

A matter of transparency: 2024 insights on the steel industry's evolving commitments to reach Net Zero by 2050

Key Points

- While there has been some progress in the steel industry's commitment to emissions reduction targets, 23 of the top 50 producers still lack concrete intermediate milestones, making it challenging to achieve the goal of net zero by 2050.
- Twenty companies now target net zero by 2050 or earlier, up from seventeen in 2023. Despite this modest increase in net zero commitments among steel producers, half of the top producers remain without a 2050 target, highlighting the need for continued focus on aligning the sector with global decarbonization efforts.
- Fifteen of the top 50 steel producers, only one more since last year, have defined emission scopes in their net zero targets. The remaining majority still lack clear scope definitions, pointing out the need for greater transparency to ensure accurate tracking and progress toward industry-wide decarbonization.
- The launch of the Science Based Target Initiative's (SBTi) steel sector guidance in 2023 makes it easier than ever before for companies to set transparent and ambitious climate goals, with early adopters like SSAB and Thyssenkrupp leading the way. Outside enforcement mechanisms (i.e. governments and financial

institutions) will be key for holding companies accountable to their net zero targets.

In 2023, Global Energy Monitor (GEM) and the Leadership Group for Industry Transition (LeadIT) published the briefing [A Matter of Ambition: Examining the Steel Industry's Commitment to Net Zero by 2050](#) to inspect the state of net zero commitments by top steel producing companies. This briefing provides an update on the progress in net zero 2050 commitments by the top 50 steel producers.

These top 50 steel producers rely more heavily on higher emissions steelmaking technologies than the global industry average and are responsible for [more than 60%](#) of the sector's emissions, but half of these companies still lack any net zero target, and only twenty have aimed for net zero by 2050. During 2023 the top 50 steel companies produced 1.1 billion tonnes of steel, about 60% of [global production](#) (1.9 billion tonnes).

The entire iron and steel industry is responsible for about 2.6 gigatonnes (Gt) of direct CO₂ emissions, and 3.6 Gt of direct and indirect CO₂ emissions¹ annually, equivalent to powering about [470 million homes](#) for a year.

Net zero commitments by top steel producers

Compared to last year's update, there has been an increase in the number of top steel producers pledging to reach net zero emissions. However, not all of these companies aim to achieve net zero by 2050, and half of the top producers still have yet to release a plan with milestones for reaching this target.

¹ Direct CO₂ emissions are calculated using the International Energy Agency's [roadmap](#) and [methodology](#) and reported a 2022 average for direct CO₂ emissions intensity of [1.41 tonnes of CO₂ per tonne of steel](#). Indirect and direct CO₂ emissions are calculated using the World Steel Association's reported 2022 global average of direct and indirect CO₂ emissions intensity of [1.91 tonnes of CO₂ per tonne of steel](#).

The analysis of the top 50 steel producers follows the latest [production ranking](#) provided by the World Steel Association. While this ranking remains similar year-to-year, two companies included in the 2023 analysis have shifted out of the top 50 list, while two other companies have entered the top 50 in the most recent production ranking update. One of the two companies that fell out of the top 50 ranking had 2030 and 2050 climate goals, and the other had a 2050 climate goal. Of the two new companies included this year, one has a 2045 goal, and the other has no known goals. The changes in progress due to this small shift in rankings rather than changes in company policies are noted throughout.

Figure 1 illustrates the evolving trends in emissions reduction milestones among the top 50 steel producers leading up to 2030. According to the [Green Steel Tracker dataset](#) as of September 2024, seventeen companies have set a 2030 emissions reduction goal, three fewer top 50 producers than in the 2023 update. Two of these companies removed their 2030 goals, while one reduction is due to the shift in rankings of the top 50 steel producers. Conversely, ten companies have now established milestones between 2030 and 2040, covering a production capacity of 286 million tonnes per year (Mtpa), an increase of five companies compared to 2023.

A significant portion of the industry (twenty-three companies, which is two fewer than last year) still have either not stated an emissions reduction milestone for 2030 or beyond (fourteen companies producing 275 Mtpa), or have not disclosed any information on their emissions reduction goals (nine companies producing 133 Mtpa). This marks a slight shift from the 2023 report, with more companies having a stated emissions reduction target of 2050, though most of these new targets lack any intermediate milestones.

As of September 2024, three companies (producing 45 Mtpa) plan to reach net zero before 2050, up from just one company last year. Seventeen companies (producing 520 Mtpa) have committed to meeting net zero by 2050, an increase of one company

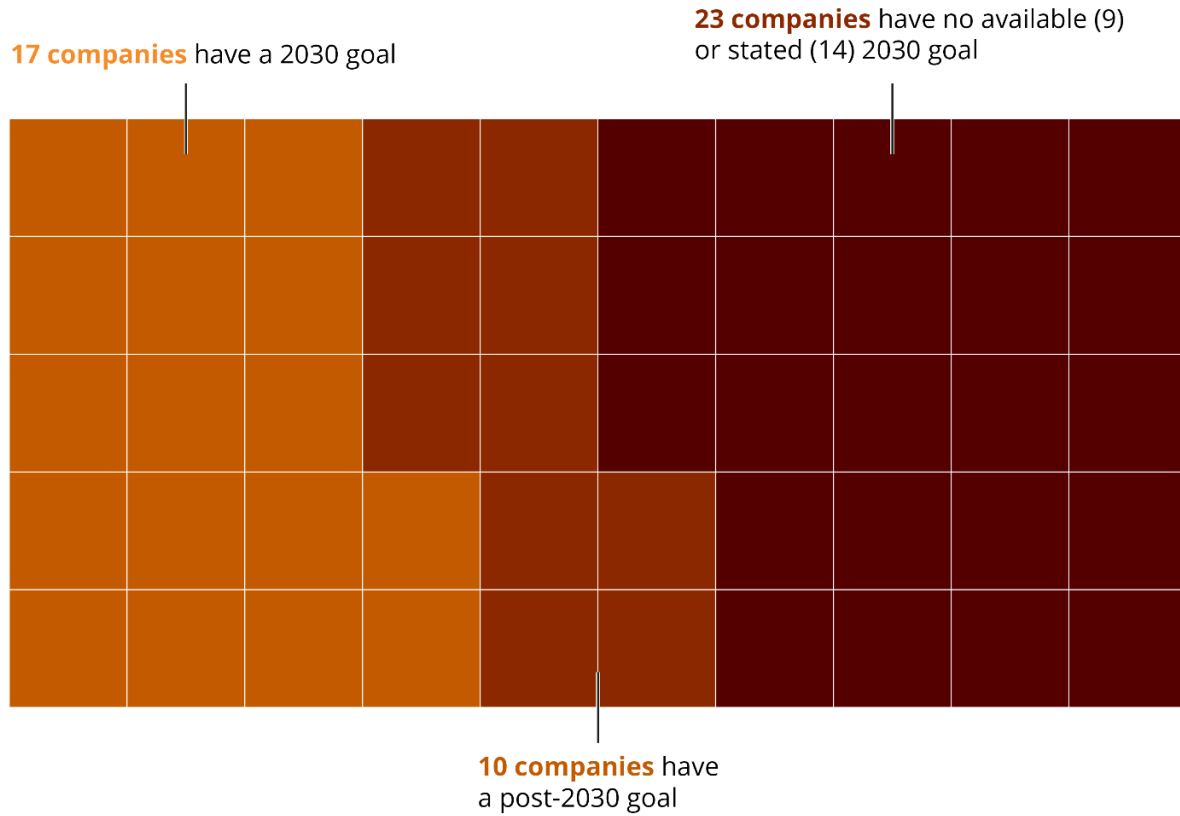
compared to last year, though this shift is due to the change in top 50 producer rankings, not a new or accelerated commitment by a company (Figure 2).

The number of companies planning to achieve net zero after 2050 has also risen, from two in 2023 to five in 2024. These five companies (producing 138 Mtpa) target net zero by 2060 or later, potentially delaying the emissions reductions needed for heavy industry to align with the International Energy Agency (IEA) [Net Zero Emissions by 2050 \(NZE\) Scenario](#).

Despite the increase in set targets, half of the top 50 steel producers still lack a net zero target. Sixteen companies (producing 272 Mtpa) have not stated a net zero target in their public reporting, and nine companies (producing 133 Mtpa) have provided no information on climate targets at all.

More than half of top steel producers lack a 2030 emissions goal

Emissions reduction targets of the world's top 50 steel producers; each square represents one company



Steel production from top 50 producers grouped by their emissions reduction goal status, in million tonnes per annum (Mtpa)



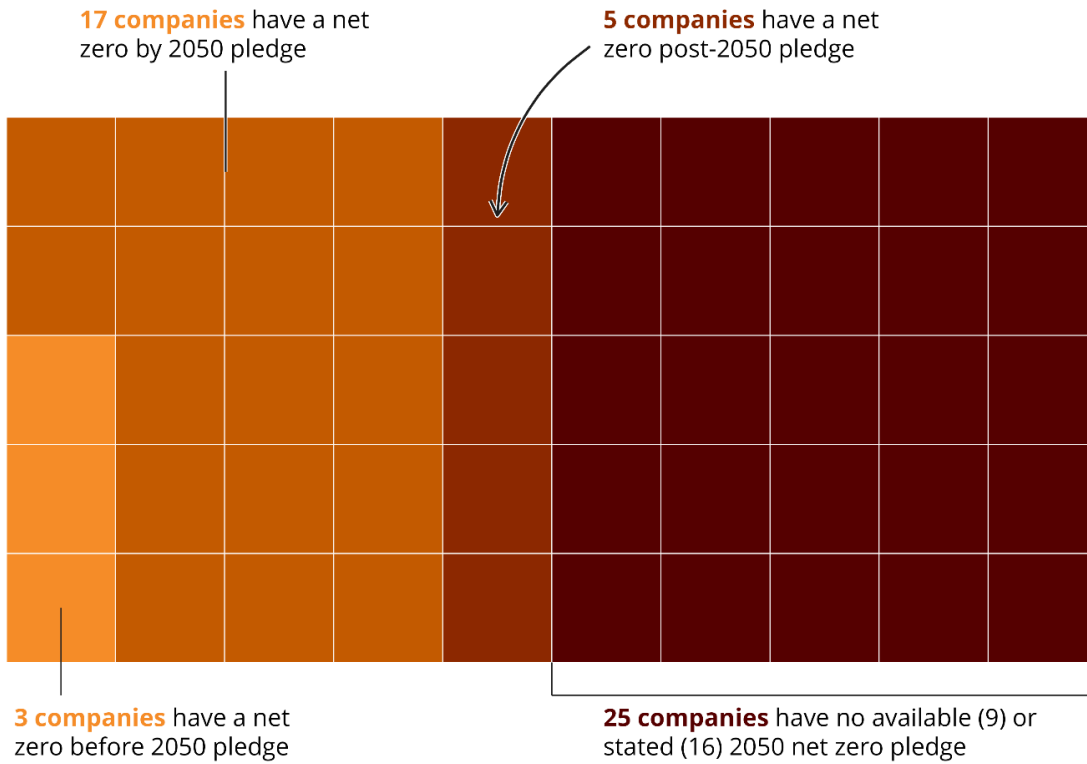
Note: Not available means no publicly-available information about the sustainability reporting of the company could be found, while not stated means the company has sustainability reporting but no emissions reduction targets to 2030 are mentioned.

Source: Green Steel Tracker

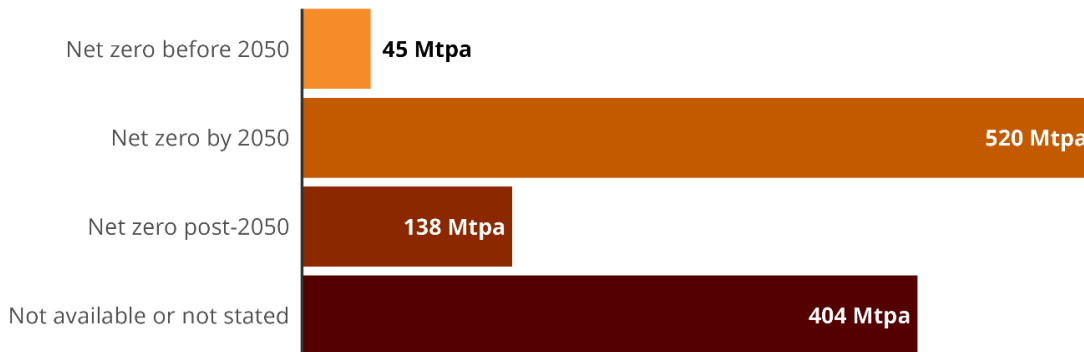
Figure 1

Less than half of top steel producers have pledged to reach net zero by 2050

Net zero by 2050 commitments of the world's top 50 steel producers; each square represents one company



Steel production from top 50 producers grouped by their net zero pledge status, in million tonnes per annum (Mtpa)



Note: Not available means no publicly-available information about the sustainability reporting of the company could be found, while not stated means the company has sustainability reporting but no net zero pledges to 2050 are mentioned.

Source: Green Steel Tracker



Figure 2

Emission scopes: How ambitious are these targets?

Fifteen of the top 50 steel producers have established targets with defined emission scopes, which is one more than in 2023.

According to LeadIT's Green Steel Tracker dataset, only fifteen of the top 50 steel producers have specified the emission scopes they plan to address in order to reach their net zero targets (Figure 3). Of these, four companies have included Scopes 1, 2, and 3 in their plans. Three of these companies aim to achieve net zero by 2050, while one plans to reach this goal before 2050.

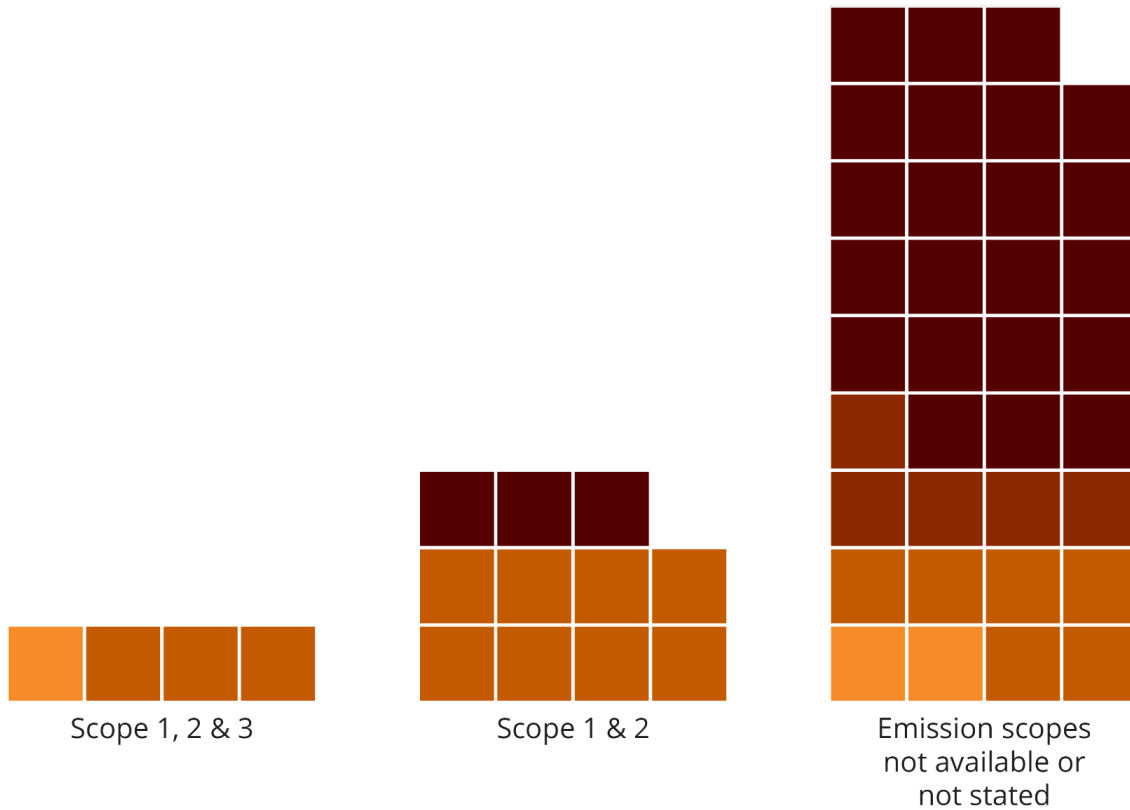
The remaining thirty-five companies have either not specified the emission scopes they intend to reduce (fourteen companies) or have not publicly disclosed any information about their climate targets (21 companies). Among these 35 companies, thirteen have set a net zero goal: two before 2050, six by 2050, and five after 2050. However, the lack of transparency regarding the emission scopes these companies plan to address may hinder both the achievement of their 2050 targets and the monitoring and verification of their emissions reduction progress.

Only four of the top 50 steel firms currently have plans to measure Scope 3 emissions

Emission scopes planned to be measured by the top 50 steel producers; each square represents one company

Net zero targets

- Net zero before 2050
- Net zero by 2050
- Net zero post-2050
- Not available or not stated



Note: Not available means no publicly-available information about the sustainability reporting of the company could be found, while not stated means the company has sustainability reporting but no emissions reduction targets to 2030 are mentioned.

Source: Green Steel Tracker



Figure 3

Tools for target-setting: SBTi's new guidance for the iron and steel sector

In September 2023, the Science Based Targets Initiative (SBTi) launched the first sector-specific methodology for setting Paris-aligned near- and long-term targets at the company level in the iron and steel sector. SBTi has been globally recognized as a key enabler and validator of corporate climate action through its development of guidelines and tools [to help companies](#) limit global temperature rise to 1.5°C above pre-industrial levels. Companies following SBTi guidelines are required to [submit their targets](#) for validation.

The SBTi [iron and steel sector guidance](#) holds the potential to increase transparency and raise the climate ambitions of steel producing companies by providing clear and actionable steps to set, measure, and report net zero targets. This tool acts in accordance with the Greenhouse Gas (GHG) Protocol emission scopes and requires that at least 95% of all Scope 1 and Scope 2 emissions be [included](#) in near-term targets. Scope 3 emissions must also be included if these emissions represent at least 40% of the total Scope 1, 2, and 3 emissions.

For long-term targets aiming at net zero emissions, companies must report on Scopes 1, 2, and 3 and at least 90% of Scope 3 emissions need to be covered.

Given that SBTi targets and emissions accounting are specific to the company level, the SBTi guidance [is not a suitable](#) benchmarking approach for steel product comparison between producers. Nevertheless, the submission and validation of targets by SBTi increases the transparency of steelmakers committed to achieving net zero emissions by 2050 and provides an opportunity for outside enforcement mechanisms (i.e. governments and financial institutions) to hold companies accountable to their net zero targets. Companies with verified targets can communicate these as science-based

and aligned with global climate goals, and the targets are featured on SBTi's [target dashboard](#).

In June 2024, European steel manufacturers SSAB and Thyssenkrupp — both top 50 steel producers and among companies that have publicly [announced](#) projects to produce green steel — announced the approval of their net zero targets by SBTi, for dates before and by 2050, respectively. Both companies followed the SBTi iron and steel sector guidance to set specific short- and long-term targets for reducing their Scope 1, 2, and 3 emissions.

The example set by these steelmakers paves the way for broader adoption of the guidance across the iron and steel sector, helping to establish science-based targets for the industry to reach net zero by 2050.

Individual targets and collective action: How the top 50 steel producers can lead on net zero

The increase in target reporting among the top 50 steel producers is a positive sign of progress, yet it falls short of what is needed to reach net zero by 2050 for the sector. In parallel, some companies have delayed their goal timeline to after 2030, despite sharing 2030 commitments last year. As industry leaders, these companies not only have the capacity to drive change within their own operations but also to encourage the entire sector. By setting more ambitious goals, demonstrating the viability of achieving them, and reporting progress towards these goals, the industry's top producers can pave the way for others and push the industry towards a possible-to-abate future. With the development of the SBTi iron and steel sector guidance, setting transparent and ambitious net zero targets is easier than ever before.

Reaching net zero emissions won't be possible without first setting a goal and intermediate milestones that cultivate a mindset of ambition to transition away from coal-based steel production and demand. In parallel, setting milestones and the

continuous measurement of emissions reductions in the Greenhouse Gas Protocol Scopes 1, 2, and 3 can prove the effectiveness of transition enablers such as policy, industry standards for low embodied carbon materials, technology readiness, and access to finance and technology globally.

However, milestones and ambitious, science-based targets alone are insufficient to achieve significant emissions reductions. External policies and finance mechanisms need to be aligned to enforce the timing proposed by steelmakers' target goals.

Additionally, stand-alone efforts by steelmakers will fall short on a global scale. The success of the iron and steel industry's transition away from fossil fuels will depend on international cooperation, knowledge sharing, technology co-development, and support from industrialized countries to transitioning developing countries. The top 50 steel firms can set an example of leadership as not only steel producers, but as emissions reducers through target setting and collective action to reach net zero 2050.

About the Green Steel Tracker (LeadIT)

The Green Steel Tracker aims to support decision makers in policy and industry, academia as well as civil society, by tracking public announcements of low-carbon investments in the steel industry and presenting them transparently in one place.

About the Global Steel Plant Tracker

The Global Steel Plant Tracker (GSPT) provides information on global crude iron and steel production plants and includes every plant currently operating at a capacity of 0.5 million tonnes per year (mtpa) or more of crude iron or steel. The GSPT also includes all plants meeting the 0.5 mtpa threshold that have been proposed or are under construction since 2017 or retired or mothballed since 2020.

About the Global Blast Furnace Tracker

The Global Blast Furnace Tracker (GBFT) is a worldwide dataset of blast furnace units. It tracks each of the furnaces at iron and steel plants in GEM's Global Steel Plant Tracker (GSPT) and includes unit-level capacities, key dates, and statuses for each furnace. Relining data, including dates and costs, are also tracked for each furnace where available

About the Global Energy Monitor

Global Energy Monitor (GEM) develops and shares information in support of the worldwide movement for clean energy. By studying the evolving international energy landscape and creating databases, reports, and interactive tools that enhance understanding, GEM seeks to build an open guide to the world's energy system. Follow us at www.globalenergymonitor.org and on Twitter/X [@GlobalEnergyMon](https://twitter.com/GlobalEnergyMon).

About LeadIT

The Leadership Group for Industry Transition (LeadIT) gathers countries and companies that are committed to action to achieve the Paris Agreement. It was launched by the governments of Sweden and India at the UN Climate Action Summit in September 2019 with support from the World Economic Forum. In recognition of the progress made by LeadIT, India and Sweden reaffirmed their commitment to its mission and established a new work pillar for LeadIT with a focus on technology transfer and codevelopment, and a dedicated industry transition platform (ITP) between the two countries.

The LeadIT Secretariat is hosted by the Stockholm Environment Institute (SEI) and manages the work of the Leadership Group. Follow LeadIT and the Green Steel Tracker at www.industrytransition.org and on [LinkedIn](https://www.linkedin.com/company/leadit).

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