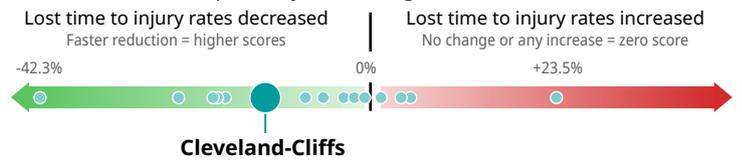
Rank
11th
of 18 selected companies

Transition readiness gap

Cleveland-Cliffs' score presents a mixed picture. The company has made substantial improvements in occupational health and safety, distinguishing it positively from many peers. However, these gains are offset by inconsistent or increasing trends in air pollution intensity and the company's lack of certification from ResponsibleSteel. These factors indicate unresolved environmental and workplace safety risks.

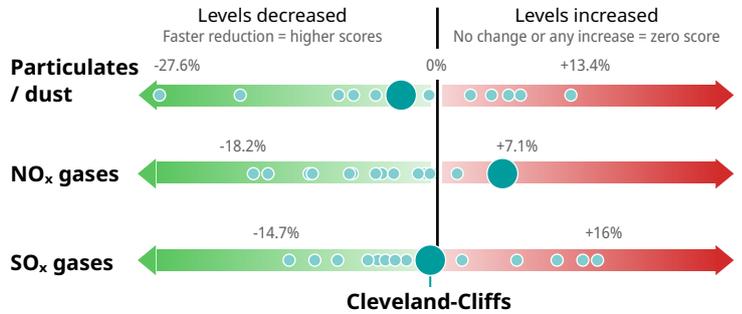
5.1 Health & safety trend 3.1 / 4

Has the rate of workplace injuries changed between 2021 and 2024?



5.2 Air pollution trend 0.7 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification 0.0 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel 0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Halt reinvestment in existing blast furnaces

Cleveland-Cliffs has operational opportunities to shift declining coal consumption trends into concrete commitments to ending blast furnaces in its fleet. It should publish time-bound retirement and transition plans for all its blast furnaces.

2 Invest in large-scale DRI with transition to hydrogen

Cleveland-Cliffs needs to expand its DRI production capacity with a time-bound plan to transition to green hydrogen DRI and integrate stronger renewable energy supply.

3 Address air pollution trends and strengthen transparency

Reversing increasing air pollution intensity and increasing engagement with international initiatives such as ResponsibleSteel would improve environmental performance and enhance external accountability.

NLMK



Steel production (total crude steel)

15 Mtpa Million tonnes in 2024 → **12th largest** of 18 selected companies

Blast furnaces

5 units operating end of 2024 → **14 Mtpa** nominal capacity



Total score
29.0 / 100

Rank
7th
of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

Despite operational improvements, the lack of a net-zero target and no clear pathway out of coal means NLMK's transition readiness remains constrained.

NLMK sits in the upper half of the Scorecard, driven by measurable improvements in emissions intensity and selected social and environmental indicators. However, these gains are not supported by long-term climate commitments or asset-level transition planning. The company is also one of the few among this year's Scorecard not to have adopted a net-zero target. While NLMK's ranking reflects efficiency improvements over time, it does not appear to be positioning itself for a structural transition away from coal-based steelmaking.

SteelWatch Corporate Score by category

Total score		29.0 / 100
1	Phasing out coal	12.4 / 25
2	Scaling green	0.0 / 25
3	Climate performance	7.3 / 15
4	Targets and transparency	4.0 / 15
5	Social and environmental responsibility	5.3 / 20

1 Phasing out coal

Score

12.4 / 25

Rank

4th

of 18 selected companies



NLMK has not announced plans to retire any of its existing blast furnaces, and its coal consumption is not on a decreasing trend. At the same time, the company has not reinvested in new or relined blast furnace capacity in recent years. This places NLMK in a holding pattern, as it does not appear to be further entrenching its coal dependence, but is also not taking active steps to exit coal-based ironmaking.

1.1 Size of blast furnace fleet

2.4 / 5

Total capacity of the company's operating blast furnace fleet



1.2 Blast furnaces under construction

5.0 / 5

Is the company building new blast furnace capacity?

No **0 Mtpa** under construction in 2024

1.3 Blast furnace investments

5.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

No **0** projects

1.4 Blast furnace retirement

0.0 / 5

Has the company announced the retirement of all operating blast furnace capacity?

No **0%** of capacity with retirement announced

1.5 Coal consumption trend

0.0 / 5

Has absolute coal consumption decreased between 2021 and 2024?

No

Coal consumption trend increased



2 Scaling green

Score

0.0 / 25

Rank

Equal 11th

of 18 selected companies



NLMK has no operational or firmly planned near-zero-emissions-capable ironmaking capacity, and reports negligible renewable energy consumption. As a result, it scores zero in this category. There is no disclosed strategy for developing or sourcing low-emissions iron inputs, leaving a clear gap between current operations and future transition requirements.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt The company did not use any green iron in steelmaking processes

Million tonnes of green iron in 2024

0 Mt Average consumption of all 18 companies in 2024

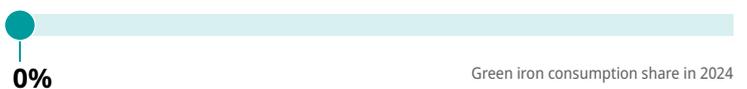
2.2 Green iron share

0.0 / 5

Green iron consumption as a share of total ore-based iron used in steelmaking

Average share 0%

100%



2.3 Green iron capable production capacity

0.0 / 10

Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)

Lowest 0%

Avg 4.8%

Highest share 30%

100%



2.4 Renewable energy uptake

0.0 / 5

Share of renewable energy in total consumption of energy

Lowest 0%

Avg 2.8%

Highest share 18%

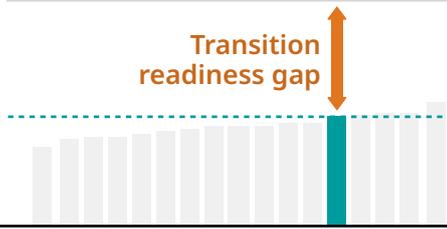
100%



3 Climate performance

Score
7.3 / 15

Rank
5th
of 18 selected companies

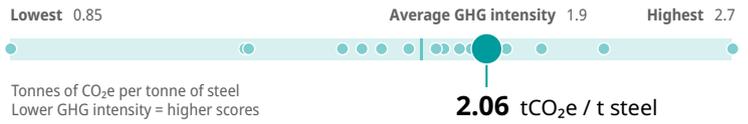


Between 2021 and 2024, NLMK's steel production saw one of the largest GHG intensity declines among Scorecard companies. While the company's absolute emissions intensity was average among its peers, this decline rate placed it among the leading group in this category. However, the available data does not indicate if this trend can be clearly linked to structural changes in production routes or asset configuration.

3.1 Current emissions intensity

5.9 / 12

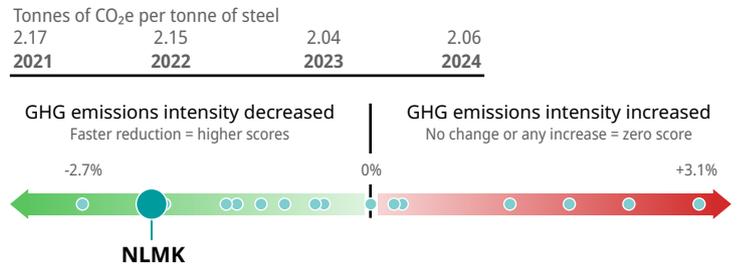
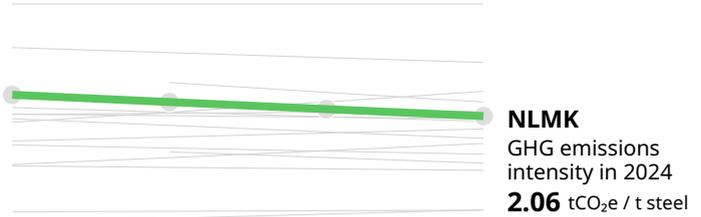
Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)



3.2 Emissions intensity trend

1.4 / 3

Emissions intensity change between 2021 and 2024



4 Targets and transparency

Score
4.0 / 15

Rank
16th
of 18 selected companies



NLMK is one of only three companies to have not adopted a net-zero target in this year's Scorecard, and therefore scores zero on climate targets. This is contrasted by its relatively strong performance in other areas of transparency and disclosure. This provides a foundation for accountability and future assessment, but in the absence of clear targets and transition plans, disclosure alone does not indicate readiness.

4.1 Net-zero target

0.0 / 3

Does the company have a target of net-zero emissions by 2050 or earlier?



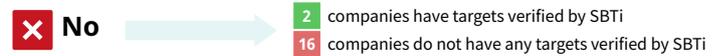
Company wording

"NLMK has set a long-term goal for reduction of specific emissions (Scope 1+2) at 1.2 tonnes of CO₂ per tonne of steel by 2050."

4.2 SBTi verified emissions reduction target

0.0 / 7

Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?



4.3 Transparency & data disclosure

4.0 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?

- | | |
|---|--|
| <input type="checkbox"/> List all assets | <input type="checkbox"/> Quality of scrap use reporting |
| <input checked="" type="checkbox"/> Disclose non-financial metrics for all assets | <input checked="" type="checkbox"/> Quality of coal consumption reporting |
| <input checked="" type="checkbox"/> Quality of scope 1 emissions reporting | <input checked="" type="checkbox"/> Quality of renewable energy use reporting |
| <input checked="" type="checkbox"/> Quality of scope 2 emissions reporting | <input checked="" type="checkbox"/> Disclosure of methane emissions associated with coal mining (scope 1 or 3) |
| <input checked="" type="checkbox"/> Quality of scope 3 emissions reporting | <input checked="" type="checkbox"/> Quality of OHS reporting / Lost Time Injury Frequency Rate |
| <input checked="" type="checkbox"/> Quality of GHG intensity reporting | <input checked="" type="checkbox"/> Overall easiness of access to information |

5 Social and environmental responsibility

Score
5.3 / 20

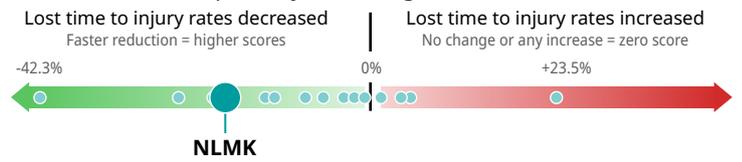
Rank
5th
of 18 selected companies

Transition readiness gap

NLMK's social and environmental responsibility score reflects substantial improvements in occupational health and safety and a large decrease in NO_x emissions intensity. At the same time, performance on particulate matter (PM) and SO_x emissions intensity remains weaker, and the company does not participate in ResponsibleSteel or hold Core Site or Certified Steel certifications.

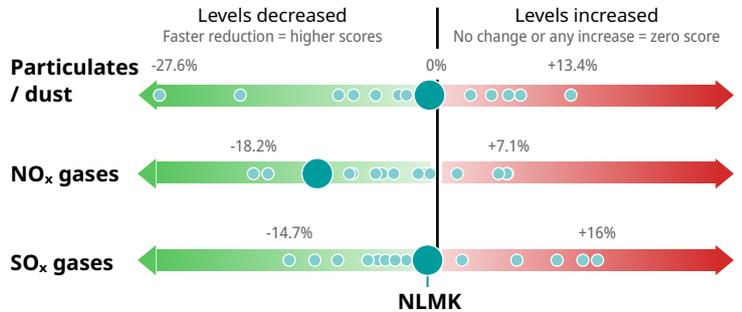
5.1 Health & safety trend 3.5 / 4

Has the rate of workplace injuries changed between 2021 and 2024?



5.2 Air pollution trend 1.8 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification 0.0 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel 0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Phase down coal consumption and halt reinvestment in blast furnaces

While NLMK is not expanding coal-based capacity, clear timelines for retiring existing blast furnaces are essential in demonstrating structural transition.

2 Invest in securing green iron inputs

NLMK should develop commercial scale ironmaking capacity that is near-zero-emissions-capable with a clear timeline for use of green hydrogen, and scale renewable electricity use.

3 Set SBTi-aligned net-zero targets

NLMK urgently needs to set a net-zero target by or earlier than 2050, and have it be SBTi-verified.

U. S. Steel



Steel production (total crude steel)

16 Mtpa Million tonnes in 2024 → **11th largest** of 18 selected companies

Blast furnaces

9 units operating end of 2024 → **14 Mtpa** nominal capacity



Total score
28.3 / 100

Rank
8th
of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

Without a clear direction for transition, U. S. Steel risks stalling before reaching a genuinely coal-free trajectory.

U. S. Steel can be characterised as a company without a clearly defined destination. The company is one of the oldest and most established steel producers in the United States, with a large installed base of blast furnace assets. It has achieved measurable reductions in GHG emissions intensity and coal consumption. However, without clear plans to retire blast furnaces and invest in near-zero-emissions-capable ironmaking, its transition readiness risks stalling before reaching a genuinely coal-free trajectory.

SteelWatch Corporate Score by category

Total score		28.3 / 100
1	Phasing out coal	11.8 / 25
2	Scaling green	0.0 / 25
3	Climate performance	6.9 / 15
4	Targets and transparency	5.1 / 15
5	Social and environmental responsibility	4.5 / 20

1 Phasing out coal

Score

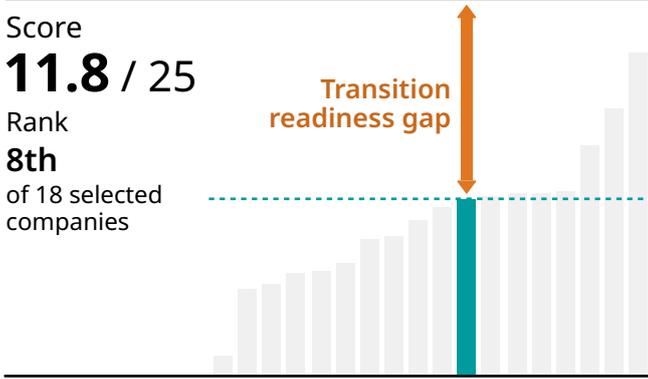
11.8 / 25

Rank

8th

of 18 selected companies

Transition readiness gap



The company shows a significant, decreasing coal consumption trend, driven largely by output declines. However, with the continued investments in coal-based production, and in the absence of announced blast furnace retirement plans, it remains unclear whether its coal consumption decline reflects structural transition. The recent announcement of relining No.14 blast furnace at Gary Works, as part of the acquisition deal by Nippon Steel, puts the company in the backward trajectory.

1.1 Size of blast furnace fleet

2.3 / 5

Total capacity of the company's operating blast furnace fleet



1.2 Blast furnaces under construction

5.0 / 5

Is the company building new blast furnace capacity?

No → **0 Mtpa** under construction in 2024

1.3 Blast furnace investments

0.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

Yes → **1 project**

1.4 Blast furnace retirement

0.0 / 5

Has the company announced the retirement of all operating blast furnace capacity?

No → **0%** of capacity with retirement announced

1.5 Coal consumption trend

4.5 / 5

Has absolute coal consumption decreased between 2021 and 2024?

Yes
Coal consumption trend decreased



2 Scaling green

Score

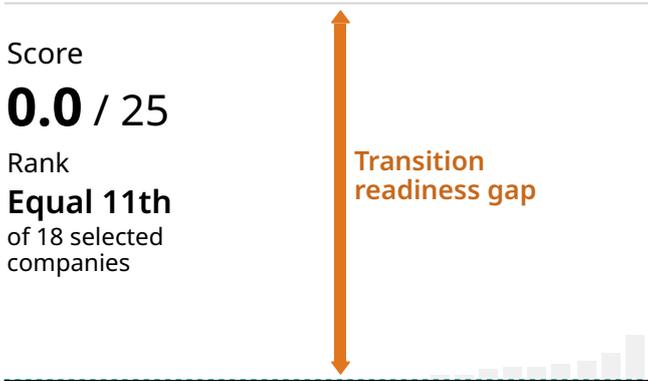
0.0 / 25

Rank

Equal 11th

of 18 selected companies

Transition readiness gap



A structural gap is evident in U. S. Steel's clean iron and energy profile. The company reports no operational, or firmly planned, near-zero-emissions-capable ironmaking capacity, and negligible renewable energy consumption, resulting in a zero score in this category. A recent change in ownership (the acquisition of U. S. Steel by Nippon Steel in June 2025) may, however, introduce potential investment in near-zero-emissions-capable facilities that have not been reflected in this year's assessment.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt → The company did not use any green iron in steelmaking processes

Million tonnes of green iron in 2024
0 Mt Average consumption of all 18 companies in 2024

2.2 Green iron share

0.0 / 5

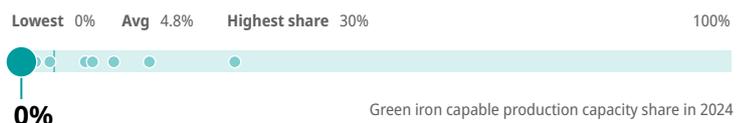
Green iron consumption as a share of total ore-based iron used in steelmaking



2.3 Green iron capable production capacity

0.0 / 10

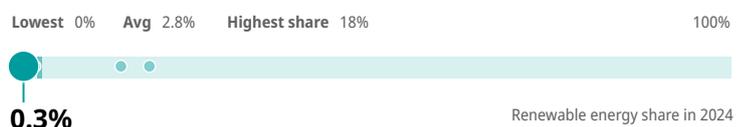
Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)



2.4 Renewable energy uptake

0.0 / 5

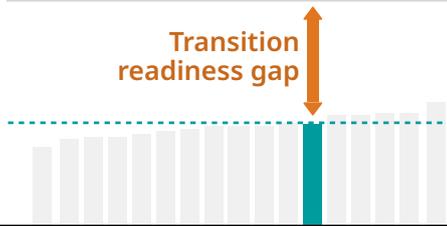
Share of renewable energy in total consumption of energy



3 Climate performance

Score
6.9 / 15

Rank
Equal 6th
of 18 selected companies

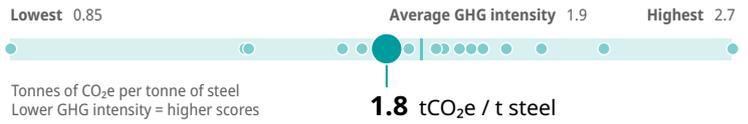


A strength in U. S. Steel's profile is its consistent decline in GHG emissions intensity over recent years, contributing to an above-average score in climate performance, relative to the companies assessed. The extent to which this reflects structural transition or operating conditions remains unclear.

3.1 Current emissions intensity

6.1 / 12

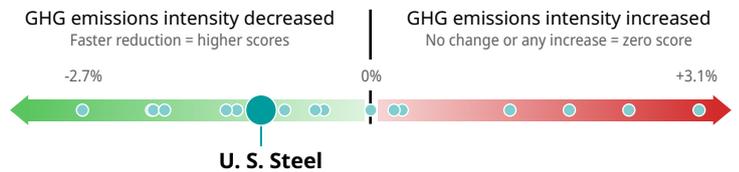
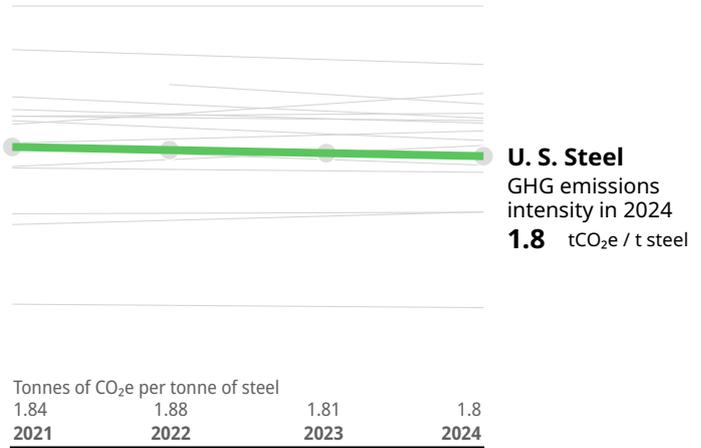
Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)



3.2 Emissions intensity trend

0.8 / 3

Emissions intensity change between 2021 and 2024



4 Targets and transparency

Score
5.1 / 15

Rank
Equal 6th
of 18 selected companies



U. S. Steel has committed to a net-zero by 2050 target and demonstrates above-average transparency and disclosure. However, the absence of SBTi-verified climate targets limits confidence that current performance improvements are aligned with the pace of emissions reductions required this decade.

4.1 Net-zero target

2.0 / 3

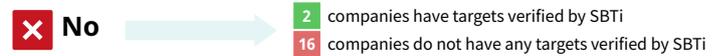
Does the company have a target of net-zero emissions by 2050 or earlier?



4.2 SBTi verified emissions reduction target

0.0 / 7

Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?



4.3 Transparency & data disclosure

3.1 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?

- List all assets
- Disclose non-financial metrics for all assets
- Quality of scope 1 emissions reporting
- Quality of scope 2 emissions reporting
- Quality of scope 3 emissions reporting
- Quality of GHG intensity reporting
- Quality of scrap use reporting
- Quality of coal consumption reporting
- Quality of renewable energy use reporting
- Disclosure of methane emissions associated with coal mining (scope 1 or 3)
- Quality of OHS reporting / Lost Time Injury Frequency Rate
- Overall easiness of access to information

5 Social and environmental responsibility

Score
4.5 / 20

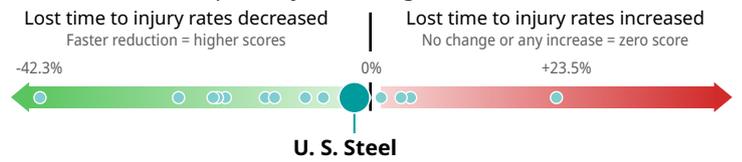
Rank
7th
of 18 selected
companies

Transition
readiness gap

U. S. Steel's social and environmental responsibility score presents a mixed picture. The company's below-average score in this category reflects increasing trends in NO_x emissions intensity, and limited improvements across other air pollution, and occupational health and safety metrics. However, U. S. Steel stands out as the only company in the Scorecard to have obtained ResponsibleSteel Certified Steel certification, providing an important signal of external accountability, even as operational environmental performance remains uneven.

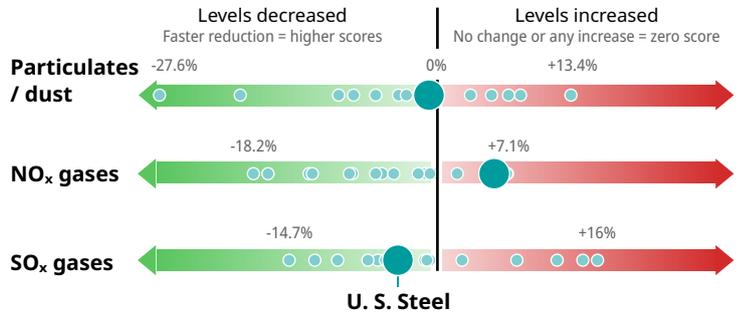
5.1 Health & safety trend 0.8 / 4

Has the rate of workplace injuries changed between 2021 and 2024?



5.2 Air pollution trend 0.9 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification 1.1 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel 1.7 / 5

The number of ResponsibleSteel Certified Steel certificates

1 certificate

Priority areas for improvement

1 Halt reinvestment in existing blast furnaces

U. S. Steel should build on its progress in reducing coal consumption by actively planning an exit from coal-based ironmaking. This includes publishing time-bound blast furnace retirement plans and halting reinvestments in existing blast furnace assets.

2 Invest in large-scale DRI projects with transition to green hydrogen

Developing clear pathways to replace blast furnace capacity with near-zero-emissions-capable capacity, with a time-bound plan to transition to green hydrogen, is critical to accelerating emissions reductions and aligning the U. S. Steel's asset base with future transition requirements.

3 Address air pollution trends and strengthen transparency

Reversing increasing air pollution intensity and increasing engagement with international initiatives such as ResponsibleSteel would improve environmental performance and enhance external accountability.

Gerdaud



Steel production (total crude steel)

12 Mtpa Million tonnes in 2024 → **13th largest** of 18 selected companies

Blast furnaces

5 units operating end of 2024 → **5 Mtpa** nominal capacity

South America

Argentina Brazil

North America

Canada Mexico United States



Total score

28.2 / 100

Rank

9th

of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

Gerdaud's significant share of renewable energy and operational efficiencies are offset by recent and planned blast furnace relinings, limiting its structural readiness for transition.

Gerdaud's score reflects strong operational efficiency and partial steps toward a broader decarbonisation of its steelmaking process, through high scrap and renewable energy uptake. However, the absence of structural blast furnace retirements and lack of investment in green iron production despite operating in countries with high renewable energy endowment, limit the company's transition readiness.

SteelWatch Corporate Score by category

Total score		28.2 / 100
1	Phasing out coal	9.4 / 25
2	Scaling green	0.7 / 25
3	Climate performance	8.2 / 15
4	Targets and transparency	5.8 / 15
5	Social and environmental responsibility	4.1 / 20

1 Phasing out coal

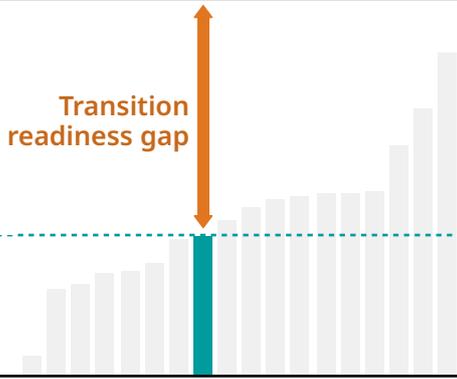
Score

9.4 / 25

Rank

11th

of 18 selected companies



Coal consumption trends are inconsistent, the company continues to invest in its blast furnace fleet and the company has no announced plans to retire blast furnaces. As a result, Gerdau remains reliant on traditional coal-based ironmaking, which limits the extent to which its low emissions intensity can be interpreted as transition readiness.

1.1 Size of blast furnace fleet

3.6 / 5

Total capacity of the company's operating blast furnace fleet

Smallest fleet 4.8 Mtpa Average capacity 24 Mtpa Largest fleet 61 Mtpa



4.8 Mtpa

Million tonnes per annum in 2024
Lower capacities = higher scores

1.2 Blast furnaces under construction

5.0 / 5

Is the company building new blast furnace capacity?

No **0 Mtpa** under construction in 2024

1.3 Blast furnace investments

0.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

Yes **3 projects**

1.4 Blast furnace retirement

0.0 / 5

Has the company announced the retirement of all operating blast furnace capacity?

No **0%** of capacity with retirement announced

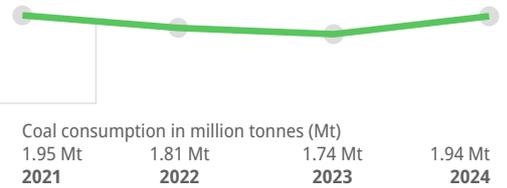
1.5 Coal consumption trend

0.8 / 5

Has absolute coal consumption decreased between 2021 and 2024?

Yes

Coal consumption trend decreased



2 Scaling green

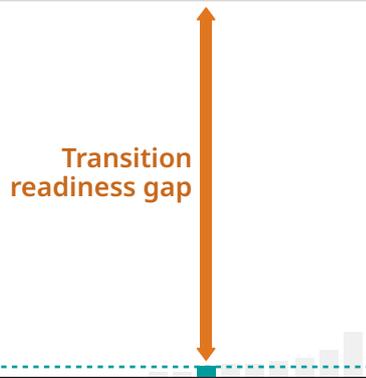
Score

0.7 / 25

Rank

7th

of 18 selected companies



Gerdau benefits from a significant share of renewable energy within its total energy mix, which contributes positively to its overall score. However, the company has no operational or firmly planned near-zero-emissions-capable ironmaking capacity, meaning it does not yet have the assets required to structurally decarbonise steel production.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt The company did not use any green iron in steelmaking processes

Million tonnes of green iron in 2024

0 Mt Average consumption of all 18 companies in 2024

2.2 Green iron share

0.0 / 5

Green iron consumption as a share of total ore-based iron used in steelmaking

Average share 0%

100%



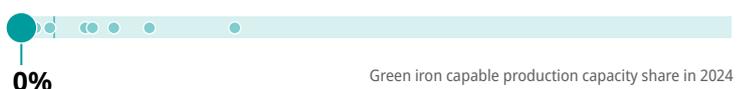
2.3 Green iron capable production capacity

0.0 / 10

Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)

Lowest 0% Avg 4.8% Highest share 30%

100%



2.4 Renewable energy uptake

0.7 / 5

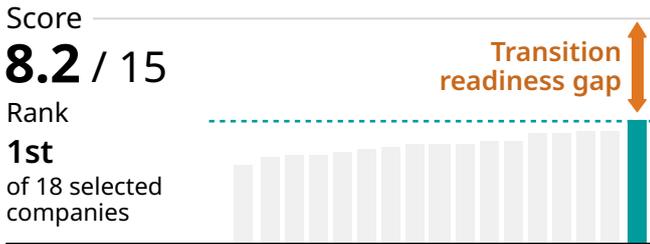
Share of renewable energy in total consumption of energy

Lowest 0% Avg 2.8% Highest share 18%

100%



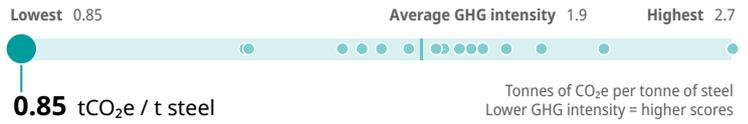
3 Climate performance



Gerdau's GHG emissions intensity is the lowest in the Scorecard, primarily because of a very high share of scrap in its steel production. This operational profile gives it a strong starting point on climate performance, but improvements in emissions intensity reflect the choice of production routes rather than structural action on coal-based ironmaking.

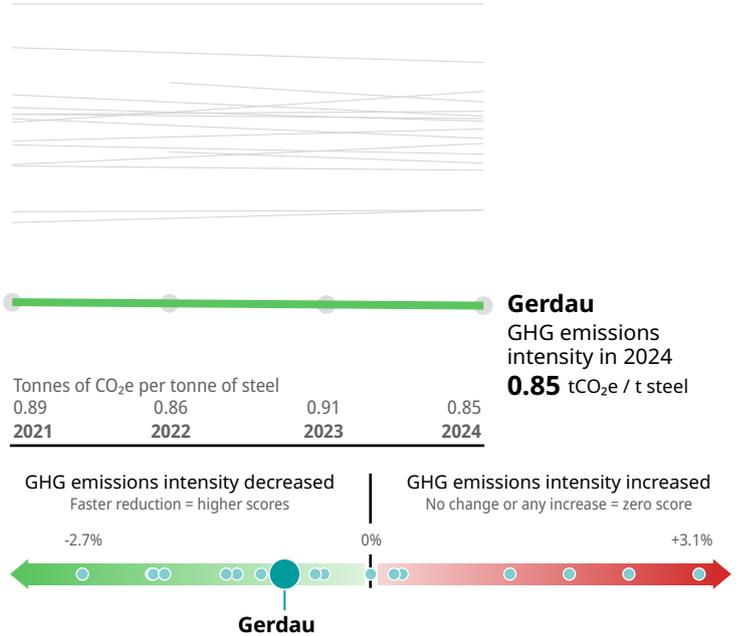
3.1 Current emissions intensity 7.6 / 12

Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)

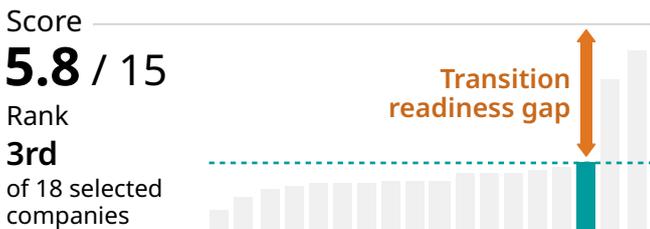


3.2 Emissions intensity trend 0.7 / 3

Emissions intensity change between 2021 and 2024



4 Targets and transparency



Gerdau has committed to a net-zero 2050 target and reports at an above-average level of transparency compared with the other companies assessed. However, it has not adopted SBTi-verified climate targets, leaving its pathway to reach net zero unclear and unvalidated.

4.1 Net-zero target 2.0 / 3

Does the company have a target of net-zero emissions by 2050 or earlier?



4.2 SBTi verified emissions reduction target 0.0 / 7

Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?



4.3 Transparency & data disclosure 3.8 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?

- List all assets
- Quality of scrap use reporting
- Disclose non-financial metrics for all assets
- Quality of coal consumption reporting
- Quality of scope 1 emissions reporting
- Quality of renewable energy use reporting
- Quality of scope 2 emissions reporting
- Disclosure of methane emissions associated with coal mining (scope 1 or 3)
- Quality of scope 3 emissions reporting
- Quality of OHS reporting / Lost Time Injury Frequency Rate
- Quality of GHG intensity reporting
- Overall easiness of access to information

5 Social and environmental responsibility

Score
4.1 / 20

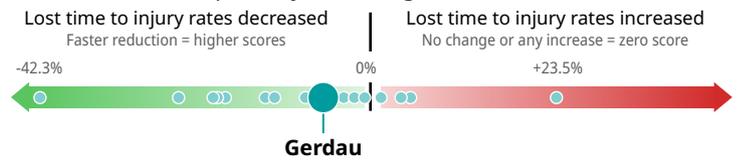
Rank
8th
of 18 selected companies

Transition readiness gap

On environmental and social performance, Gerdau has made notable improvements in occupational health and safety and has achieved a large reduction in NO_x emissions intensity. Its score in this category remains slightly below the average, reflecting limited progress on particulate matter and SO_x emissions intensity, and its non-participation in ResponsibleSteel.

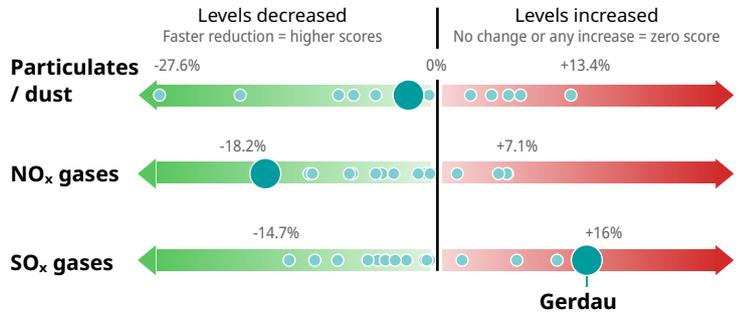
5.1 Health & safety trend 1.9 / 4

Has the rate of workplace injuries changed between 2021 and 2024?



5.2 Air pollution trend 2.2 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification 0.0 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel 0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Commit to halting reinvestments and retire all its blast furnaces

Instead of proceeding with relining of blast furnaces, Gerdau should set a clear plan to reduce reliance on coal and transition out of blast furnaces. Operational efficiency alone is insufficient to close the transition readiness gap.

2 Build near-zero-emissions-capable production capacity

Gerdau should harness the renewable energy potential in Brazil to develop near-zero-emissions ironmaking and further scale renewable electricity use.

3 Adopt SBTi-verified climate targets

Adopting and realigning its climate strategy to SBTi-verified climate targets would anchor Gerdau's operational improvements within a credibly verified transition pathway.

Tata Steel



Steel production (total crude steel)

31 Mtpa Million tonnes in 2024 → **6th largest** of 18 selected companies

Blast furnaces

17 units operating end of 2024 → **33 Mtpa** nominal capacity

Asia

India Singapore Thailand

Europe

Netherlands

TATA STEEL

Total score

27.5 / 100

Rank

10th

of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

Tata Steel has an ambitious, 2045 net-zero target, but it is not structurally ready to transition out of coal.

Headquartered in India and with considerable production capacity across Europe, Tata Steel combines both one of the strongest long-term net-zero targets (2045), with some of the weakest climate performance indicators, leaving it tracking tightly with the majority of underperforming companies. Without addressing its high emissions intensity, coal dependence, and lack of green iron investment, the credibility of its early net-zero target is significantly weakened, and its transition readiness gap remains significant.

SteelWatch Corporate Score by category

Total score		27.5 / 100
1	Phasing out coal	7.0 / 25
2	Scaling green	0.0 / 25
3	Climate performance	5.3 / 15
4	Targets and transparency	5.5 / 15
5	Social and environmental responsibility	9.7 / 20

1 Phasing out coal

Score

7.0 / 25

Rank

14th

of 18 selected companies

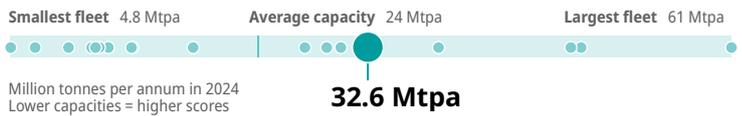
Transition readiness gap

Tata Steel shows continued reliance on coal-based ironmaking and limited operational change. It is sustaining and expanding its already large fleet of blast furnaces in India, and has announced only a limited number of retirements. 2024 saw 2 blast furnaces in the UK retired, but a new blast furnace at Kalinganagar steel plant was commissioned. The company does not disclose its coal consumption, further undermining confidence in its transition trajectory.

1.1 Size of blast furnace fleet

1.2 / 5

Total capacity of the company's operating blast furnace fleet



1.2 Blast furnaces under construction

5.0 / 5

Is the company building new blast furnace capacity?

No → **0 Mtpa** under construction in 2024

1.3 Blast furnace investments

0.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

Yes → **3** projects

1.4 Blast furnace retirement

0.8 / 5

Has the company announced the retirement of all operating blast furnace capacity?

No → **16%** of capacity with retirement announced

1.5 Coal consumption trend

0.0 / 5

Has absolute coal consumption decreased between 2021 and 2024?

No data

Coal consumption in million tonnes (Mt)



2 Scaling green

Score

0.0 / 25

Rank

Equal 11th

of 18 selected companies

Transition readiness gap

Tata Steel scores zero on scaling green due to the absence of any operational or firmly planned, near-zero-emissions-capable ironmaking capacity, past final investment decision (FID), alongside negligible renewable energy use. Plans for DRI at IJmuiden, Netherlands are only at announcement stage, with the final investment decision expected late 2026, so it is not included in this year's score.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt → The company did not use any green iron in steelmaking processes

Million tonnes of green iron in 2024

0 Mt Average consumption of all 18 companies in 2024

2.2 Green iron share

0.0 / 5

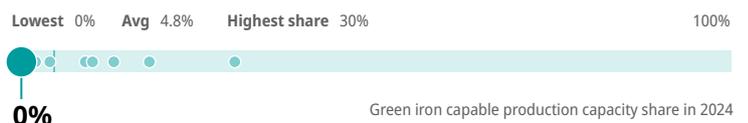
Green iron consumption as a share of total ore-based iron used in steelmaking



2.3 Green iron capable production capacity

0.0 / 10

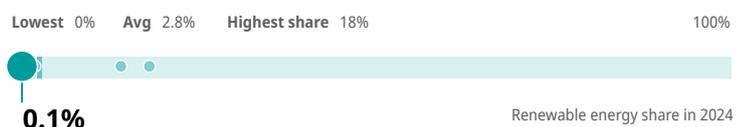
Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)



2.4 Renewable energy uptake

0.0 / 5

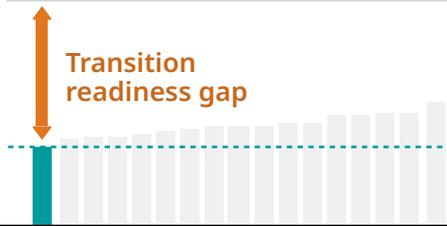
Share of renewable energy in total consumption of energy



3 Climate performance

Score
5.3 / 15

Rank
17th
of 18 selected companies

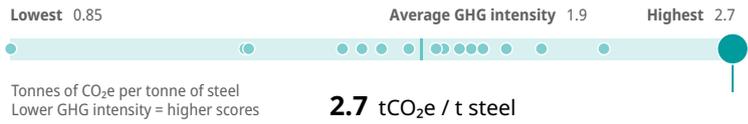


Tata steel has the highest average GHG intensity among all companies included in the Scorecard that report data. Unlike peers that show at least modest improvement, Tata Steel shows no consistently decreasing trend in emissions intensity, resulting in the lowest score in this category outside of companies penalised for non-disclosure.

3.1 Current emissions intensity

5.3 / 12

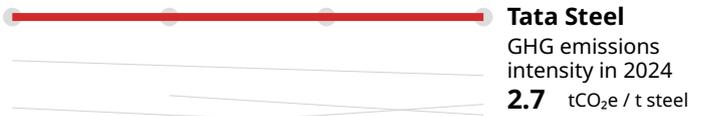
Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)



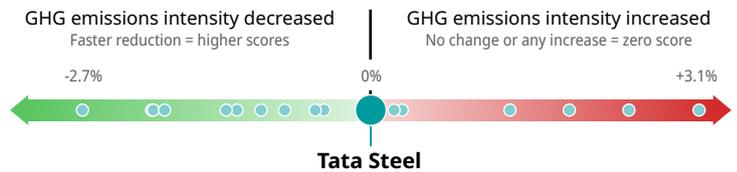
3.2 Emissions intensity trend

0.0 / 3

Emissions intensity change between 2021 and 2024



Tonnes of CO ₂ e per tonne of steel	2021	2022	2023	2024
-	-	2.7	2.8	2.7



4 Targets and transparency

Score
5.5 / 15

Rank
4th
of 18 selected companies



Tata Steel remains the only non-EU-headquartered company in the Scorecard with an early net-zero target, committing to reach net zero by 2045. This places it ahead of most global peers on stated ambition. However, unlike some of its European peers, this ambition is not backed by SBTi-verified targets, leaving open questions about its ability to meet the pace and depth of transition required.

4.1 Net-zero target

3.0 / 3

Does the company have a target of net-zero emissions by 2050 or earlier?



Net-zero by
2025

Company wording

"net zero across its entire global operations by the year 2045"

4.2 SBTi verified emissions reduction target

0.0 / 7

Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?



4.3 Transparency & data disclosure

2.5 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?

- | | |
|--|---|
| <input type="checkbox"/> List all assets | <input type="checkbox"/> Quality of scrap use reporting |
| <input type="checkbox"/> Disclose non-financial metrics for all assets | <input type="checkbox"/> Quality of coal consumption reporting |
| <input type="checkbox"/> Quality of scope 1 emissions reporting | <input type="checkbox"/> Quality of renewable energy use reporting |
| <input type="checkbox"/> Quality of scope 2 emissions reporting | <input type="checkbox"/> Disclosure of methane emissions associated with coal mining (scope 1 or 3) |
| <input type="checkbox"/> Quality of scope 3 emissions reporting | <input type="checkbox"/> Quality of OHS reporting / Lost Time Injury Frequency Rate |
| <input type="checkbox"/> Quality of GHG intensity reporting | <input type="checkbox"/> Overall easiness of access to information |

5 Social and environmental responsibility

Score
9.7 / 20

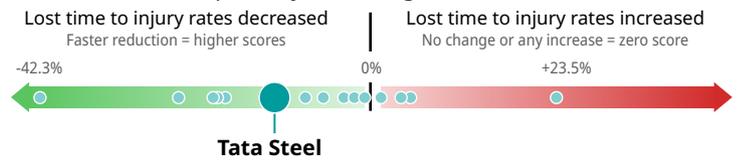
Rank
2nd
of 18 selected
companies

Transition
readiness gap

Where Tata Steel stands out in this year's assessment, is in its approach to occupational health and safety, as well as its efforts to reduce air pollution over time. It achieved the second-highest score across all 18 companies assessed. With its score driven by major improvements in air pollution intensities, occupational health and safety, and its successful ResponsibleSteel Core Site certification across a majority of its steel production capacity.

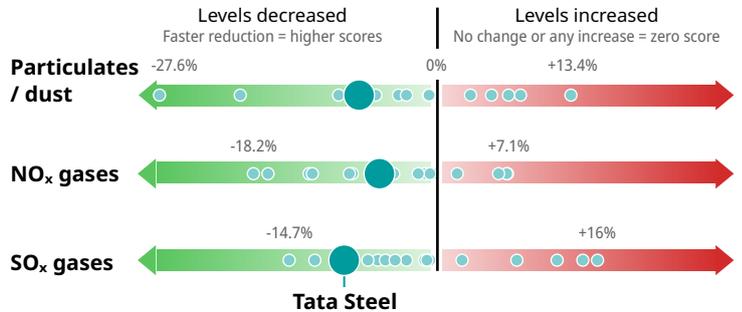
5.1 Health & safety trend 2.9 / 4

Has the rate of workplace injuries changed between 2021 and 2024?



5.2 Air pollution trend 3.4 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification 3.4 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel 0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Peak and phase down coal consumption and disclose related data

Disclosure of full coal consumption data is an immediate priority for Tata Steel, while preparing a road map to shift from expansion of coal use to retirement of blast furnaces in the Indian operations.

2 Invest in securing green iron inputs

Tata Steel NL needs to ensure a clear timebound transition from fossil gas to green hydrogen for the proposed DRI. In India, Tata Steel needs a roadmap to transition from blast furnace ironmaking to green iron, in order to translate its stated ambition into transition readiness.

3 Adopt SBTi-verified climate targets

Adopting and realigning its climate strategy to SBTi-verified climate targets would anchor Tata Steel's operational improvements within a credibly verified transition pathway.

Baosteel



Headquarters
China
Operations
4 plants in China

Steel production (total crude steel)

53 Mtpa Million tonnes in 2024 → **2nd largest** of 18 selected companies

Blast furnaces

15 units operating end of 2024 → **49 Mtpa** nominal capacity

BAOSTEEL 宝钢股份

Total score

26.1 / 100

Rank

11th

of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

Baosteel's transition readiness is critically constrained by coal dependence, and its lack of blast furnace retirement announcements.

A core subsidiary of the Baowu Group, the largest steelmaking group in the world, Baosteel is a critical part of the global steel transition, but it sits in the lower half of the pack. The company has made significant improvements in air quality and worker safety over the last few years, and has completed its first near-zero-emissions-capable ironmaking plant. However, it remains critically reliant on coal for its iron and steelmaking operations, a structural dependency that weighs heavily on its transition readiness assessment.

SteelWatch Corporate Score by category

Total score		26.1 / 100
1	Phasing out coal	5.7 / 25
2	Scaling green	0.3 / 25
3	Climate performance	6.9 / 15
4	Targets and transparency	4.7 / 15
5	Social and environmental responsibility	8.5 / 20

1 Phasing out coal

Score

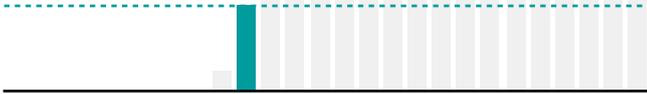
5.7 / 25

Rank

17th

of 18 selected companies

Transition readiness gap



Baosteel operates a large and growing blast furnace fleet, largely supported by a significant global coal supply chain. It does not disclose coal consumption, and has not announced any retirement plans for its existing blast furnace assets.

1.1 Size of blast furnace fleet

0.7 / 5

Total capacity of the company's operating blast furnace fleet



1.2 Blast furnaces under construction

5.0 / 5

Is the company building new blast furnace capacity?

No → **0 Mtpa** under construction in 2024

1.3 Blast furnace investments

0.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

Yes → **5 projects**

1.4 Blast furnace retirement

0.0 / 5

Has the company announced the retirement of all operating blast furnace capacity?

No → **0%** of capacity with retirement announced

1.5 Coal consumption trend

0.0 / 5

Has absolute coal consumption decreased between 2021 and 2024?

No data

Coal consumption in million tonnes (Mt)



2 Scaling green

Score

0.3 / 25

Rank

9th

of 18 selected companies

Transition readiness gap



Baosteel has made short term progress in regards to its operational transition. Unlike many of its peers in this year's Scorecard, it operates a large, near-zero-emissions-capable ironmaking plant. Due to the scale of Baosteel's coal-based iron production, this is as yet insufficient to materially alter its score, and its overall emissions trajectory. However, it is certainly a positive sign that many of its peers are yet to make.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt → The company did not use any green iron in steelmaking processes
 Million tonnes of green iron in 2024 0 Mt Average consumption of all 18 companies in 2024

2.2 Green iron share

0.0 / 5

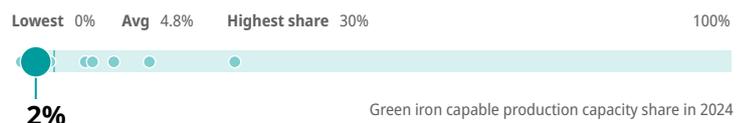
Green iron consumption as a share of total ore-based iron used in steelmaking



2.3 Green iron capable production capacity

0.2 / 10

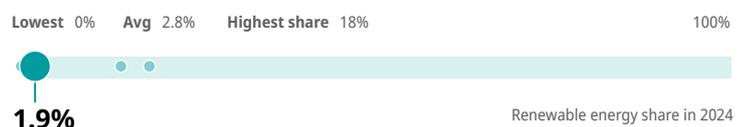
Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)



2.4 Renewable energy uptake

0.1 / 5

Share of renewable energy in total consumption of energy

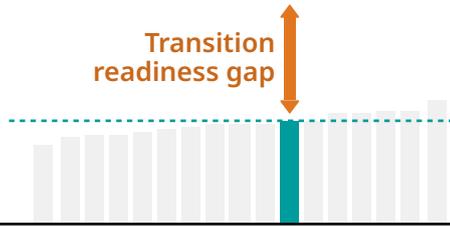


3 Climate performance

Score
6.9 / 15

Rank

Equal 6th
of 18 selected
companies

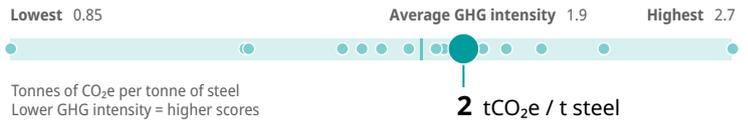


From its high coal-reliant baseline and increasing absolute emissions, Baosteel has significantly reduced its GHG emissions intensity. While emissions intensity remains high, continued operational efficiencies and process improvements have the potential to deliver measurable improvements over time.

3.1 Current emissions intensity

5.9 / 12

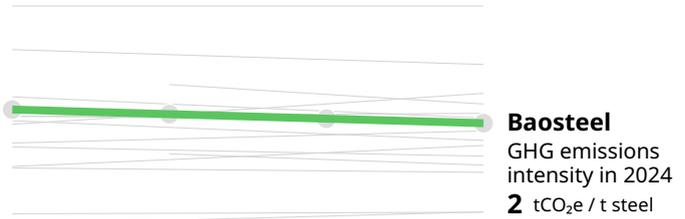
Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)



3.2 Emissions intensity trend

1.0 / 3

Emissions intensity change between 2021 and 2024



Year	2021	2022	2023	2024
Tonnes of CO ₂ e per tonne of steel	2.08	2.08	2.04	2

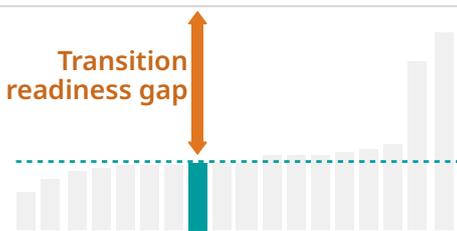


4 Targets and transparency

Score
4.7 / 15

Rank

Equal 9th
of 18 selected
companies



Baosteel has adopted a net-zero 2050 target, yet it lacks SBTi-verified climate targets. It has a below-average transparency score, and lacks disclosure of key elements such as coal consumption, yet it vastly outperforms its national peer HBIS, disclosing important elements such as scope 3 emissions by categories and its volume of scrap used.

4.1 Net-zero target

2.0 / 3

Does the company have a target of net-zero emissions by 2050 or earlier?



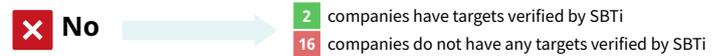
Company wording

Commitment of Baowu Steel (parent compant of Baosteel) to "net-zero by 2050"

4.2 SBTi verified emissions reduction target

0.0 / 7

Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?



4.3 Transparency & data disclosure

2.7 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?

- | | |
|---|---|
| <input type="checkbox"/> List all assets | <input checked="" type="checkbox"/> Quality of scrap use reporting |
| <input checked="" type="checkbox"/> Disclose non-financial metrics for all assets | <input type="checkbox"/> Quality of coal consumption reporting |
| <input checked="" type="checkbox"/> Quality of scope 1 emissions reporting | <input checked="" type="checkbox"/> Quality of renewable energy use reporting |
| <input checked="" type="checkbox"/> Quality of scope 2 emissions reporting | <input type="checkbox"/> Disclosure of methane emissions associated with coal mining (scope 1 or 3) |
| <input checked="" type="checkbox"/> Quality of scope 3 emissions reporting | <input checked="" type="checkbox"/> Quality of OHS reporting / Lost Time Injury Frequency Rate |
| <input checked="" type="checkbox"/> Quality of GHG intensity reporting | <input checked="" type="checkbox"/> Overall easiness of access to information |

5 Social and environmental responsibility

Score
8.5 / 20

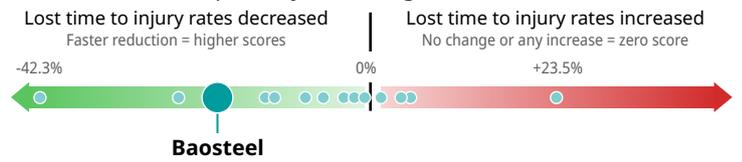
Rank
3rd
of 18 selected companies

Transition readiness gap

Baosteel has reported large decreases in air pollution intensity and significant improvements in occupational health and safety. This demonstrates not only its attention to improving local environmental and worker impacts, but are among the strongest results reported across the Scorecard. While Baosteel is not certified under ResponsibleSteel, this is common across East Asian companies.

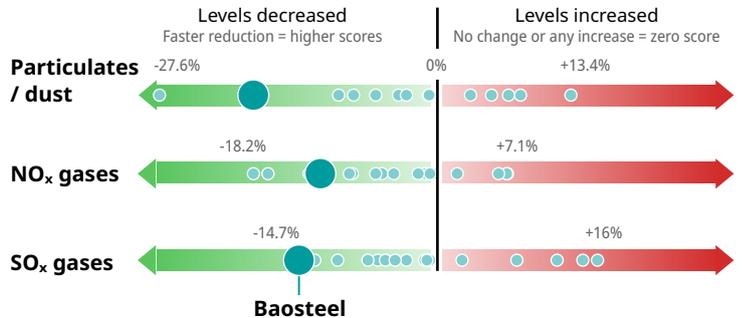
5.1 Health & safety trend 3.6 / 4

Has the rate of workplace injuries changed between 2021 and 2024?



5.2 Air pollution trend 4.9 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification 0.0 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel 0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Phase down coal consumption and disclose related data

Disclosure of full coal consumption data is an immediate priority for Baosteel. Commitment to a moratorium on new blast furnace construction or acquisition, along with retirement plans for all existing blast furnaces, will be needed to pave a path for a coal phase-out.

2 Scale up and transition to near-zero-emissions iron production capacity.

While Baosteel is starting to invest in near-zero-emissions-capable production, its scale is yet insufficient and the transition to near-zero-emissions is unclear. Securing green iron supplies at scale is a critical shift needed to accelerate its long-term transition.

3 Adopt SBTi-verified climate targets

Adopting and realigning its climate strategy to SBTi-verified climate targets would anchor Baosteel's operational improvements within a credibly verified transition pathway.

JFE



Steel production (total crude steel)

23 Mtpa Million tonnes in 2024 → **8th largest** of 18 selected companies

Blast furnaces

7 units operating end of 2024 → **29 Mtpa** nominal capacity



JFE

Total score

23.4 / 100

Rank

12th

of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

Despite declining coal consumption, JFE's transition readiness is constrained structurally by recent relining and a lack of blast furnace retirement plans.

JFE's coal consumption has declined significantly over the period covered in the Scorecard of 2021-2024, highlighting one of the steepest declines among the 18 companies assessed. However, with this decline being mainly due to the production capacity decline and without a clearly articulated pathway to phase out blast furnaces, it remains structurally unprepared to move towards a broader low-emissions transition.

SteelWatch Corporate Score by category

Total score	23.4 / 100
1 Phasing out coal	11.3 / 25
2 Scaling green	0.0 / 25
3 Climate performance	5.9 / 15
4 Targets and transparency	5.1 / 15
5 Social and environmental responsibility	1.1 / 20

1 Phasing out coal

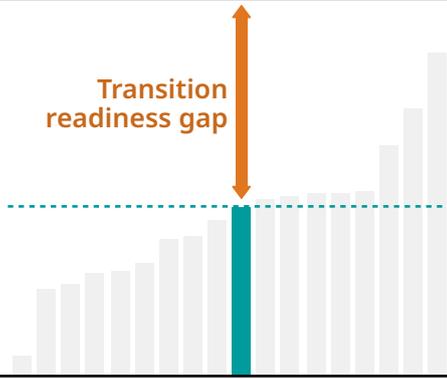
Score

11.3 / 25

Rank

9th

of 18 selected companies

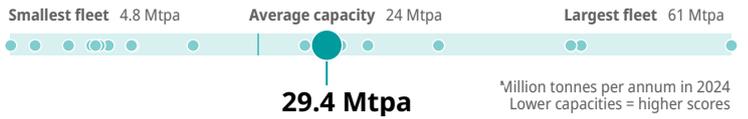


Coal consumption at JFE has declined significantly since 2021, contributing to one of the better coal consumption trends across the Scorecard. However, this decline has not been matched by broad asset-level restructuring. JFE reinvested in its blast furnace fleet as recently as 2023, and has announced the retirement of only one of its blast furnaces. While recent trends in coal consumption are positive, the absence of a comprehensive blast furnace retirement plan indicates continued reliance on coal-based production rather than transformation away from it.

1.1 Size of blast furnace fleet

1.3 / 5

Total capacity of the company's operating blast furnace fleet



1.2 Blast furnaces under construction

5.0 / 5

Is the company building new blast furnace capacity?

No → 0 Mtpa under construction in 2024

1.3 Blast furnace investments

0.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

Yes → 1 project

1.4 Blast furnace retirement

0.6 / 5

Has the company announced the retirement of all operating blast furnace capacity?

No → 13% of capacity with retirement announced

1.5 Coal consumption trend

4.4 / 5

Has absolute coal consumption decreased between 2021 and 2024?



2 Scaling green

Score

0.0 / 25

Rank

Equal 11th

of 18 selected companies



JFE has no operational, or firmly planned near-zero-emissions-capable ironmaking capacity, and does not disclose renewable energy consumption. This positions the company among the weakest performers in this category. JFE has indicated that it will import hot briquetted iron (HBI) from fossil gas-based DRI overseas. If this shifts to green hydrogen-based HBI in future, this will strengthen the score in this category.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt → The company did not use any green iron in steelmaking processes

Million tonnes of green iron in 2024

0 Mt Average consumption of all 18 companies in 2024

2.2 Green iron share

0.0 / 5

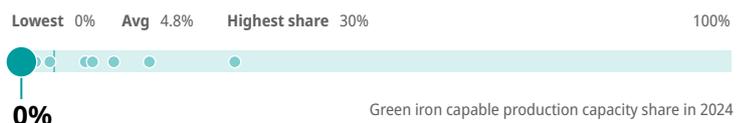
Green iron consumption as a share of total ore-based iron used in steelmaking



2.3 Green iron capable production capacity

0.0 / 10

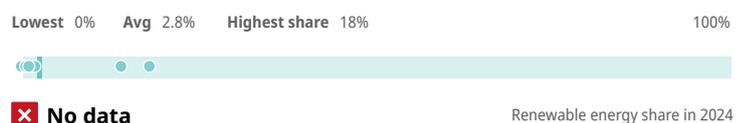
Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)



2.4 Renewable energy uptake

0.0 / 5

Share of renewable energy in total consumption of energy

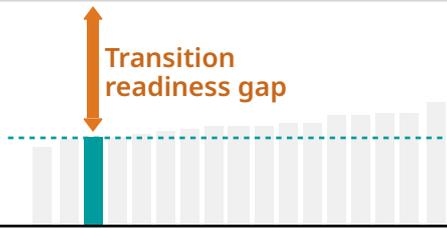


3 Climate performance

Score
5.9 / 15

Rank
15th

of 18 selected companies

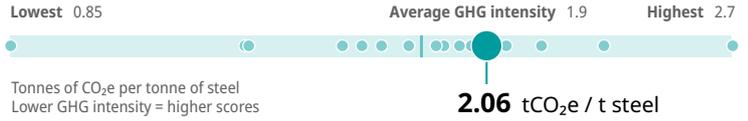


JFE's GHG emissions intensity remains high. This is largely explained by very low scrap use, leaving the company more dependent on coal-based ironmaking than other major Japanese producers, including Nippon Steel. As a result, JFE's emissions intensity reductions to date have been limited.

3.1 Current emissions intensity

5.9 / 12

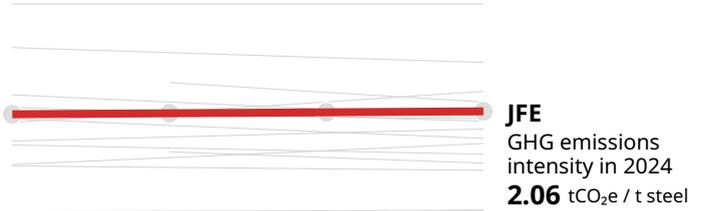
Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)



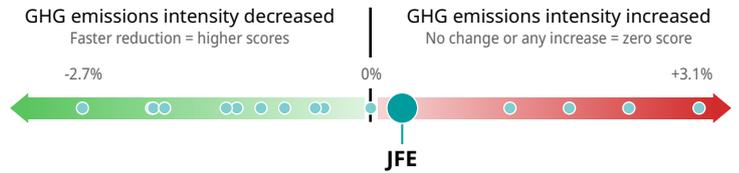
3.2 Emissions intensity trend

0.0 / 3

Emissions intensity change between 2021 and 2024



Tonnes of CO ₂ e per tonne of steel			
2.03	2.09	2.06	2.06
2021	2022	2023	2024

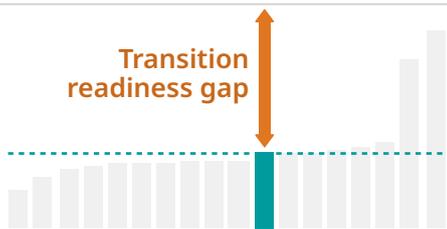


4 Targets and transparency

Score
5.1 / 15

Rank
Equal 6th

of 18 selected companies



JFE has committed to a net-zero 2050 target and reports at an above-average level of transparency compared with many companies in the Scorecard. However, it has not adopted SBTi-verified climate targets.

4.1 Net-zero target

2.0 / 3

Does the company have a target of net-zero emissions by 2050 or earlier?

Yes

Net-zero by
2050

Company wording
"carbon neutral by 2050"

- 3 companies have target set earlier than 2050
- 12 companies have target set for 2050
- 3 companies do not have a net-zero target

4.2 SBTi verified emissions reduction target

0.0 / 7

Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?

No

- 2 companies have targets verified by SBTi
- 16 companies do not have any targets verified by SBTi

4.3 Transparency & data disclosure

3.1 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?

- | | |
|--|---|
| <input type="checkbox"/> List all assets | <input type="checkbox"/> Quality of scrap use reporting |
| <input type="checkbox"/> Disclose non-financial metrics for all assets | <input type="checkbox"/> Quality of coal consumption reporting |
| <input type="checkbox"/> Quality of scope 1 emissions reporting | <input type="checkbox"/> Quality of renewable energy use reporting |
| <input type="checkbox"/> Quality of scope 2 emissions reporting | <input type="checkbox"/> Disclosure of methane emissions associated with coal mining (scope 1 or 3) |
| <input type="checkbox"/> Quality of scope 3 emissions reporting | <input type="checkbox"/> Quality of OHS reporting / Lost Time Injury Frequency Rate |
| <input type="checkbox"/> Quality of GHG intensity reporting | <input type="checkbox"/> Overall easiness of access to information |

5 Social and environmental responsibility

Score
1.1 / 20

Rank
16th
of 18 selected companies

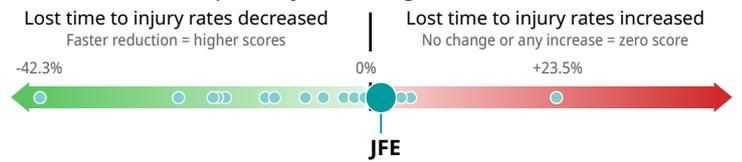
Transition
readiness gap

JFE does not show a consistent improving trend in occupational health and safety, does not report particulate matter (PM) emissions, and does not participate in ResponsibleSteel. Improvements in NO_x and SO_x emissions intensity remain limited. It should be noted that as JFE reports NO_x and SO_x emissions in volume rather than mass, these figures were converted into emissions intensity metrics for comparability, but still indicate limited progress.

5.1 Health & safety trend

0.0 / 4

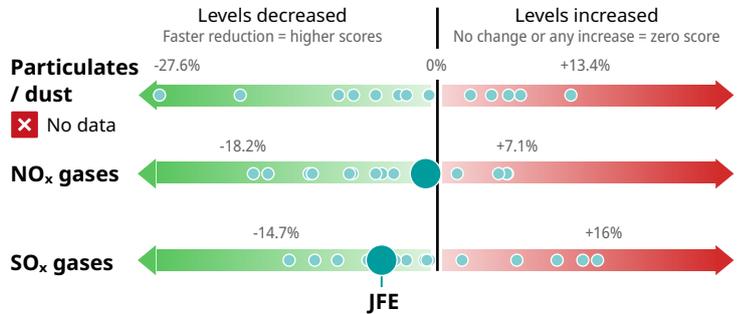
Has the rate of workplace injuries changed between 2021 and 2024?



5.2 Air pollution trend

1.1 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification

0.0 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel

0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Adopt retirement plans for and halt reinvestments in all existing blast furnaces

To improve its transition readiness, JFE should develop a clear plan to retire all its blast furnaces. Moving beyond a single announced retirement is necessary to demonstrate a credible commitment to exiting coal-based ironmaking.

2 Invest in securing green iron inputs and disclose renewable energy use

JFE is starting to invest in HBI procurement and needs to scale up offtake while ensuring a transition to green hydrogen-based HBI to feed a growing EAF asset base. Disclosure of renewable energy consumption will also advance its scores.

3 Adopt SBTi-verified climate targets

Adopting and realigning its climate strategy to SBTi-verified climate targets would anchor JFE's operational improvements within a credibly verified transition pathway.

MMK



Headquarters
Russia

Operations
2 plants in
2 countries
Russia, Türkiye

Steel production (total crude steel)

11 Mtpa Million tonnes in 2024 → **14th largest** of 18 selected companies

Blast furnaces

8 units operating end of 2024 → **11 Mtpa** nominal capacity



Total score
23.2 / 100

Rank
13th
of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

Despite operational improvements, the lack of a net-zero target and no clear pathway out of coal means MMK's transition readiness remains constrained.

MMK sits firmly in the lower half of the Scorecard, reflecting a business model that remains closely tied to emissions-intensive steelmaking, with limited evidence of strategic repositioning for a low-emissions transition. The company lacks a net-zero target, reports no renewable energy consumption, and has no operational or firmly planned near-zero-emissions-capable ironmaking capacity. While MMK performs comparatively better on certain transparency metrics, these signals are insufficient to offset structural exposure to coal-based production.

SteelWatch Corporate Score by category

Total score	23.2 / 100
1 Phasing out coal	12.2 / 25
2 Scaling green	0.0 / 25
3 Climate performance	5.7 / 15
4 Targets and transparency	3.5 / 15
5 Social and environmental responsibility	1.8 / 20

1 Phasing out coal

Score

12.2 / 25

Rank

5th

of 18 selected companies

Transition readiness gap

MMK's coal exposure remains a central constraint on its transition readiness. The company continues to expand and rely heavily on coal-based blast furnace production. While coal consumption data has been disclosed only since 2022, the available three-year dataset does not yet demonstrate a clear or sustained reduction. Overall, MMK's coal dependence remains high relative to its peers, reinforcing emissions-intensity risks and its limited transition efforts thus far.

1.1 Size of blast furnace fleet

2.7 / 5

Total capacity of the company's operating blast furnace fleet



1.2 Blast furnaces under construction

5.0 / 5

Is the company building new blast furnace capacity?

No → 0 Mtpa under construction in 2024

1.3 Blast furnace investments

0.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

Yes → 1 project

1.4 Blast furnace retirement

1.6 / 5

Has the company announced the retirement of all operating blast furnace capacity?

No → 32% of capacity with retirement announced

1.5 Coal consumption trend

2.9 / 5

Has absolute coal consumption decreased between 2021 and 2024?

Yes

Coal consumption trend decreased



2 Scaling green

Score

0.0 / 25

Rank

Equal 11th

of 18 selected companies

Transition readiness gap

MMK scores zero on green iron transition readiness. The company reports no renewable electricity consumption and has no operational, or firmly planned large-scale production or procurement of near-zero-emissions iron. While only a limited subset of peers in the Scorecard have begun piloting or committing capital to low-emissions ironmaking pathways, MMK has not disclosed investments or timelines that would signal future alignment with emerging green iron supply chains.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt → The company did not use any green iron in steelmaking processes

Million tonnes of green iron in 2024

0 Mt Average consumption of all 18 companies in 2024

2.2 Green iron share

0.0 / 5

Green iron consumption as a share of total ore-based iron used in steelmaking

Average share 0%

100%



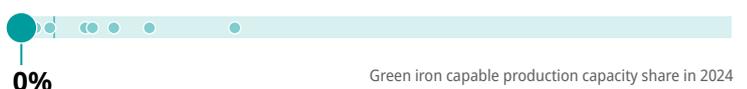
2.3 Green iron capable production capacity

0.0 / 10

Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)

Lowest 0% Avg 4.8% Highest share 30%

100%



2.4 Renewable energy uptake

0.0 / 5

Share of renewable energy in total consumption of energy

Lowest 0% Avg 2.8% Highest share 18%

100%

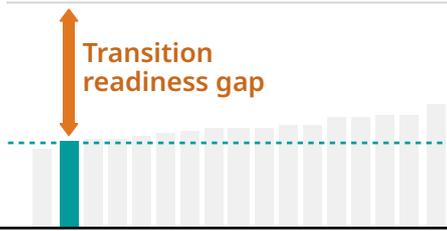


3 Climate performance

Score
5.7 / 15

Rank
16th

of 18 selected companies

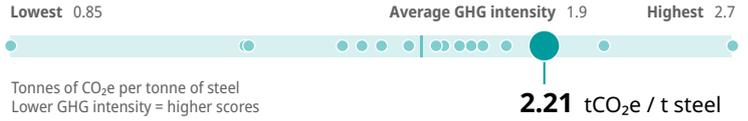


On climate commitments, MMK scores poorly. It is one of only three companies in this year's Scorecard without a net-zero target. While the company reports emissions data, it has not articulated a science-aligned transition pathway that would demonstrate intent to materially reduce absolute emissions over time. This lack of strategic signalling contributes to elevated transition risk.

3.1 Current emissions intensity

5.7 / 12

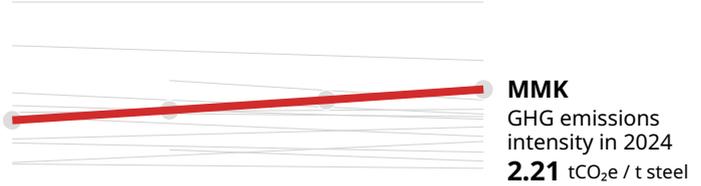
Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)



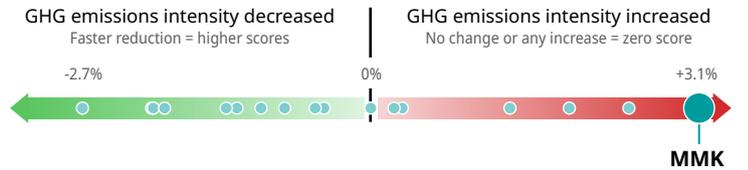
3.2 Emissions intensity trend

0.0 / 3

Emissions intensity change between 2021 and 2024



Tonnes of CO ₂ e per tonne of steel			
1.95	2.19	2.04	2.21
2021	2022	2023	2024



4 Targets and transparency

Score
3.5 / 15

Rank
17th

of 18 selected companies



MMK performs above the average on transparency and disclosure, especially relative to its overall ranking. This reflects its approach towards reporting of environmental and GHG intensity metrics. However, improved disclosure has not yet translated into stronger performance outcomes or clearer strategic commitments.

4.1 Net-zero target

0.0 / 3

Does the company have a target of net-zero emissions by 2050 or earlier?

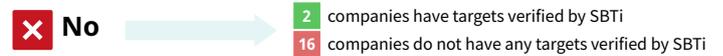


Company wording

4.2 SBTi verified emissions reduction target

0.0 / 7

Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?



4.3 Transparency & data disclosure

3.5 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?

- | | |
|---|--|
| <input checked="" type="checkbox"/> List all assets | <input type="checkbox"/> Quality of scrap use reporting |
| <input checked="" type="checkbox"/> Disclose non-financial metrics for all assets | <input checked="" type="checkbox"/> Quality of coal consumption reporting |
| <input checked="" type="checkbox"/> Quality of scope 1 emissions reporting | <input checked="" type="checkbox"/> Quality of renewable energy use reporting |
| <input checked="" type="checkbox"/> Quality of scope 2 emissions reporting | <input checked="" type="checkbox"/> Disclosure of methane emissions associated with coal mining (scope 1 or 3) |
| <input checked="" type="checkbox"/> Quality of scope 3 emissions reporting | <input checked="" type="checkbox"/> Quality of OHS reporting / Lost Time Injury Frequency Rate |
| <input checked="" type="checkbox"/> Quality of GHG intensity reporting | <input checked="" type="checkbox"/> Overall easiness of access to information |

5 Social and environmental responsibility

Score
1.8 / 20

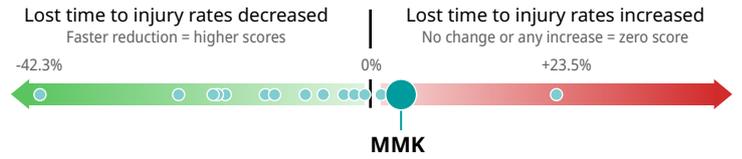
Rank
14th
of 18 selected companies

Transition
readiness gap

Social and environmental performance is an area of weakness for MMK. Despite noticeable reductions in air pollution intensity, the company scores very low due to the absence of a consistent, improving trend in occupational health and safety indicators, as well as its lack of ResponsibleSteel certification.

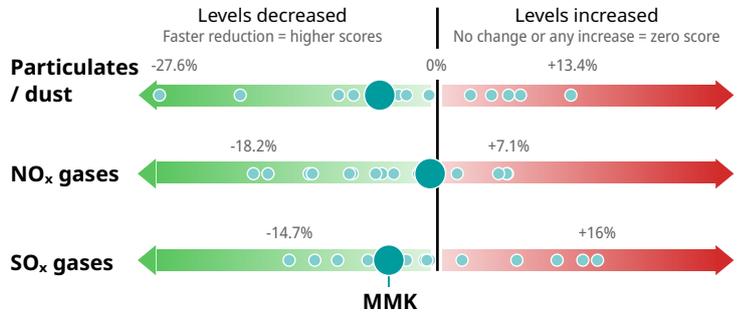
5.1 Health & safety trend 0.0 / 4

Has the rate of workplace injuries changed between 2021 and 2024?



5.2 Air pollution trend 1.8 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification 0.0 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel 0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Phase down coal consumption and halt investments in blast furnaces

A clear timeline for retiring the existing blast furnaces and halting any new investments into them are essential for MMK to demonstrate structural transition.

2 Invest in securing green iron inputs

MMK should develop commercial scale ironmaking capacity that is near-zero-emissions- capable with a clear timeline for use of green hydrogen, and scale renewable electricity use.

3 Set SBTi-aligned net-zero targets

MMK urgently needs to set a net-zero target by or earlier than 2050, and have it be SBTi-verified.

OYAK



Steel production (total crude steel)

9 Mtpa Million tonnes in 2024 → **17th largest** of 18 selected companies

Blast furnaces

6 units operating end of 2024 → **12 Mtpa** nominal capacity



Total score
22.4 / 100

Rank
14th
of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

OYAK's data reporting gaps limit the ability to assess its current performance and long-term trends, and it has not committed to coal exit.

OYAK shows low transition readiness across all assessed dimensions. While the company has adopted a net-zero 2050 target and has recently expanded parts of its climate-related disclosure, this has not yet translated into clear plans to exit coal-based ironmaking or develop near-zero-emissions-capable production pathways. Progress to date remains largely confined to reporting improvements, with limited evidence of structural change in assets, energy use or production routes.

SteelWatch Corporate Score by category

Total score	22.4 / 100
1 Phasing out coal	10.4 / 25
2 Scaling green	0.0 / 25
3 Climate performance	7.5 / 15
4 Targets and transparency	4.5 / 15
5 Social and environmental responsibility	0.0 / 20

1 Phasing out coal

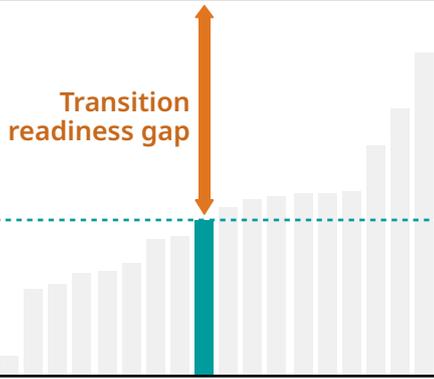
Score

10.4 / 25

Rank

10th

of 18 selected companies



OYAK continues to invest in its blast furnace fleet. The company has not announced retirement plans for any of its blast furnaces and only began disclosing its coal consumption as a consolidated group in 2024. As a result, it is not yet possible to directly compare trends in coal use over time, and these have been estimated indirectly using the company's GHG intensity trend. However, the absence of explicit coal phase-out commitments or blast furnace exit planning indicates limited intent to move away from coal-based ironmaking in the near future.

1.1 Size of blast furnace fleet

2.6 / 5

Total capacity of the company's operating blast furnace fleet



1.2 Blast furnaces under construction

5.0 / 5

Is the company building new blast furnace capacity?

No → **0 Mtpa** under construction in 2024

1.3 Blast furnace investments

0.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

Yes → **2 projects**

1.4 Blast furnace retirement

0.0 / 5

Has the company announced the retirement of all operating blast furnace capacity?

No → **0%** of capacity with retirement announced

1.5 Coal consumption trend

2.8 / 5

Has absolute coal consumption decreased between 2021 and 2024?

* Downward trend and score estimated based on partial disclosure and GHG intensity calculations due to data limitations

Coal consumption in million tonnes (Mt)			
2021	2022	2023	2024
-	-	-	6.34 Mt

2 Scaling green

Score

0.0 / 25

Rank

Equal 11th

of 18 selected companies



OYAK has no operational or firmly planned near-zero-emissions-capable ironmaking capacity, and reports negligible renewable energy consumption. As a result, OYAK scores zero in this category. There is no disclosed pathway for supplying low-emissions iron inputs, whether through in-house production, imports, or long-term procurement strategies.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt → The company did not use any green iron in steelmaking processes

Million tonnes of green iron in 2024

0 Mt Average consumption of all 18 companies in 2024

2.2 Green iron share

0.0 / 5

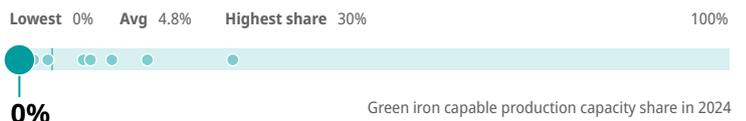
Green iron consumption as a share of total ore-based iron used in steelmaking



2.3 Green iron capable production capacity

0.0 / 10

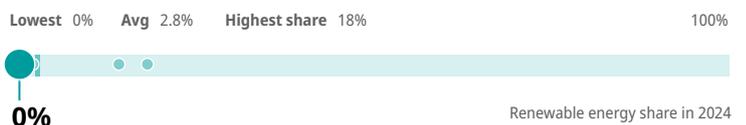
Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)



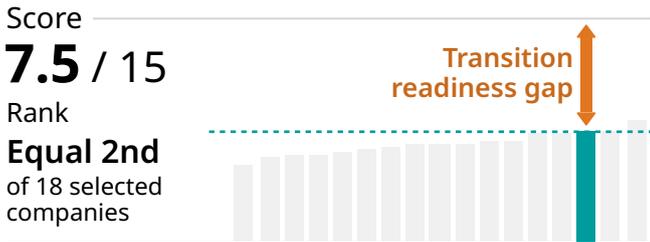
2.4 Renewable energy uptake

0.0 / 5

Share of renewable energy in total consumption of energy

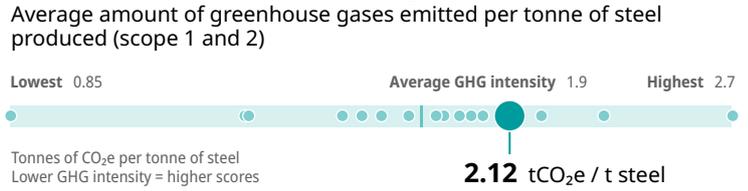


3 Climate performance

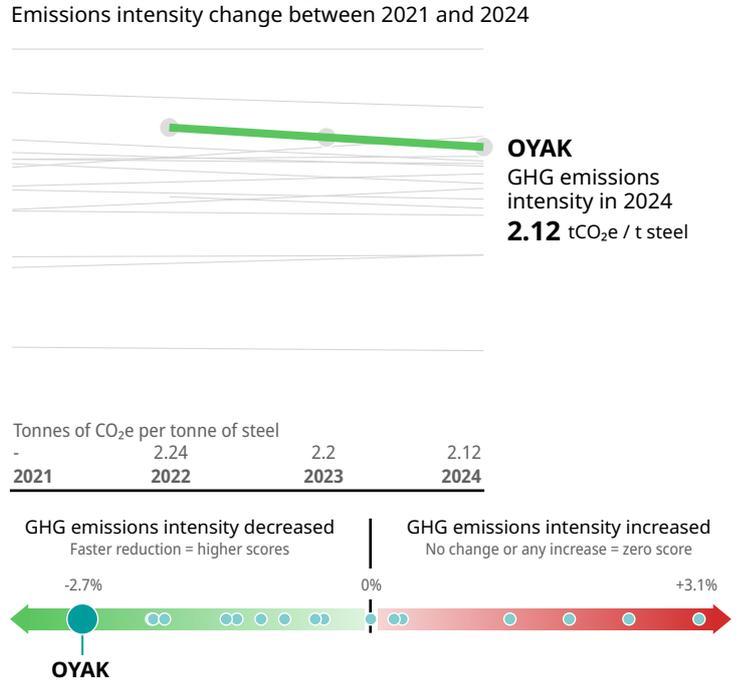


OYAK's reported GHG intensity remains relatively high, though it demonstrates a decreasing trend over the assessed period. This trend has been calculated over three years (2022-2024), rather than four, because consolidated GHG intensity data were not disclosed prior to 2022. The company does not provide sufficient information to determine whether this decline reflects structural changes, operational optimisation, shifts in production volumes or other factors.

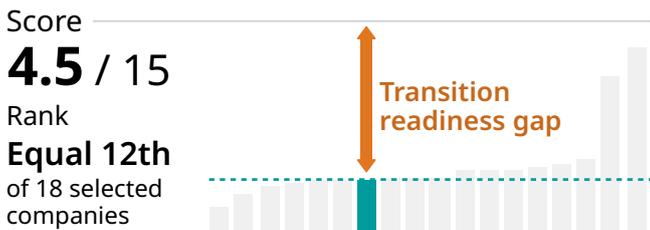
3.1 Current emissions intensity 5.8 / 12



3.2 Emissions intensity trend 1.7 / 3

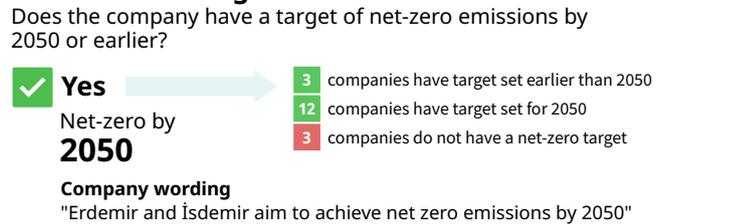


4 Targets and transparency



The company has adopted a net-zero 2050 target but has not set SBTi-verified climate targets. What's more, consolidated GHG intensity reporting began only in 2022. While this reporting shift is welcome, alongside the company's recently announced green transformation roadmap, data gaps remain that limit the ability to assess long-term trends.

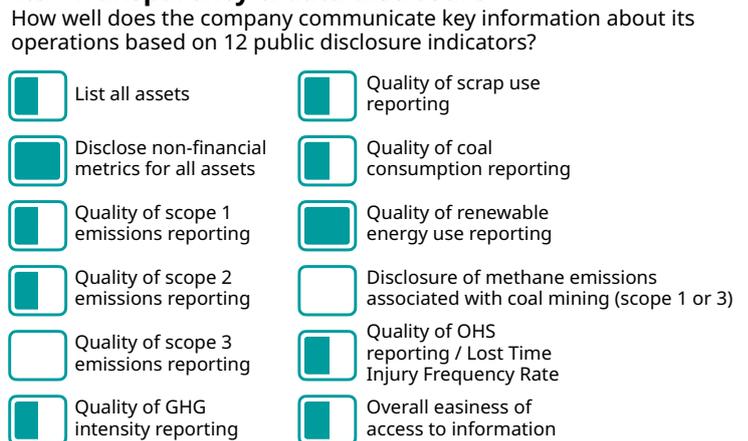
4.1 Net-zero target 2.0 / 3



4.2 SBTi verified emissions reduction target 0.0 / 7



4.3 Transparency & data disclosure 2.5 / 5



5 Social and environmental responsibility

Score
0.0 / 20

Rank
18th
of 18 selected companies

Transition
readiness gap

OYAK scores zero in the social and environmental responsibility category due to the lack of consolidated, group-level disclosure on occupational health and safety, and air pollution indicators. It also has not achieved any ResponsibleSteel certification. Without consistent reporting across the group, trends in worker safety and local environmental impacts cannot be meaningfully assessed.

5.1 Health & safety trend 0.0 / 4

Has the rate of workplace injuries changed between 2021 and 2024?

Lost time to injury rates decreased

Faster reduction = higher scores

Lost time to injury rates increased

No change or any increase = zero score

-42.3%

0%

+23.5%

✘ No data

5.2 Air pollution trend 0.0 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?

Levels decreased

Faster reduction = higher scores

Levels increased

No change or any increase = zero score

Particulates / dust

-27.6%

0%

+13.4%

✘ No data

NO_x gases

-18.2%

+7.1%

✘ No data

SO_x gases

-14.7%

+16%

✘ No data

5.3 ResponsibleSteel Core Site certification 0.0 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification

Lowest coverage 0% Avg 18%

Highest coverage 100%

0%

Share of sites certified in 2024
Higher share = higher scores

5.4 ResponsibleSteel Certified Steel 0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Commit to halting reinvestments and retire all its blast furnaces

Clear timelines for exiting coal-based ironmaking are essential for OYAK to avoid long-term carbon lock-in and to demonstrate its intent to align capital allocation with a low-emissions transition.

2 Invest in securing green iron inputs

OYAK needs to prepare and disclose plans to secure green iron, whether through in-house conversion of assets, or procurement through strategic partnerships.

3 Adopt SBTi-verified climate targets

Adopting and realigning its climate strategy to SBTi-verified climate targets would anchor OYAK's operational improvements within a credibly verified transition pathway.

POSCO



Steel production (total crude steel)

35 Mtpa Million tonnes in 2024 → **5th largest** of 18 selected companies

Blast furnaces

8 units operating end of 2024 → **38 Mtpa** nominal capacity

posco

Total score
21.9 / 100

Rank
15th
of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

POSCO is at risk of becoming a transition laggard if it does not move beyond efficiency gains, and towards structural transformation away from coal.

POSCO remains at a crossroads, with a trajectory that currently risks placing it among the companies least prepared for the transition. The company is one of the world's largest and most technically sophisticated steelmakers, yet its position in the Scorecard highlights a company whose long-term ambition is not yet matched by the scale or pace of action required. Without decisive movement on coal retirement and green iron investment, its readiness gap will continue to widen.

SteelWatch Corporate Score by category

Total score		21.9 / 100
1	Phasing out coal	9.1 / 25
2	Scaling green	0.1 / 25
3	Climate performance	6.3 / 15
4	Targets and transparency	4.7 / 15
5	Social and environmental responsibility	1.7 / 20

1 Phasing out coal

Score

9.1 / 25

Rank

12th

of 18 selected companies

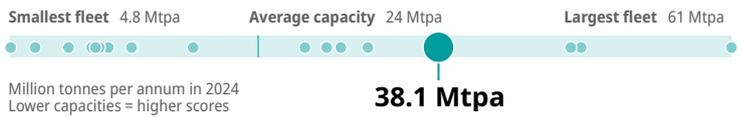
Transition readiness gap

The strongest contributor to POSCO's transition readiness gap is its continued reliance on a very large blast furnace fleet, with no retirement announcements. While its coal consumption shows a slightly decreasing trend, this has not yet translated into a meaningful redirection of its asset base. Without a commitment to retire blast furnaces or halt reinvestment through blast furnace relinings, POSCO risks locking itself into a carbon-intensive future, far beyond what its climate goals require, and out of line with South Korea's newly reinforced climate ambition.

1.1 Size of blast furnace fleet

1.0 / 5

Total capacity of the company's operating blast furnace fleet



1.2 Blast furnaces under construction

5.0 / 5

Is the company building new blast furnace capacity?

No → 0 Mtpa under construction in 2024

1.3 Blast furnace investments

0.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

Yes → 2 projects

1.4 Blast furnace retirement

0.0 / 5

Has the company announced the retirement of all operating blast furnace capacity?

No → 0% of capacity with retirement announced

1.5 Coal consumption trend

3.1 / 5

Has absolute coal consumption decreased between 2021 and 2024?



2 Scaling green

Score

0.1 / 25

Rank

10th

of 18 selected companies

Transition readiness gap

On green iron and renewable energy, POSCO scores only fractionally above zero, as it is only beginning to move. The company has begun to develop a 0.3 Mtpa demonstration plant for near-zero-emissions iron production, an important initial step, but still far short of what is needed for a company of POSCO's scale. However, it currently reports zero renewable energy consumption and has no large, operational near-zero-emissions-capable ironmaking capacity.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt → The company did not use any green iron in steelmaking processes

0 Mt Average consumption of all 18 companies in 2024

Million tonnes of green iron in 2024

2.2 Green iron share

0.0 / 5

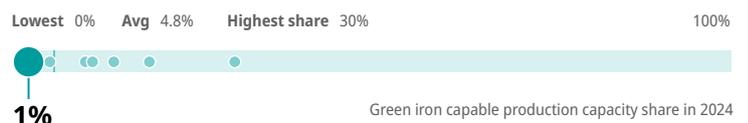
Green iron consumption as a share of total ore-based iron used in steelmaking



2.3 Green iron capable production capacity

0.1 / 10

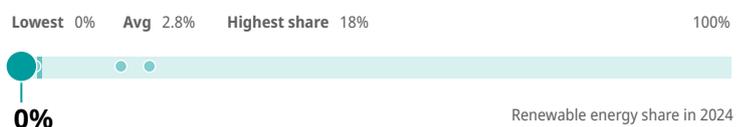
Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)



2.4 Renewable energy uptake

0.0 / 5

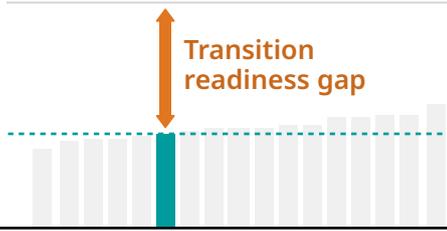
Share of renewable energy in total consumption of energy



3 Climate performance

Score
6.3 / 15

Rank
12th
of 18 selected companies

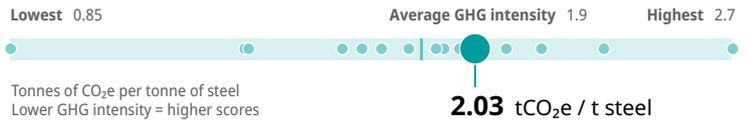


POSCO's GHG emissions intensity is above the average of the companies assessed, reflecting its large blast furnace-based production. Its total score in this category is slightly boosted by a modest decline in emissions intensity over recent years, but this is largely due to efficiency gains rather than structural change or transitional momentum change.

3.1 Current emissions intensity

5.9 / 12

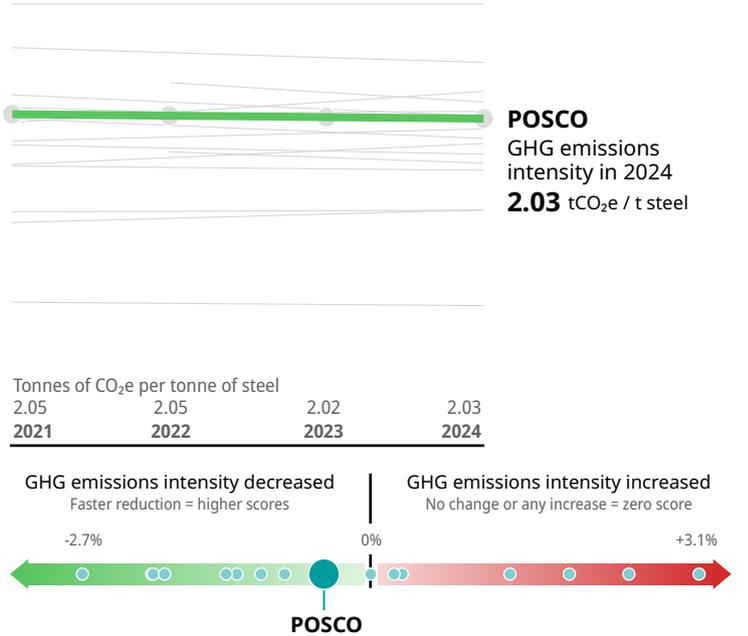
Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)



3.2 Emissions intensity trend

0.4 / 3

Emissions intensity change between 2021 and 2024



4 Targets and transparency

Score
4.7 / 15

Rank
Equal 9th
of 18 selected companies



POSCO has performed slightly better than average in regards to its overall transparency and targets. It has committed to a net-zero 2050 target and its disclosure practices are stronger than many of its peers. However, the absence of SBTi-verified climate targets means its transition pathway remains unclear.

4.1 Net-zero target

2.0 / 3

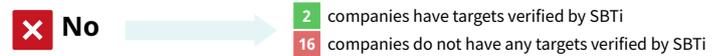
Does the company have a target of net-zero emissions by 2050 or earlier?



4.2 SBTi verified emissions reduction target

0.0 / 7

Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?



4.3 Transparency & data disclosure

2.7 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?

- | | |
|--|---|
| <input type="checkbox"/> List all assets | <input type="checkbox"/> Quality of scrap use reporting |
| <input type="checkbox"/> Disclose non-financial metrics for all assets | <input type="checkbox"/> Quality of coal consumption reporting |
| <input type="checkbox"/> Quality of scope 1 emissions reporting | <input type="checkbox"/> Quality of renewable energy use reporting |
| <input type="checkbox"/> Quality of scope 2 emissions reporting | <input type="checkbox"/> Disclosure of methane emissions associated with coal mining (scope 1 or 3) |
| <input type="checkbox"/> Quality of scope 3 emissions reporting | <input type="checkbox"/> Quality of OHS reporting / Lost Time Injury Frequency Rate |
| <input type="checkbox"/> Quality of GHG intensity reporting | <input type="checkbox"/> Overall easiness of access to information |

5 Social and environmental responsibility

Score
1.7 / 20

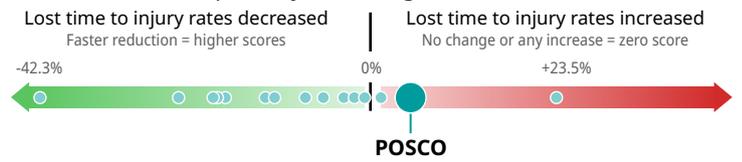
Rank
15th
of 18 selected companies

Transition readiness gap

POSCO's transition readiness gap widens further in the areas of worker safety, air quality, and ResponsibleSteel certification. While NO_x and SO_x intensities have declined in recent years, the company has not shown similarly clear signs of improvement in occupational health and safety, or particulate matter (PM) emissions intensity. POSCO's withdrawal from ResponsibleSteel in 2024 removed a key avenue for external assurance and accountability in regards to broader social and environmental performance and transparency.

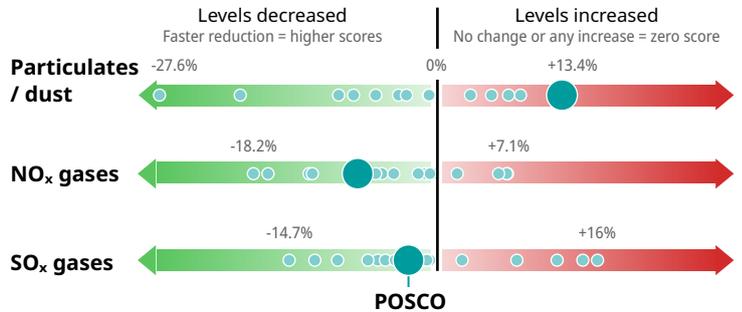
5.1 Health & safety trend 0.0 / 4

Has the rate of workplace injuries changed between 2021 and 2024?



5.2 Air pollution trend 1.7 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification 0.0 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel 0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Cease reinvestment and adopt retirement plans for all existing blast furnaces

POSCO should improve its transition readiness by developing a clear plan to retire its blast furnace fleet and accelerate adoption of low-emissions ironmaking.

2 Invest in securing green iron inputs

POSCO needs to go beyond its pilot Hyrex plant to develop commercial scale green hydrogen-based ironmaking capacity and secure procurement of green iron, to deliver on its transition pathway.

3 Adopt SBTi-verified climate targets

Adopting and realigning its climate strategy to SBTi-verified climate targets would anchor POSCO's operational improvements within a credibly verified transition pathway.

Hyundai Steel



Headquarters

South Korea

Operations

3 plants in South Korea

Steel production (total crude steel)

18 Mtpa

Million tonnes in 2024

9th largest

of 18 selected companies

Blast furnaces

3 units

operating end of 2024

12 Mtpa

nominal capacity



Total score

21.2 / 100

Rank

16th

of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

Hyundai Steel does not yet demonstrate evidence of the structural change required for transition, and its lack of disclosure remains a constraint.

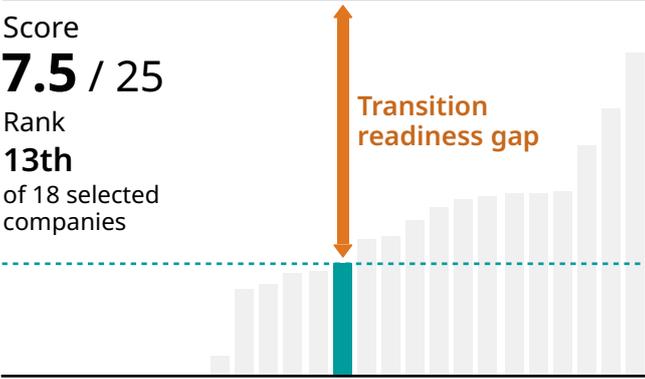
Hyundai Steel sits at the back of the tight, peloton grouping of underperforming companies that make up the majority assessed. The company is South Korea's second-largest steelmaker and a core supplier to the global automotive industry. Its score reflects a company that is materially underprepared for the pace and scale of the transition. While more recent announcements for overseas investments are promising signals of transition, for now, the gap between stated ambition and observable action remains wide.

SteelWatch Corporate Score by category

Total score		21.2 / 100
1	Phasing out coal	7.5 / 25
2	Scaling green	0.0 / 25
3	Climate performance	6.6 / 15
4	Targets and transparency	4.5 / 15
5	Social and environmental responsibility	2.6 / 20

1 Phasing out coal

Score
7.5 / 25
Rank
13th
of 18 selected companies



The most significant contributor to Hyundai Steel's transition readiness gap is its continued dependence on coal-based blast furnaces. The company has made no announcements regarding the retirement of its existing blast furnaces. In the absence of clear retirement timelines or planned coal consumption declines, Hyundai Steel risks entrenching carbon-intensive assets that are misaligned with both global climate goals and South Korea's tightening climate policy environment.

1.1 Size of blast furnace fleet 2.5 / 5

Total capacity of the company's operating blast furnace fleet



1.2 Blast furnaces under construction 5.0 / 5

Is the company building new blast furnace capacity?

No **0 Mtpa** under construction in 2024

1.3 Blast furnace investments 0.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

Yes **1 project**

1.4 Blast furnace retirement 0.0 / 5

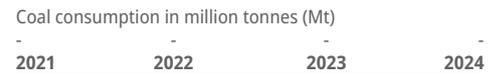
Has the company announced the retirement of all operating blast furnace capacity?

No **0%** of capacity with retirement announced

1.5 Coal consumption trend 0.0 / 5

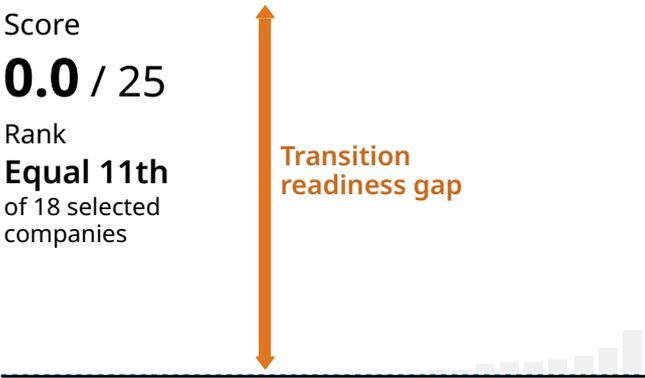
Has absolute coal consumption decreased between 2021 and 2024?

No data



2 Scaling green

Score
0.0 / 25
Rank
Equal 11th
of 18 selected companies



Hyundai Steel reports zero renewable energy consumption, and has no domestic plans to roll out or pilot large-scale near-zero-emissions-capable ironmaking. Together, these factors place the company at the lower end of the ranking on renewable energy and green iron preparedness. However, its recent announcement to build the first overseas integrated mill with DRI-EAF in Louisiana, US could offer a strategic platform for future green steel production and a higher score in the future.

2.1 Green iron consumption 0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt The company did not use any green iron in steelmaking processes
Million tonnes of green iron in 2024
0 Mt Average consumption of all 18 companies in 2024

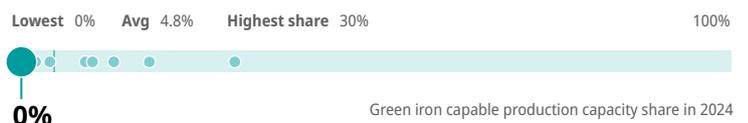
2.2 Green iron share 0.0 / 5

Green iron consumption as a share of total ore-based iron used in steelmaking



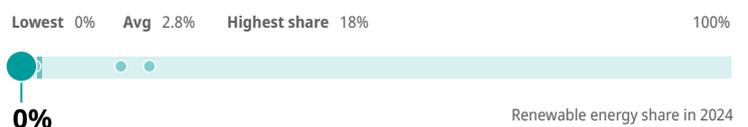
2.3 Green iron capable production capacity 0.0 / 10

Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)

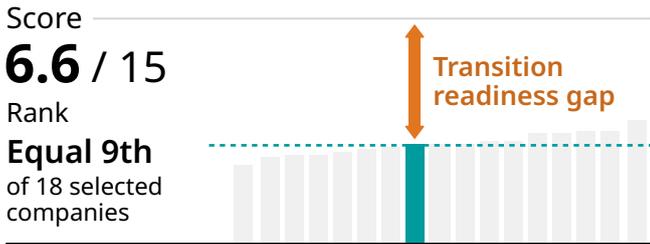


2.4 Renewable energy uptake 0.0 / 5

Share of renewable energy in total consumption of energy



3 Climate performance



Hyundai Steel's climate performance appears stronger than many peers assessed in the Scorecard. Its GHG emissions intensity is below the average, largely explained by a higher-than-average share of scrap use. However, this advantage reflects input composition rather than structural transformation. There is limited evidence that the company is shifting away from coal-based ironmaking, and the emissions intensity signal does not yet indicate meaningful transition momentum or long-term resilience.

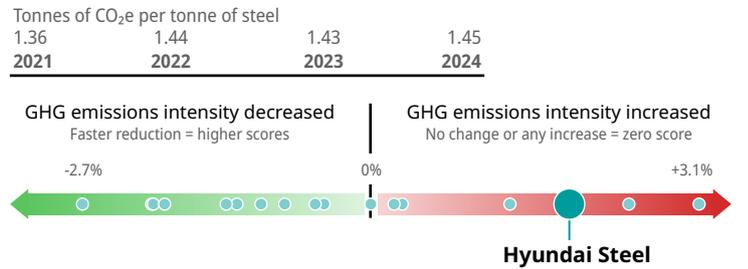
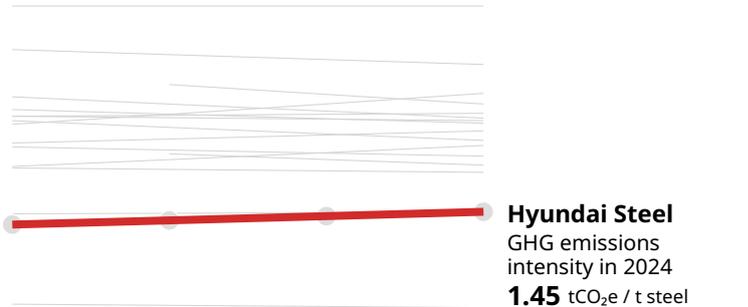
3.1 Current emissions intensity 6.6 / 12

Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)

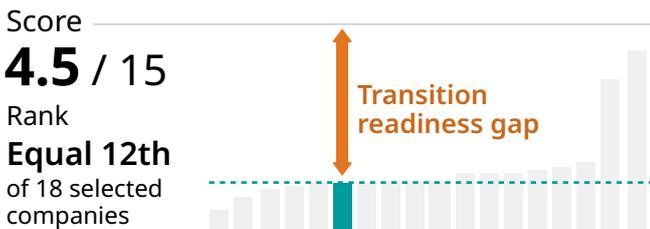


3.2 Emissions intensity trend 0.0 / 3

Emissions intensity change between 2021 and 2024



4 Targets and transparency



While it has a net-zero 2050 target, Hyundai Steel lacks SBTi-verified climate targets. The company also scores below average on transparency and disclosure, with a notable lack of disclosure of coal consumption.

4.1 Net-zero target 2.0 / 3

Does the company have a target of net-zero emissions by 2050 or earlier?



4.2 SBTi verified emissions reduction target 0.0 / 7

Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?



4.3 Transparency & data disclosure 2.5 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?

- | | |
|---|---|
| <input type="checkbox"/> List all assets | <input checked="" type="checkbox"/> Quality of scrap use reporting |
| <input checked="" type="checkbox"/> Disclose non-financial metrics for all assets | <input type="checkbox"/> Quality of coal consumption reporting |
| <input checked="" type="checkbox"/> Quality of scope 1 emissions reporting | <input checked="" type="checkbox"/> Quality of renewable energy use reporting |
| <input checked="" type="checkbox"/> Quality of scope 2 emissions reporting | <input type="checkbox"/> Disclosure of methane emissions associated with coal mining (scope 1 or 3) |
| <input checked="" type="checkbox"/> Quality of scope 3 emissions reporting | <input checked="" type="checkbox"/> Quality of OHS reporting / Lost Time Injury Frequency Rate |
| <input checked="" type="checkbox"/> Quality of GHG intensity reporting | <input checked="" type="checkbox"/> Overall easiness of access to information |

5 Social and environmental responsibility

Score
2.6 / 20

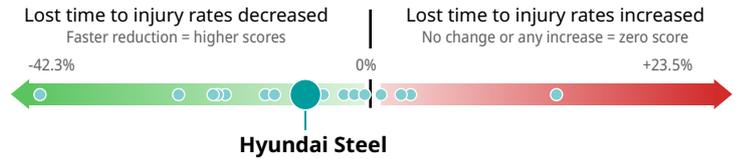
Rank
12th
of 18 selected companies

Transition readiness gap

Hyundai Steel's transition readiness gap widens further when social and environmental dimensions are considered. The company shows limited improvements in occupational health and safety, and has not demonstrated consistent, decreasing trends in air pollution intensity. It also does not have core or site certifications under ResponsibleSteel.

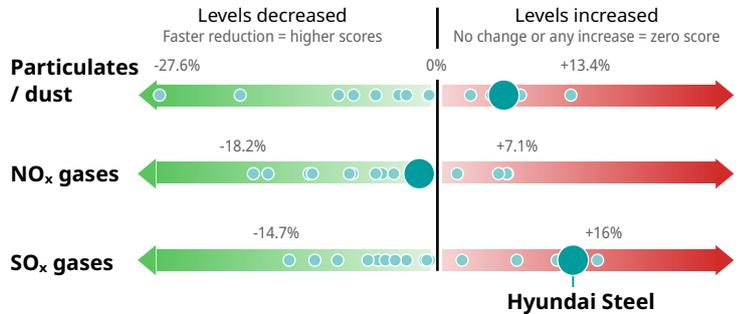
5.1 Health & safety trend 2.3 / 4

Has the rate of workplace injuries changed between 2021 and 2024?



5.2 Air pollution trend 0.3 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification 0.0 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel 0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Adopt retirement plans for all existing blast furnaces and disclose related data

Hyundai Steel's immediate priority is to disclose full coal consumption data. The company should improve its transition readiness by developing a clear plan to retire its blast furnace fleet and accelerate adopting low-emissions ironmaking.

2 Build out green iron production and procurement

Hyundai Steel needs to adopt and scale green iron production and procurement as part of its transition pathway, both at its planned plant in the US and in its portfolio in South Korea.

3 Improve disclosure

Adopting SBTi-verified targets, alongside improved emissions and transition disclosures, would provide a credible framework for assessing transition progress.

Nippon Steel



Steel production (total crude steel)

39 Mtpa Million tonnes in 2024 → **4th largest** of 18 selected companies

Blast furnaces

11 units operating end of 2024 → **48 Mtpa** nominal capacity

NIPPON STEEL

Total score
16.8 / 100

Rank
17th
of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

Without urgent action to phase out coal, Nippon Steel is at risk of locking itself out of the opportunity to scale its transformation in time.

Nippon Steel illustrates a deep disconnect between its technological, fiscal and commercial capability and its lack of transition readiness due to continued coal dependence. As one of the largest steelmakers assessed, with one of the largest blast furnace capacities in operation, it remains among the most coal-dependent companies featured in the Scorecard. With a total score of 16.8 out of 100, it ranks second from the bottom of this year's Scorecard.

SteelWatch Corporate Score by category

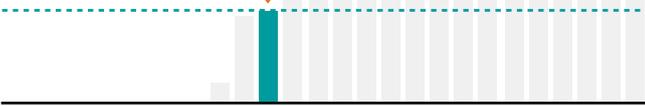
Total score		16.8 / 100
1	Phasing out coal	6.2 / 25
2	Scaling green	0.0 / 25
3	Climate performance	6.0 / 15
4	Targets and transparency	4.5 / 15
5	Social and environmental responsibility	0.1 / 20

1 Phasing out coal

Score
6.2 / 25

Rank
16th
of 18 selected
companies

Transition
readiness gap



Coal consumption is not decreasing. Only one blast furnace out of all in operation in Japan has been earmarked for retirement. Rather than shifting away from coal, Nippon Steel remains invested in the blast furnace as core to its technological backbone, and does not signal concrete actions for any structural change of its fleet. This year's Nippon Steel assessment does not include operations of the new wholly-owned subsidiary, U. S. Steel, which is scored separately, and where the company has committed to relining #14 blast furnace at Gary Works, Indiana, in 2026 as part of the acquisition deal.

1.1 Size of blast furnace fleet 0.7 / 5

Total capacity of the company's operating blast furnace fleet



1.2 Blast furnaces under construction 5.0 / 5

Is the company building new blast furnace capacity?

No **0 Mtpa** under construction in 2024

1.3 Blast furnace investments 0.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

Yes **1 project**

1.4 Blast furnace retirement 0.5 / 5

Has the company announced the retirement of all operating blast furnace capacity?

No **10%** of capacity with retirement announced

1.5 Coal consumption trend 0.0 / 5

Has absolute coal consumption decreased between 2021 and 2024?

No

Coal consumption trend increased



2 Scaling green

Score
0.0 / 25

Rank
Equal 11th
of 18 selected
companies

Transition
readiness gap



The company scores zero in this category, due to its lack of operational or firmly planned near-zero-emissions-capable ironmaking capacity. Nippon Steel also does not report renewable energy consumption. While the company frequently highlights its research on hydrogen use in ironmaking, so far what it plans to operationalise is limited to injecting hydrogen into blast furnaces for minor emissions reductions potential, not a shift towards scalable, green hydrogen-based ironmaking.

2.1 Green iron consumption 0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt **The company did not use any green iron in steelmaking processes**

Million tonnes of green iron in 2024

0 Mt Average consumption of all 18 companies in 2024

2.2 Green iron share 0.0 / 5

Green iron consumption as a share of total ore-based iron used in steelmaking

Average share 0%

100%



2.3 Green iron capable production capacity 0.0 / 10

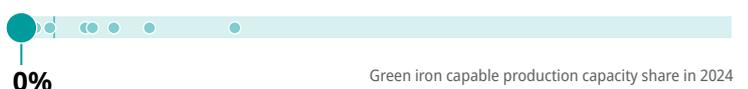
Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)

Lowest 0%

Avg 4.8%

Highest share 30%

100%



2.4 Renewable energy uptake 0.0 / 5

Share of renewable energy in total consumption of energy

Lowest 0%

Avg 2.8%

Highest share 18%

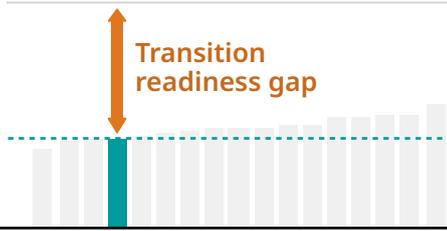
100%



3 Climate performance

Score
6.0 / 15

Rank
14th
of 18 selected companies

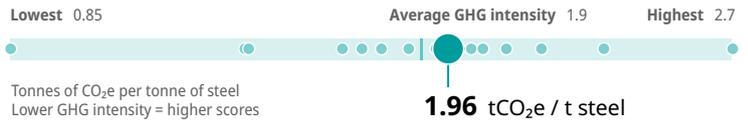


Nippon Steel's average score in this category is mostly due to the comparatively higher GHG intensity of its steel production, explained by relatively low scrap use.

3.1 Current emissions intensity

6.0 / 12

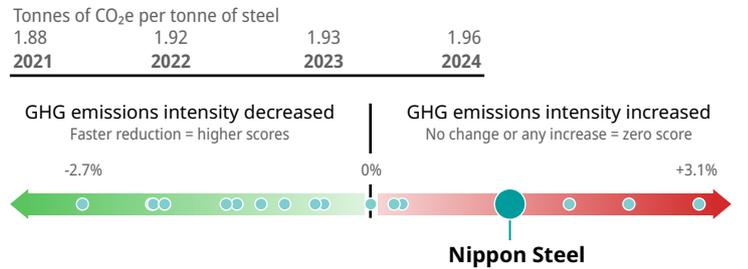
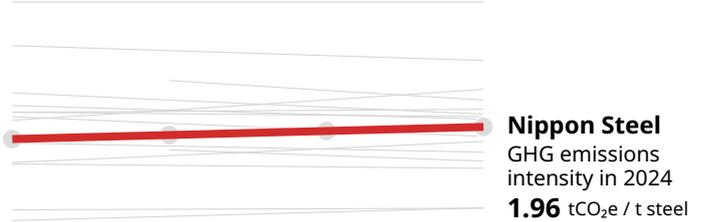
Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)



3.2 Emissions intensity trend

0.0 / 3

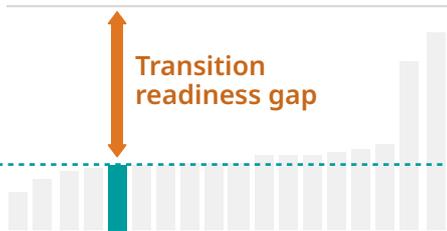
Emissions intensity change between 2021 and 2024



4 Targets and transparency

Score
4.5 / 15

Rank
Equal 12th
of 18 selected companies

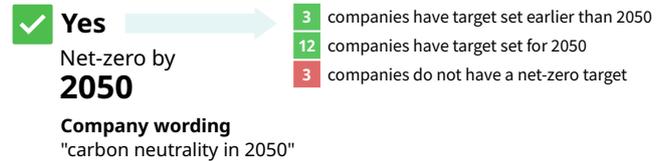


Nippon Steel has pledged to reach net-zero emissions by 2050, but lacks a SBTi-verified target. It scores above the average for disclosure. With the company aiming to reach a total annual global crude steel capacity of 100 million tonnes by mid-2030, increasing the ambition level to match its global responsibility and aligning targets and reporting transparency will increasingly become important.

4.1 Net-zero target

2.0 / 3

Does the company have a target of net-zero emissions by 2050 or earlier?



4.2 SBTi verified emissions reduction target

0.0 / 7

Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?



4.3 Transparency & data disclosure

2.5 / 5

How well does the company communicate key information about its operations based on 12 public disclosure indicators?

- List all assets
- Quality of scrap use reporting
- Disclose non-financial metrics for all assets
- Quality of coal consumption reporting
- Quality of scope 1 emissions reporting
- Quality of renewable energy use reporting
- Quality of scope 2 emissions reporting
- Disclosure of methane emissions associated with coal mining (scope 1 or 3)
- Quality of scope 3 emissions reporting
- Quality of OHS reporting / Lost Time Injury Frequency Rate
- Quality of GHG intensity reporting
- Overall easiness of access to information

5 Social and environmental responsibility

Score
0.1 / 20

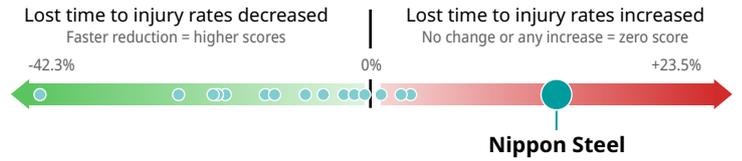
Rank
17th
of 18 selected companies

Transition readiness gap

Nippon Steel's transition readiness gap extends beyond climate. The company has displayed no clear signs of improvements in regards to air pollution or worker safety. Its lack of ResponsibleSteel certification further limits external accountability and transparency regarding social and environmental governance.

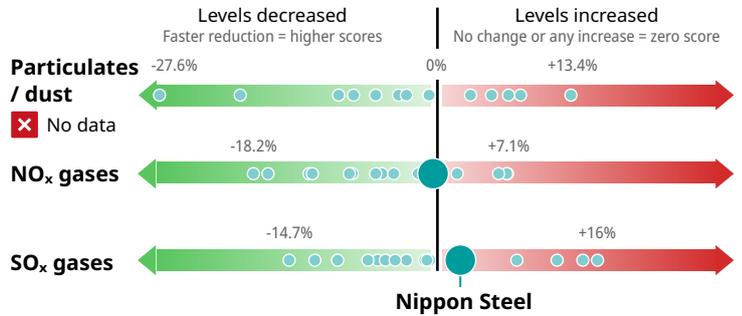
5.1 Health & safety trend 0.0 / 4

Has the rate of workplace injuries changed between 2021 and 2024?



5.2 Air pollution trend 0.1 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification 0.0 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel 0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Adopt retirement plans for and halt reinvestments in all existing blast furnaces

Nippon Steel should improve its transition readiness by developing a clear plan to retire all its blast furnaces. Although not within the bounds of this year's assessment, the relining of newly acquired U. S. Steel's blast furnace assets must be halted. Without this, its transition readiness gap will remain too great to overcome.

2 Invest in securing green iron inputs

Nippon Steel needs to proactively seek green iron production and procurement as part of its transition pathway, and within the next few years, commit to offtake agreements for transportable green iron at scale.

3 Adopt SBTi-verified climate targets

Adopting and realigning its climate strategy to SBTi-verified climate targets would anchor Nippon Steel's operational improvements within a credibly verified transition pathway.



Headquarters
China

Operations
9 plants in 2 countries
China, Serbia

Steel production (total crude steel)

42 Mtpa Million tonnes in 2024 → **3rd largest** of 18 selected companies

Blast furnaces

16 units operating end of 2024 → **31 Mtpa** nominal capacity

HBIS 河钢

Total score

8.3 / 100

Rank

18th

of 18 selected companies

Transition readiness gap

The difference between what is needed for a credible near-zero emissions transition and what a company is actually doing

Transition readiness verdict

HBIS is a critical steelmaker in the global steel transition, but its transition readiness is undermined by coal expansion and lack of sustainability data disclosure.

HBIS ranks last overall in this year's Scorecard, not necessarily because it lacks ambition on paper, but because its transition is largely obscured by very low levels of disclosure and continued coal-based expansion. As one of China's largest steel producers, with additional operational capacity in Serbia, HBIS has the potential to shape the future of steel. However, without transparency, coal phase-out commitments, and credible green iron plans, it has the largest transition readiness gap in this analysis.

SteelWatch Corporate Score by category

Total score	8.3 / 100
1 Phasing out coal	1.3 / 25
2 Scaling green	0.4 / 25
3 Climate performance	0.0 / 15
4 Targets and transparency	2.6 / 15
5 Social and environmental responsibility	4.0 / 20

1 Phasing out coal

Score

1.3 / 25

Rank

18th

of 18 selected companies

Transition readiness gap

HBIS's coal dependence is the biggest factor undermining its transition readiness. The company operates a large and expanding blast furnace fleet (including through acquisitions), and scores very low in this category due both to continued expansion plans, and a lack of disclosure on blast furnace-related projects, and coal consumption. No meaningful blast furnace retirement plans have been announced, and there is no visible strategy to halt reinvestment in coal-based assets.

1.1 Size of blast furnace fleet

1.3 / 5

Total capacity of the company's operating blast furnace fleet



1.2 Blast furnaces under construction

0.0 / 5

Is the company building new blast furnace capacity?

✗ Yes → 2.7 Mtpa under construction in 2024

1.3 Blast furnace investments

0.0 / 5

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

✗ No data

1.4 Blast furnace retirement

0.0 / 5

Has the company announced the retirement of all operating blast furnace capacity?

✗ No → 0% of capacity with retirement announced

1.5 Coal consumption trend

0.0 / 5

Has absolute coal consumption decreased between 2021 and 2024?

✗ No data

Coal consumption in million tonnes (Mt)



2 Scaling green

Score

0.4 / 25

Rank

8th

of 18 selected companies

Transition readiness gap

HBIS has a relatively small share of near-zero-emissions-capable ironmaking. While it certainly has begun this journey, its current near-zero-emissions-capable capacity remains far too small to influence its total score.

2.1 Green iron consumption

0.0 / 5

Absolute volume of green iron used in steelmaking

0 Mt → The company did not use any green iron in steelmaking processes

Million tonnes of green iron in 2024

0 Mt Average consumption of all 18 companies in 2024

2.2 Green iron share

0.0 / 5

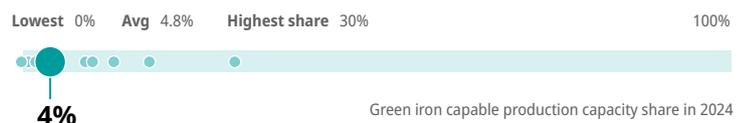
Green iron consumption as a share of total ore-based iron used in steelmaking



2.3 Green iron capable production capacity

0.4 / 10

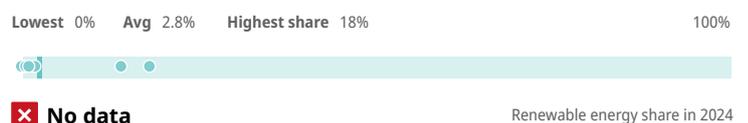
Company's share of total iron production capacity that is near-zero-emissions-capable (operational, under construction or committed)



2.4 Renewable energy uptake

0.0 / 5

Share of renewable energy in total consumption of energy



3 Climate performance

Score
0.0 / 15

Rank
18th
of 18 selected companies



HBIS's lack of transparency has direct consequences for its climate performance. The company scores zero in this category because it does not report the GHG intensity of its steel production. In the Scorecard framework, the absence of disclosed data is treated as critically important, as progress cannot be effectively assessed without it.

3.1 Current emissions intensity

0.0 / 12

Average amount of greenhouse gases emitted per tonne of steel produced (scope 1 and 2)



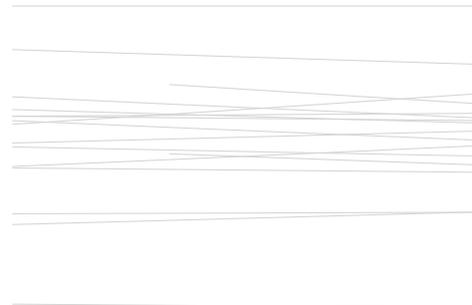
No data

Tonnes of CO₂e per tonne of steel
Lower GHG intensity = higher scores

3.2 Emissions intensity trend

0.0 / 3

Emissions intensity change between 2021 and 2024

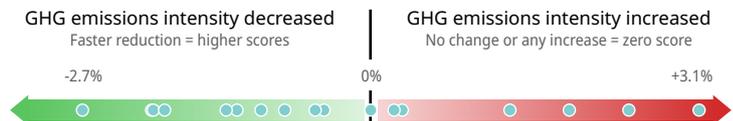


HBIS
GHG emissions intensity in 2024

No data

Tonnes of CO₂e per tonne of steel

2021 2022 2023 2024



No data

4 Targets and transparency

Score
2.6 / 15

Rank
18th
of 18 selected companies



HBIS has announced a net-zero 2050 target, placing it in line with many global peers in terms of its long-term ambition. However, it scores the lowest of all companies on company targets and transparency as it lacks SBTi-verified climate targets and provides very limited public disclosure on transition-critical indicators. As a result, its stated ambition is weakly anchored to verifiable action.

4.1 Net-zero target

2.0 / 3

Does the company have a target of net-zero emissions by 2050 or earlier?

Yes
Net-zero by
2050

3 companies have target set earlier than 2050
12 companies have target set for 2050
3 companies do not have a net-zero target

Company wording
"net-zero by 2050"

4.2 SBTi verified emissions reduction target

0.0 / 7

Has the Science Based Targets initiative verified the company's emissions target as 1.5°C compatible?

No

2 companies have targets verified by SBTi
16 companies do not have any targets verified by SBTi

4.3 Transparency & data disclosure

0.6 / 5

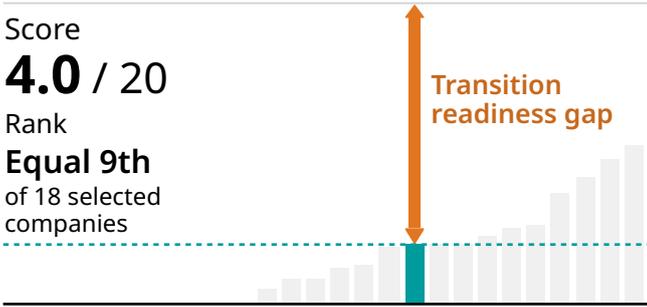
How well does the company communicate key information about its operations based on 12 public disclosure indicators?

- | | |
|---|---|
| <input type="checkbox"/> List all assets | <input type="checkbox"/> Quality of scrap use reporting |
| <input checked="" type="checkbox"/> Disclose non-financial metrics for all assets | <input type="checkbox"/> Quality of coal consumption reporting |
| <input type="checkbox"/> Quality of scope 1 emissions reporting | <input type="checkbox"/> Quality of renewable energy use reporting |
| <input type="checkbox"/> Quality of scope 2 emissions reporting | <input type="checkbox"/> Disclosure of methane emissions associated with coal mining (scope 1 or 3) |
| <input type="checkbox"/> Quality of scope 3 emissions reporting | <input type="checkbox"/> Quality of OHS reporting / Lost Time Injury Frequency Rate |
| <input type="checkbox"/> Quality of GHG intensity reporting | <input checked="" type="checkbox"/> Overall easiness of access to information |

5 Social and environmental responsibility

Score
4.0 / 20

Rank
Equal 9th
of 18 selected companies

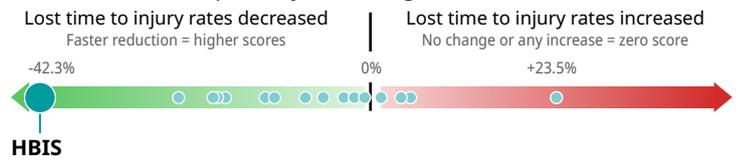


HBIS's performance on social and environmental responsibility sits slightly below the average, again shaped primarily by disclosure gaps. The company does not report particulate matter or SO_x emissions intensity and, like many peers across East Asia, is not certified under ResponsibleSteel. This limits external verification, and similarly, HBIS reports a lost time injury frequency rate (LTIFR) of zero in 2024, which is notable, but also lacks broader third-party verification, making it difficult to contextualise within the Scorecard.

5.1 Health & safety trend

4.0 / 4

Has the rate of workplace injuries changed between 2021 and 2024?



5.2 Air pollution trend

0.0 / 6

Have the levels of dust/particulates, NO_x and SO_x gases per tonne of steel changed between 2021 and 2024?



5.3 ResponsibleSteel Core Site certification

0.0 / 5

Share of the company's production capacity covered by ResponsibleSteel Core Site certification



5.4 ResponsibleSteel Certified Steel

0.0 / 5

The number of ResponsibleSteel Certified Steel certificates

0 certificates

Priority areas for improvement

1 Phase down coal consumption

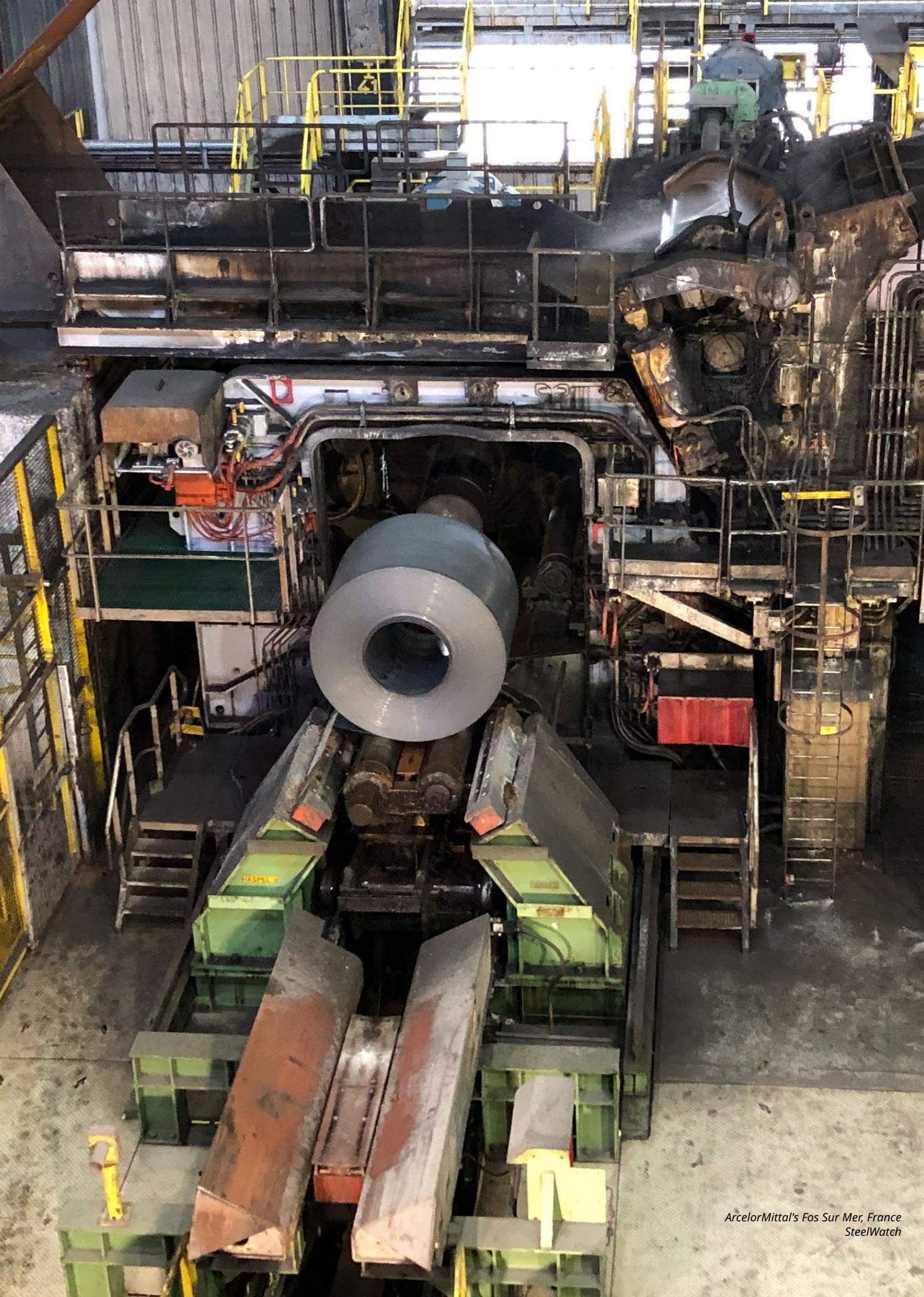
HBIS should commit to a moratorium on new blast furnace construction or acquisition, along with retirement plans for all existing blast furnaces, to pave a path for coal phase-out.

2 Scale up and transition to near-zero-emissions production capacity

HBIS needs to substantially scale up its existing DRI production capacity to enable a structural shift from coal, scale up renewable energy use and set a roadmap for near-zero-emissions iron.

3 Improve transparency

HBIS needs to drastically strengthen its transparency, disclosing information on blast furnace capacity, coal consumption and GHG emissions intensity across its steel operation.



Annex: Methodology

Purpose and scope

The SteelWatch Corporate Scorecard has been developed to compare and contrast the transition journeys of 18 different steel producers across eleven different countries that produce steel through a blast furnace–basic oxygen furnace (BF-BOF) process.

The Scorecard is designed to:

- Compare companies against one another on a common set of transition indicators.
- Set a clear bar for what good looks like in terms of coal phase-down, climate targets, green iron use and social and environmental responsibility.
- Provide strongly interpreted, company-by-company comparisons that media, investors, policymakers and civil society can use in different geographies.

The Scorecard builds upon [Steelmaker Transformation Tracker](#), the first version of which was released at the end of 2025, and provides core data for financial year 2024, company by company.⁹ The definitions of sustainability metrics that are turned into scores in the Scorecard can be found in the Tracker methodology. The Tracker data is largely based on each company's annual reports and financial reports for FY2024 and other published documentation.¹⁰ Additional data covering blast furnace relinings, future announcements, SBTi and ResponsibleSteel certification was considered until October 2025. Projects announced since, have not been incorporated into company scores, but where possible, have been included in the report's descriptive elements.

Company selection

The Scorecard covers 18 BF-BOF steel producers. These companies were selected using two criteria:

- **Size:** companies are drawn from the WorldSteel list of the 100 largest crude steel producers, focusing on larger steelmakers across the largest steelmaking countries.
- **Geographic diversity:** a maximum of two BF-BOF producers per country is included. This ensures coverage of at least one company from each of the 10 largest steel-producing countries.

The 18 selected companies form a geographically spread snapshot of significant BF-BOF producers that together account for close to a quarter of global crude steel production.

9 There are some differences in scope between the Tracker and Scorecard. In terms of company selection the Scorecard only considers BF-BOF steel producers, so 18 companies out of the total of 22 covered in the Tracker. That is because the Scorecard does not aim at highlighting the most climate-friendly steelmakers in absolute, but whether and to which extent coal-intensive steelmakers are on their way out of coal use. Second, while the scores of the Scorecard are derived from the values of sustainability metrics recorded in the Tracker, the Scorecard does not consider all the metrics of the Tracker. That is because they would either duplicate existing measures, be too weak as metrics, or are not yet available across all companies. SteelWatch will update the Tracker or Scorecard methodology as necessary over time, to best capture comparable data on steelmaker progress.

10 As per the methodology of the Steelmaker Transformation Tracker, all data are publicly available and sourced. Most come from companies' own documents such as their annual reports, sustainability reports and financial statements. When available, asset capacity-related information has been drawn from company reporting. When this information is not reported by the company, which is generally the case, then this information has largely been drawn from the Global Energy Monitor's (GEM's) [Global Iron and Steel Tracker](#). Before publication, the collected data has been sent to the concerned companies with a request for any corrections, or additional data that is available in the public domain. Most companies covered by the Steelmaker Transformation Tracker report for Gregorian calendar years (running from 1 January to 31 December), but some report for fiscal years with different time boundaries. These are considered equivalent to Gregorian calendar years when a majority of their span overlaps (for example, Indian and Japanese fiscal year 2024 running from 1 April 2024 to 31 March 2025 is considered equivalent to calendar year 2024).

Categories and weights

Each company is scored across five categories, which together are intended to capture the core elements of a credible timely transition to near-zero-emissions operations:

- Phasing out coal – 25%
- Scaling green – 25%
- Climate performance – 15%
- Targets and transparency – 15%
- Social and environmental responsibility – 20%

Within each category, companies are evaluated on a small set of scoring questions/items. Each question/item has:

- A direction (“the more the better” or “the less the better”),
- A scoring range (e.g. 0–5 points), and
- A specific scoring function (linear, exponential or rate-of-change based) that takes Tracker indicator values as inputs.
- A readiness gap, expressed as the difference between the current score and the maximum possible score.

The total score is expressed out of 100 points. The total score effectively reflects the ability of a particular company to structurally shift its business model and operational reality to deliver the transition to near-zero emissions steel. A company scoring 100% would in fact exit the Scorecard.

Treatment of company size

The Scorecard is designed to focus on behaviour and direction of travel, not simply on which companies are biggest.

Two scoring questions/items are based on absolute metrics, and therefore sensitive to company size, these include:

- The capacity of operating blast furnaces, as a proxy for the sheer scale of coal-based production and climate impact.
- The volume of green iron consumed, as a proxy for a company’s contribution to building a new, near-zero-emissions value chain.

All other scoring questions/items are effectively size-agnostic. This includes:

- Intensity metrics (e.g. GHG per tonne of steel, NO_x/SO_x/PM per tonne of steel),
- Trends over time (e.g. whether GHG intensity, coal use or air pollution are rising or falling), or
- Percentages and shares (e.g. share of capacity that is near-zero-emissions-capable, share of capacity with ResponsibleSteel certification).

This ensures that the scorecard avoids penalising large producers purely because of their size. However, it aims to reflect the structural transition risk of large blast furnace capacity.

Geographic differentiation and “common but differentiated responsibilities”

SteelWatch recognises the principle of “common but differentiated responsibilities and respective capabilities” (CBDR-RC), recognised in the Paris Agreement. But the geographic diversity of covered companies, the differences between country of headquarters and countries of operations, and more broadly, the lack of consensus on what would be a sector-level “fair” share of the planetary carbon budget for each jurisdiction would make it impossible to integrate CBDR-RC in any meaningful way into this methodology.

At the same time, many indicators focus on direction and pace of change within each company (e.g. trends in GHG intensity, coal consumption, air pollution). This means companies are partly assessed relative to their own past performance, rather than purely against one another or against country-level baselines.

Scrap and why it is not scored directly

Scrap plays a vital role in reducing emissions, but global scrap availability is limited in the near and medium term. The Scorecard does not penalise nor directly reward scrap use as a standalone indicator. However, scrap use would still likely improve scores through a lowering of the greenhouse gas intensity of production within the climate performance category.

In contrast, the Scorecard also incorporates current plans to retire and replace blast furnace capacity, as well as current green iron procurement.

How indicators are scored:

1. Phasing out coal (25 points available)

This category captures both the scale of coal-based production and the direction of travel:

Table A1: Indicators for Phasing out coal and their maximum score

1.1 Size of blast furnace fleet	5 points
Capacity of operating blast furnace fleet in million tonnes of iron per annum.	
1.2 Blast furnaces under construction	5 points
Is the company building new blast furnace capacity?	
1.3 Blast furnace investments	5 points
Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?	
1.4 Blast furnace retirement	5 points
The share of blast furnace capacity with retirement announced.	
1.5 Coal consumption trend	5 points
Has absolute coal consumption (in million tonnes) declined over a four-year period?	
	25 points

Companies with smaller BF fleets, no new BFs or re-linings, clear retirement plans and declining coal use, score higher.

Companies that are expanding or maintaining large fleets without retirement plans score lower. Similarly, companies that do not disclose coal consumption also score lower.

2. Scaling green (25 points available)

This category looks for evidence that companies are beginning to build the future steel system:

Table A2: Indicators for Scaling green and their maximum score

2.1 Green iron consumption	5 points
Volume of green iron consumed, in million tonnes.	
2.2 Green iron share	5 points
Share of green iron out of total ore-based iron consumption.	
2.3 Green iron capable production capacity	10 points
The percentage of total iron production capacity that is near-zero-emissions-capable, either operational or under development (min FID stage).	
2.4 Renewable energy uptake	5 points
Share of renewable energy in total energy consumption, primarily used to power iron and steelmaking processes.	
	25 points

In practice, given the very early stage of green iron deployment, most companies currently score zero or near zero on these indicators. This category will become increasingly important over time as projects move from announcements to FID to operation and begin to materially change companies' scores.

3. Climate performance (15 points available)

This category combines:

Table A3: Indicators for Climate performance and their maximum score

3.1 Current emissions intensity	12 points
The tonnes of CO ₂ -equivalent greenhouse gases emitted per tonne of steel produced (scope 1 and 2 emissions only).	
3.2 Emissions intensity trend	3 points
The trend in GHG emissions per tonne of steel over a four-year period.	
	15 points

Lower GHG intensity earns higher scores. A nonlinear function is used so that further reductions at already low intensities are rewarded more strongly. The trend indicator rewards companies whose GHG intensity is consistently decreasing over time; companies with no improvement or with missing data score poorly.

4. Targets and transparency (15 points available)

This category scores whether companies:

Table A4: Indicators for Targets and transparency and their maximum score

4.1 Net-zero target	3 points
Whether the company has a target of net-zero emissions by 2050 or earlier.	
4.2 SBTi verified emissions reduction target	7 points
Whether the company has SBTI-verified 1.5C targets.	
4.3 Transparency & data disclosure	5 points
The extent to which the company meets 12 key public disclosure indicators.	
<hr/>	
	15 points

Net-zero and SBTi indicators are binary (yes/no) with different point weights. Transparency is scored on a 0–5 scale based on a composite underlying disclosure assessment.

5. Social and environmental responsibility (20 points available)

This category assesses:

Table A5: Indicators for Social and environmental responsibility and their maximum score

5.1 Health & safety trend	4 points
Has the company reduced the amount of work-place injuries over the last three years?	
5.2 Air pollution trend	6 points
A combined score based on the rate of improvement for SO _x and NO _x gases and particulate matter per tonne of steel.	
5.3 ResponsibleSteel Core Site certification	5 points
Percentage of steel production capacity covered by ResponsibleSteel Core Site certification.	
5.4 ResponsibleSteel Certified Steel	5 points
The number of ResponsibleSteel Certified Steel certificates	
<hr/>	
	20 points

Because methodologies for OH&S and air pollution reporting vary widely between companies, these indicators are used to score trends over time, not absolute levels. What matters is whether a company is improving, stagnating or deteriorating.

As of today, ResponsibleSteel is the only steel-specific international standard that also considers non-climate impacts of steel production, for example labour rights, responsible sourcing of input materials or water stewardship. SteelWatch is a member organisation of ResponsibleSteel, and in the context of the Steelmaker Transformation Tracker and SteelWatch Corporate Scorecard, values ResponsibleSteel certification as a proxy for the level of engagement steelmakers commit to on their non-climate impacts.

Indicators not used for scoring

Some indicators are tracked but not used in the Scorecard score, because they would either duplicate existing measures, be too weak as metrics, or are not yet available across all companies (e.g. just transition, policy engagement, whistleblowing/ grievance mechanisms, ESG controversies). They remain of interest for qualitative analysis but do not affect the numerical scores.

Table A6: Scoring method for all the indicators in each scoring category

Phasing out Coal

25% relative weight in total

1.1 Size of blast furnace fleet

Capacity of operating blast furnace fleet in million tonnes of iron per annum.

Value range 0-infinite	Signification of direction The less the better
Scoring range 0-5	Scoring method $5 * \text{EXP}(-0.09 * (\text{value}^{0.8}))$ power-scaled exponential function enabling more fine tuning of the results with parameters -0.09 and 0.8 For example: BF capacity of 3 Mtpa yields 4.03 (out of 5) BF capacity of 10 Mtpa yields 2.83 (out of 5) BF capacity of 30 Mtpa yields 1.27 (out of 5) BF capacity of 50 Mtpa yields 0.64 (out of 5)

1.2 Blast furnaces under construction

Is the company building new blast furnace capacity?

Value range 0.0-150.0	Signification of direction The less the better – future oriented
Scoring range 0-5	Scoring method 5 if 0.0 0 if > 0.0

1.3 Blast furnace investments

Has the company recently completed investments in blast furnace capacity, or announced upcoming ones?

Value range 0-infinite	Signification of direction The less the better
Scoring range 0-5	Scoring method 5 if 0 0 if > 0

1.4 Blast furnace retirement

The share of blast furnace capacity with retirement announced.

Value range 0-100%	Signification of direction The less the better
Scoring range 0-5	Scoring method $-5 * \text{value} + 5$ (linear inverse mapping)

1.5 Coal consumption trend

Has absolute coal consumption (in million tonnes) declined over a four-year period?

Value range positive number means increase, negative number means decrease	Signification of direction The less the better (including negative values)
Scoring range 0-5	Scoring method first calculate slope: $\text{INDEX}(\text{LINEST}(\text{LN}\{\text{value}_{2024}, \text{value}_{2023}, \text{value}_{2022}, \text{value}_{2021}\}), \{2024, 2023, 2022, 2021\}), 1)$ then turn slope into score: $5 * (1 - \text{EXP}(\text{slope} * 30))$ if no decrease, score is 0 if coal consumption is not disclosed, score is 0

2.1 Green iron consumption

Volume of green iron consumed, in million tonnes.

Value range 0-infinite	Signification of direction The more the better – present
----------------------------------	--

Scoring range 0-5	Scoring method $5 * (1 - \text{EXP}(\text{value} / 15))$
-----------------------------	--

2.2 Green iron share

Share of green iron out of total ore-based iron consumption.

Value range 0-100%	Signification of direction The more the better – present
------------------------------	--

Scoring range 0-5	Scoring method $\text{value} * 5$ if not disclosed, score is 0
-----------------------------	---

2.3 Green iron capable production capacity

The percentage of total iron production capacity that is near-zero-emissions-capable, either operational or under development (min FID stage).

Value range 0-100%	Signification of direction The more the better – future-oriented
------------------------------	--

Scoring range 0-10	Scoring method $\text{value} * 10$
------------------------------	--

2.4 Renewable energy uptake

Share of renewable energy in total energy consumption, primarily used to power iron and steelmaking processes.

Value range 0-100%	Signification of direction The more the better – present
------------------------------	--

Scoring range 0-5	Scoring method $\text{value} * 5$ if not disclosed, score is 0
-----------------------------	---

3.1 Current emissions intensity

The tonnes of CO₂-equivalent greenhouse gases emitted per tonne of steel produced (scope 1 and 2 emissions only).

Value range 0.00-4.00	Signification of direction The less the better
Scoring range 0-12	Scoring method $12 * \text{EXP}(-0.5 * \text{value}^{0.5})$ power-scaled exponential function enabling more fine tuning of the results with parameters -0.5 and 0.5. greater reward given to emissions cuts closer to zero (getting from 0.5 to 0.4 gives a bigger score improvement than getting from 1.8 to 1.7) based on the assumption that emissions cuts are increasingly difficult to achieve For example: GHG intensity of 2.3 yields score of 5.6 (out of 12 - near the average) GHG intensity of 1.0 yields score of 7.3 (out of 12) GHG intensity of 0.5 yields score of 8.4 (out of 12) GHG intensity of 0.1 yields score of 10.2 (out of 12) if no GHG intensity is disclosed, score is 0

3.2 Emissions intensity trend

The trend in GHG emissions per tonne of steel over a four-year period.

Value range positive number means increase, negative number means decrease	Signification of direction The less the better (including negative values)
Scoring range 0-3	Scoring method first calculate slope: $\text{INDEX}(\text{LINEST}(\text{LN}\{\text{value2024}, \text{value2023}, \text{value2022}, \text{value2021}\}), \{2024, 2023, 2022, 2021\}), 1)$ then turn slope into score: $3 * (1 - \text{EXP}(\text{slope} * 30))$ if no decrease, score is 0 if GHG intensities are not disclosed, score is 0

4.1 Net-zero target

Whether the company has a target of net-zero emissions by 2050 or earlier.

Value range YES / NO	Signification of direction YES is good
Scoring range 0-3	Scoring method 0 if NO 2 if YES with 2050 3 if YES plus earlier date than 2050

4.2 SBTi verified emissions reduction target

Whether the company has SBTi-verified 1.5C targets.

Value range YES / NO	Signification of direction YES is good
Scoring range 0-7	Scoring method 7 if YES, 0 if NO

4.3 Transparency & data disclosure

The extent to which the company meets 12 key public disclosure indicators.¹¹

Value range 0-24 (36 in next phase)	Signification of direction The more the better
Scoring range 0-5	Scoring method value / 24*5

¹¹ For details on this indicator, see the Methodology section [here](#)

5.1 Health & safety trend

Has the company reduced the amount of work-place injuries over the last three years?

Value range

positive number means increase,
negative number means decrease

Signification of direction

The less the better (including negative values)

Scoring range

0-4

Scoring method

first calculate slope:

INDEX(LINEST(LN{value2024,value2023,value2022,value2021}), {2024,2023,2022,2021}), 1)

then turn slope into score: **4*(1 - EXP(slope * 10))**

if no decrease, score is 0

5.2 Air pollution trend

A combined score based on the rate of improvement for SO_x and NO_x gases and particulate matter per tonne of steel.

Value range

Intensity values range between 0.00
and 4.00 for all three pollutants (PM,
SO_x and NO_x)

Signification of direction

The less the better (including negative values)

Scoring range

0-6

Scoring method

For each of the 3 pollutants:

first calculate slope:

INDEX(LINEST(LN{value2024,value2023,value2022,value2021}), {2024,2023,2022,2021}), 1)

then turn slope into score: **2*(1 - EXP(slope * 10))**

if no decrease, score is 0

5.3 ResponsibleSteel Core Site certification

Percentage of steel production capacity covered by ResponsibleSteel Core Site certification.

Value range

0-100%

Signification of direction

The more the better

Scoring range

0-5

Scoring method

value*5

5.4 ResponsibleSteel Certified Steel

The number of ResponsibleSteel Certified Steel certificates

Value range

0-infinite

Signification of direction

The more the better

Scoring range

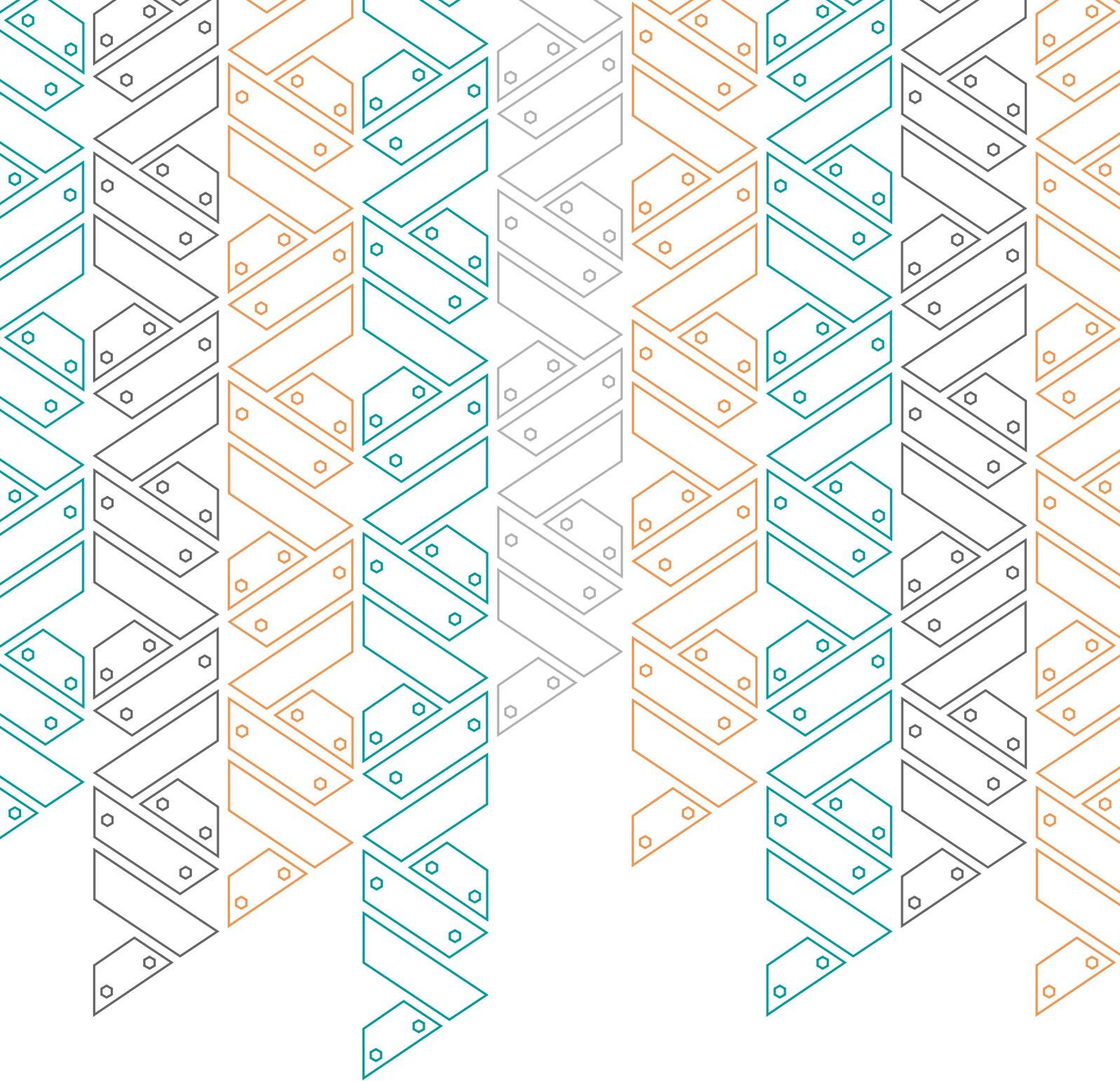
0-5

Scoring method

5*value/(value+2)

Table A7: Summary table of all 18 companies scores by category and indicator

2026 SteelWatch Corporate Scorecard		Phasing out coal					Scaling green				Climate performance		Targets and transparency			Social and environmental responsibility								
Category		Category 1					Category 2				Category 3		Category 4			Category 5								
Indicator		1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	2.4	3.1	3.2	4.1	4.2	4.3	5.1	5.2	5.3	5.4					
Scored out of		5	5	5	5	5	5	5	10	5	12	3	3	7	5	4	6	5	5					
SSAB 46.2 / 100 Total score		21.4 / 25	3.3	5.0	5.0	5.0	3.1	0.9 / 25	0.0	0.0	0.0	0.9	6.6 / 15	6.6	0.0	13.3 / 15	3.0	7.0	3.3	4.0 / 20	3.8	0.2	0.0	0.0
thyssenkrupp 41.9 / 100 Total score		17.7 / 25	2.7	5.0	5.0	5.0	0.0	1.8 / 25	1.8	0.0	0.0	0.0	6.1 / 15	6.1	0.0	11.3 / 15	3.0	7.0	1.3	5.0 / 20	0.0	0.0	5.0	0.0
ArcelorMittal 33.5 / 100 Total score		12.0 / 25	0.4	5.0	0.0	2.1	4.4	1.3 / 25	1.3	0.0	0.0	0.0	7.5 / 15	6.2	1.3	5.3 / 15	2.0	0.0	3.3	7.4 / 20	0.3	4	2.8	0.0
Ternium 31.8 / 100 Total score		15.4 / 25	2.9	5.0	5.0	0.0	2.5	3.1 / 25	3.0	0.0	0.0	0.1	6.7 / 15	6.3	0.4	4.2 / 15	0.0	0.0	4.2	2.4 / 20	1.2	1.2	0.0	0.0
JSW 29.6 / 100 Total score		6.8 / 25	1.4	5.0	0.0	0.4	0.0	1.0 / 25	1.0	0.0	0.0	0.0	6.5 / 15	5.6	0.9	4.7 / 15	2.0	0.0	2.7	10.6 / 20	3.6	3.0	4.0	0.0
Cleveland-Cliffs 29.4 / 100 Total score		12.1 / 25	1.9	5.0	0.0	0.6	4.7	0.9 / 25	0.9	0.0	0.0	0.0	7.4 / 15	6.0	1.4	5.1 / 15	2.0	0.0	3.1	3.8 / 20	3.1	0.7	0.0	0.0
NLMK 29.0 / 100 Total score		12.4 / 25	2.4	5.0	5.0	0.0	0.0	0.0 / 25	0.0	0.0	0.0	0.0	7.3 / 15	5.9	1.4	4.0 / 15	0.0	0.0	4.0	5.3 / 20	3.5	1.8	0.0	0.0
U. S. Steel 28.3 / 100 Total score		11.8 / 25	2.3	5.0	0.0	0.0	4.5	0.0 / 25	0.0	0.0	0.0	0.0	6.9 / 15	6.1	0.8	5.1 / 15	2.0	0.0	3.1	4.5 / 20	0.8	0.9	1.1	1.7
Gerdau 28.2 / 100 Total score		9.4 / 25	3.6	5.0	0.0	0.0	0.8	0.7 / 25	0.0	0.0	0.0	0.7	8.2 / 15	7.6	0.7	5.8 / 15	2.0	0.0	3.8	4.1 / 20	1.9	2.2	0.0	0.0
Tata Steel 27.5 / 100 Total score		7.0 / 25	1.2	5.0	0.0	0.8	0.0	0.0 / 25	0.0	0.0	0.0	0.0	5.3 / 15	5.3	0.0	5.5 / 15	3.0	0.0	2.5	9.7 / 20	2.9	3.4	3.4	0.0
Baosteel 26.1 / 100 Total score		5.7 / 25	0.7	5.0	0.0	0.0	0.0	0.3 / 25	0.2	0.0	0.0	0.1	6.9 / 15	5.9	1.0	4.7 / 15	2.0	0.0	2.7	8.5 / 20	3.6	4.9	0.0	0.0
JFE 23.4 / 100 Total score		11.3 / 25	1.3	5.0	0.0	0.6	4.4	0.0 / 25	0.0	0.0	0.0	0.0	5.9 / 15	5.9	0.0	5.1 / 15	2.0	0.0	3.1	1.1 / 20	0.0	1.1	0.0	0.0
MMK 23.2 / 100 Total score		12.2 / 25	2.7	5.0	0.0	1.6	2.9	0.0 / 25	0.0	0.0	0.0	0.0	5.7 / 15	5.7	0.0	3.5 / 15	0.0	0.0	3.5	1.8 / 20	0.0	1.8	0.0	0.0
OYAK 22.4 / 100 Total score		10.4 / 25	2.6	5.0	0.0	0.0	2.8	0.0 / 25	0.0	0.0	0.0	0.0	7.5 / 15	5.8	1.7	4.5 / 15	2.0	0.0	2.5	0.0 / 20	0.0	0.0	0.0	0.0
POSCO 21.9 / 100 Total score		9.1 / 25	1.0	5.0	0.0	0.0	3.1	0.1 / 25	0.1	0.0	0.0	0.0	6.3 / 15	5.9	0.4	4.7 / 15	2.0	0.0	2.7	1.7 / 20	0.0	1.7	0.0	0.0
Hyundai Steel 21.2 / 100 Total score		7.5 / 25	2.5	5.0	0.0	0.0	0.0	0.0 / 25	0.0	0.0	0.0	0.0	6.6 / 15	6.6	0.0	4.5 / 15	2.0	0.0	2.5	2.6 / 20	2.3	0.3	0.0	0.0
Nippon Steel 16.8 / 100 Total score		6.2 / 25	0.7	5.0	0.0	0.5	0.0	0.0 / 25	0.0	0.0	0.0	0.0	6.0 / 15	6.0	0.0	4.5 / 15	2.0	0.0	2.5	0.1 / 20	0.0	0.1	0.0	0.0
HBIS 8.3 / 100 Total score		1.3 / 25	1.3	0.0	0.0	0.0	0.0	0.4 / 25	0.4	0.0	0.0	0.0	0.0 / 15	0.0	0.0	2.6 / 15	2.0	0.0	0.6	4.0 / 20	4.0	0.0	0.0	0.0



SteelWatch is a civil society organisation with a vision for a steel industry that underpins a thriving zero-emissions economy. Our mission is to turbo-charge the transformation to a decarbonised steel sector that enables the environment, communities and workers to thrive. We challenge the prevailing complacency, support civil society impact, and campaign for greater ambition and speedier climate action by steel companies internationally.

Any inquiries can be directed to info@steelwatch.org